

Reform of the water sector in Ireland

Position Paper

January 2012



Comhshaol, Pobal agus Rialtas Áitiúil
Environment, Community and Local Government

Introduction

Water services cost over €1.2 billion to run in 2010, of which operational costs amounted to some €715 million, with capital expenditure of over €500 million. We are the only country in the OECD where households do not pay directly for the water they use. Our current model of water provision, where unlimited quantities of an expensive product are provided at no charge, is simply not sustainable.

The Government intends to take a national approach to water, to significantly improve the quality of service, increase the cost efficiency associated with water provision and conserve our national resource. The Programme for Government (PfG) sets out the proposed structural changes required to re-organise the delivery and funding of the water sector.

Firstly, the PfG envisages the creation of Irish Water, a State company that will take over the water investment and maintenance programmes of the 34 county and city councils with the key aim of supervising and accelerating the pace of delivery of planned investments needed to upgrade the State's water and sewerage networks. The PfG also provides for the introduction of a fair funding model to deliver clean and reliable water including proposals to install water meters in households, moving to a charging system that is based on use.

The Programme of Financial Support for Ireland with the EU/IMF/ECB also contains a commitment to prepare proposals for implementation of the recommendations of an independent assessment of the transfer of responsibility for water service provision to a water utility and that water charges would be introduced.

The Government has been preparing the groundwork for these fundamental changes over the last few months. The first phase of the independent assessment provided for in the agreement with the EU/IMF/ECB has been completed and the report of the independent assessment has been considered by Government. The report recommends the establishment of a public water utility, Irish Water; the reasons for this are summarised in Part 2 of the document below and are set out in detail in the report at www.environ.ie. The next phase involves the development of a detailed implementation plan for the transition of water services functions from the city and county councils to the public water utility, Irish Water.

The Government has also decided to embark on the rollout of a universal water metering programme. This will facilitate moving to a charging system for domestic water users that is based on use above a free allowance as provided for in the PfG. The basis and thinking behind the Government decision in this regard is set out in Part 3.

The Government is now seeking views in relation to:

- The development of an implementation plan for the public water utility and, in particular issues arising from an organisational, human resources and environmental perspective in the transitional phase, as well as boundary issues between the proposed utility and other actors involved in the water sector, and
- The proposed approach in relation to water charges and water metering.

Views should be submitted in writing or by email to the address indicated below by close of business **Friday 24th February 2012**. Please ensure that all correspondence is clearly marked 'Consultation on the establishment of a Public Water Utility' to:

Water Services Section;
Department of Environment, Heritage and Local Government,
Room 2.19; Custom House
Dublin 1

water@environ.ie by Friday **24th** February 2012.

Please note that all views, submissions and comments submitted to the Department of the Environment, Community and Local Government for this purpose may be subject to release under the Freedom of Information Acts 1997 and 2003.

PART 1

BACKGROUND AND CURRENT POSITION

Water Scarcity

On a global level, pressures created by the world's growing population and economy, combined with the impacts of climate change, are making water scarcity a reality in many parts of the world.

Work undertaken by the Mc Kinsey Water Resources Group¹ shows that in just twenty years, global demand for water will be forty percent higher than it is today, and more than fifty percent higher in most rapidly developing countries, and by 2030 over a third of the world population will be living in river basins that will have to cope with significant water stress. Historic rates of supply expansion and efficiency improvements will not be enough to close this "water gap" and further and stronger measures will be required. Such efforts will need to focus on a mix of solutions including focusing on technical improvements, increasing supply, improving water productivity and examining underlying economic activities. This increasingly critical issue of global water scarcity will require transformation of the global water sector towards long term sustainability to tackle the gap between supply and demand.

At a European level, it has been estimated that by 2007 at least 11% of Europe's population and 17% of its territory had been affected by water scarcity, which is defined as water demand exceeding the supply of water resources exploitable under sustainable conditions. Tackling droughts which are periods with a temporary decrease in water availability, has become another challenge for Europe and it is estimated that the cost of droughts in Europe over the past thirty years amounts to €100 billion. This situation is expected to deteriorate further if temperatures keep rising as a result of climate change.

The challenge of managing water resource security will be more difficult for some nations. Accessible water is concentrated in some regions and in short supply elsewhere, and Ireland's rich water resources will become of increasing strategic importance to the Irish economy as the value of water increases globally. Water is a vital requirement to support economic growth, social stability and environmental protection and in the competitive global markets, Ireland's valuable water resources have the capacity to position Ireland well in terms of competitiveness, and to support the success of many water dependent sectors. Ireland needs to exploit its competitive advantages and to attract more water intensive industries, and to explore all opportunities for using our water resources in a sustainable way to support economic growth and competitiveness.

¹ Charting Our Water Future: Economic frameworks to inform decision-making; Mc Kinsey Water Resources Group (2009)

Structure of the water services sector in Ireland

Settlement patterns and proximity of water sources in most places have shaped the structure of the Irish drinking water sector, which is characterised by a few large systems and many smaller, widely scattered ones (OECD, 2010).

The provision of water and waste water services is the responsibility of the relevant water services authorities. There are five city councils and twenty nine county councils designated as water services authorities (WSAs) under the Water Services Act 2007 to provide water and wastewater services within their functional areas.

Water services are generally categorised as:

- Services provided in relation to the supply of drinking water. Drinking water services involve both the public and private sector through public water supplies, public group water schemes, private group water schemes and small supplies which are privately managed;
- Services provided in relation to the collection and treatment of wastewater. Wastewater services in urban areas are generally provided through public wastewater schemes, under which waste water is collected and treated.

Water Services authorities are directly responsible for the provision of services for 952 separate water supplies and 482 agglomerations for the treatment of waste water with a population greater or equal to 500 population equivalent, as well as the appropriate management of a substantial number of waste water discharges in smaller agglomerations.

As a result, water services authorities are responsible for infrastructure such as treatment plants and pumping stations, as well as about 25,000 km of water supply networks, and extensive collection networks for waste water. In addition to public provision of water services, a portion of the population receive all or some of their water services privately or through co-operative provision in the case of drinking water through group water schemes. The table below provides details of the water and wastewater facilities serving these households, as per data from the 2006 Census (CSO).

WATER SUPPLY		WASTE WATER FACILITIES	
1,093,189 households connected to public mains	77%	956,239 households served by public schemes	67.5%
126,609 households connected to group water schemes connected to public supplies	9%	418,033 households served by septic tanks	29.5%
46,458 households connected to private group water schemes	3%	29,685 households served by ? treatment systems	2%
145,341 households connected to other private sources	10%	6,979 households served by other sources	0.5%
2,908 households not connected to any facility		4,179 households have no sewerage facilities	

The majority of drinking water in Ireland (81.9%) originates from surface water (i.e. rivers and lakes) with the remainder originating from groundwater (10.3%) and springs (7.8%)². Public water supplies tend to be more reliant on surface water sources whereas group water schemes and small private supplies tend to be slightly more reliant on groundwater or spring water. The following table sets out water supply zones in 2010 and the proportion of the population served³.

Type of Supply	No. of Water Supply Zones	% of Total Population Served
Public Water Supply	945	84.8
Group Water Scheme connected to public supply	671	2.6
Group Water Scheme with private source	457	5.2
Small Private Supply	1284	0.7
Exempted Supplies	N/A	6.7

Source: EPA

All water supplied by authorities must comply with drinking water standards. About 1.6 billion litres of water is supplied by water services authorities on a daily basis. While there are a large number of public water supply zones, urban areas tend to have few supplies serving large populations (for example, Ballymore Eustace, the largest treatment plant in the Greater Dublin Area serves a population of over 500,000) with the converse being the case in rural areas.

Insofar as our drinking water supplies are concerned, the Environmental Protection Agency's latest report on 'The Provision and Quality of Drinking Water in Ireland – A report for the year 2010' published in November 2011, noted that the positive downward trend in E.coli occurrences in drinking water samples in recent years continued in 2010. For the first time, large public drinking water supplies in Ireland show similar compliance levels for E.coli to similar supplies in England and Wales, and the Netherlands. These large supplies provide drinking water to almost three million people in Ireland.

The standards set by the Urban Waste Water Treatment Directive generally govern the appropriate treatment of waste water. The nature of the required provision is dependent on the size of the agglomeration and the nature of the receiving waters. The following table sets out a summary of the level of waste water treatment provision for agglomerations greater than or equal to 500 population equivalent for the year 2007⁴. Of the 482 agglomerations, 370 received secondary treatment (112 of which also received nutrient reduction), 65 received primary treatment and 47 either received preliminary treatment or no treatment.

² The Provision and Quality of Drinking Water in Ireland – A Report for the Years 2010: EPA

³ Water Supply Zone is a geographically defined area within which drinking water comes from one or more sources and water quality is uniform. Exempted supplies are supplies that are provided from either an individual supply providing less than ten cubic metres a day on average or serving fewer than 50 persons and do not supply water as part of a public or commercial activity, or are from a supply which the local authority are satisfied would have no impact on the health of consumers e.g. industrial cooling water.

⁴ Urban Waste Water Discharges in Ireland: A Report for the Years 2006 and 2007 - EPA

	No Treatment	Preliminary Treatment only	Primary Treatment only	Secondary Treatment only	Secondary Treatment with nutrient reduction	Total
Number of Agglomerations	32	15	65	258	112	482
Total Population Equivalent p.e.	219,351	289,464	82,064	4,374,219	870,397	5,835,495

Source: EPA (2009)

The ecological status of Irish surface waters compares favourably with that of other European countries with the latest EPA Water Quality Report (published February 2011) indicating 52% of river and 47% of lake water bodies at 'good' or better ecological status. In its report, the EPA noted that while there is evidence of an overall improvement in water quality in Ireland, further and continued enhancement is essential if we are to achieve the water quality targets as required by the Water Framework Directive, details below.

Future needs

In addition to the primary objective of ensuring compliance with statutory quality standards, there are four key drivers for increased investment in water and sewerage services.

1. **Enterprise:**

The 2008 Forfas report on the *Assessment of Water and Waste Water Services for Enterprise* noted that the provision of adequate and affordable water and waste water services is crucial to ensure the sustained growth and development of enterprise in Ireland. The report assessed Ireland's performance in meeting the water and waste water needs of enterprise, in terms of capacity, costs and quality for the designated gateways and hubs under the National Spatial Strategy and examined key policy issues arising. The report found that:

- There was a need to address water supply capacity issues in some cities and towns, as well as additional waste water treatment capacity in the medium term;
- Ireland has relatively high levels of unaccounted-for water (treated drinking water that is lost through the distribution network, largely via pipe leakage and unauthorised connections);
- Having 34 local authorities involved in the provision of water and waste water infrastructure and services in Ireland, hinders the development of a coordinated approach to strategic planning and prioritisation of capital investment projects in this area;
- Water quality in Ireland is generally high, particularly in the main urban centres. However, the outbreak of cryptosporidium in Galway city in March 2007 highlights the

importance of having adequate infrastructure in place to prevent contamination of water supplies;

- The availability of performance indicators to measure the quality of water and waste water services, particularly for indicators of most relevance to enterprise, is limited.

The Forfas report noted that although Ireland has made substantial investment in water and waste water infrastructure in recent years, an analysis of the future supply of and demand for water and waste water capacity indicates that current and planned infrastructure will not be sufficient to cater for expected increases in demand by enterprise in certain urban centres in the medium term.

There will continue to be a very significant demand for water services from certain industries/sectors such as pharmaceuticals, chemicals, food production/processing, etc. For example, *Food Harvest 2020* (2010) sets out a range of policies and initiatives for the agri-food, fisheries and forestry sectors to achieve sustainable production that delivers significant growth benefiting primary producers, processors and the food-manufacturing sector. By 2020, it aims to increase:

- The value of primary output by €1.5 billion, representing a 33% increase compared to the 2007-2009 average;
- Value-added outputs by €3 billion representing a 40% increase compared to 2008;
- Exports to €12 billion, representing growth of 42% over the period 2007-09.

Several of the growth areas under *Food Harvest 2020* are in areas that are “water hungry” such as increased dairy production with the report noting that an increase of 50% in milk production is achievable by 2020 as compared to the average of the years 2007 to 2009.

The establishment and expansion of the pharma-chem and IT sectors in Ireland has also relied on the capacity of the State to provide large quantities of high quality water services.

2. **Climate Change:**

Climate predictions for Ireland indicate that we will be subjected to much more unpredictable/volatile weather patterns in the future. An EPA report⁵ on the state of knowledge on climate change impacts for Ireland, identifies that changing patterns of precipitation will impact on water services provision and on levels of pollution and contamination, with significantly wetter winters particularly in the west, and drier summers particularly in the south east and storm occurrences of a greater intensity. Other impacts include damage to water infrastructure due to cold snaps or water shortages in summer leading to greater pressures on water sources. A report from the Irish Academy of

⁵ A Summary of the State of Knowledge on Climate Change impacts for Ireland: Climate Change Research Programme Report 1 (EPA 2009).

Engineers in 2009⁶ also highlights the potential significant impacts of climate change on water quality and water supply and infrastructure.

Such events could lead to increased pressure on our water resources and disruption to the systems used to treat and distribute water as was demonstrated in the flood events in November 2009 in the freezing weather events in 2010/early 2011, unless substantial investment is made to address security of supply issues through water conservation and new treatment, storage and distribution infrastructure. During the last winter, most local authorities experienced difficulties in maintaining normal supplies to the public as a result of the longest period of severe cold weather in almost fifty years. The initial difficulties arose mainly from frozen supplies, but as the thaw set in further damage was caused by the moving ground. Typically, demand was up to 25% greater than maximum water treatment capacity in most authorities, as a result of both leakage and some increased consumer usage to avoid frozen domestic pipes. The supply problems were managed by local authorities through intensive efforts to identify and repair leaks and by encouraging the public to use water sparingly. Authorities also cut off water supplies and reduced pressure in distribution systems, particularly at night time, in order to optimise the management of their reservoir storage. Arrangements were put in place to provide tankered water to areas where a piped water supply was lost for an extended period. A total in excess of 26,000 incidents were investigated across public mains, public side connections and consumer side connections.

3. ***Increases in population:***

The CSO estimates that **Ireland's population** could rise (under the highest growth scenario) by nearly 1.5 million between 2006 and 2021 – an average annual rate of population increase of almost 2%, equivalent to that observed during the inter-censal period 2002-2006. Projecting that high growth rate forward to 2041, the population could increase by a further 1.4 million between 2021 and 2041. Population growth of this scale will significantly increase the demand for water and waste water services. It is also reasonable to expect that when the economy enters a sustained period of recovery that most of this growth will be seen in urban areas leading to demand for housing and new business development. This will place further pressure on water/sewerage systems in built up areas, some of which are already under significant pressure.

4. ***The Water Framework Directive (WFD):***

The WFD requires a catchment or river-basin approach for the management of water and obliges all Member States to protect and improve their waters with a view to achieving good ecological status by 2015 or, subject to specific conditions, over two subsequent planning cycles out to 2021 or 2027.

⁶ Ireland at Risk – Critical Infrastructure – Adaption for Climate Change – Irish Academy of Engineers

As required by the WFD, River Basin Management Plans for each of the River Basin Districts in the State⁷ were adopted last year by the local authorities in each District.

In common with other Member States, our plans recognise that it will not be possible to meet the 2015 deadline in all cases. The plans aim to increase the proportion of rivers and canals at good or high status from just over 50% to 68% by 2015. The plans describe the current status of our waters and set out water quality objectives for these waters. The plans also specify the measures to be taken to protect and improve waters. Responsibility for implementing the measures rests with the local authorities, various Government Departments and Agencies, and other sectors such as agriculture and industry.

Three of the key measures in the plans are directed at the two main pressures on water quality in Ireland (municipal and agricultural sources) and these are:

- The Water Services Investment Programme;
- The licensing of discharges from Waste Water Treatment Plants; and
- The Good Agricultural Practice (commonly known as the 'Nitrates') Regulations.

Funding of water and waste water services

Over €5 billion in Exchequer resources has been invested between 2000 and 2010 in water services infrastructure. The focus of this investment has been on ensuring compliance with the European Directives on both drinking water standards and urban waste water discharges and improving water supply to keep pace with population and economic needs. While significant progress has been made, significant challenges remain as outlined above and there remains a need for continued investment to address high levels of unaccounted for water, risks to public water supplies from a public health perspective, priorities identified in River Basin Management Plans (as required under the EU Water Framework Directive) and meeting future supply requirements from enterprise and population growth.

A comprehensive review of the Water Services Investment Programme was undertaken as part of the development of the programme for the period 2010-2012 to ensure that it was aligned with key priorities in the light of the economic downturn. The new Programme is, for the first time, set out on a river basin basis and is fully aligned with the investment priorities identified in the river basin management plans, principally the upgrading of wastewater treatment infrastructure and the enterprise needs identified by Forfas in their 2008 report (a copy of the programme is available at www.environ.ie)

The Programme includes 360 contracts to commence in the period at a cost of €1.8 billion with the value of schemes in planning amounting to €3 billion. The focus is on water conservation, addressing statutory compliance from a risk perspective, including requirements

⁷ Of eight river basin districts on the island, three are cross-border international river basin districts - the North Western, the Neagh Bann and the Shannon. There has been a high level of coordination between the authorities in both jurisdictions in developing the plans for these.

of the Water Framework Directive and improving capacity and resilience to meet enterprise and demographic needs.

Funding the operational costs of water services is also a significant demand on local authority and Exchequer resources. Operational costs have been rising in recent years due to a combination of the increased investment in infrastructure, the costs associated with more stringent environmental requirements and increased energy costs; expenditure in 2010 on operational costs was over €700m.

PART 2

PUBLIC WATER UTILITY

Independent Assessment on transfer of functions to Irish Water

The independent assessment was divided into two parts with the first part involving an assessment of the existing structures for the provision of water services and making recommendations in relation to how the service might be modernised and re-structured. A copy of the report of the first part of the study is available at www.environ.ie

The study includes a SWOT analysis of the current institutional arrangements. In summary the strengths of the system lie in:

- The experienced workforce who know the assets, are close to their customers, are accountable for quality and the ability to mobilise local resources at times of need;
- Central co-ordination and prioritisation of major project capital plans and a track record of successful delivery, providing continuity of service to a growing population.

The weaknesses can be broadly categorised as:

- Variability of service – absence of consistent policies, processes and standards and variable standards of performance;
- Inability to realise economies of scale, duplication of management and absence of/limited industry standard IT and management information systems;
- Long term underinvestment in assets and limited asset data to support strategic planning;
- Local authority boundaries do not reflect river basin districts, so integrated river basin management is difficult to implement (there are seven river basins in the Republic, three of which are shared with Northern Ireland);
- Funding regime exposed to variation in development levies, limited ability to access alternative sources of funding (e.g. capital markets) and low recovery rates of non-domestic water charges.

Consideration of international comparators

As part of the study, a range of key performance indicators from the Irish water sector were compared with the UK water companies, Northern Ireland Water and Scottish Water. The evidence indicates that:

- Operating expenditure per connection is more expensive than UK or NI by 50% to 100%;
- Km of watermain per 1,000 water connections is slightly lower than the UK average;

- Collection rates for charges is lower than the UK average (53% for non-domestic as compared to 78% for all charges);
- Leakage levels are double the UK average (41% as compared to 20%);
- The number of employees involved in water services provision is 25% higher than UK median;
- The number of employees per water connection and per customer served are significantly higher than the UK median.

International models for water service provision were also reviewed to identify trends and lessons to be learned for water sector reform in Ireland. Relevant models for water service provision in a number of countries, including Scotland, England, Wales, Northern Ireland, Germany, France, Netherlands, South Africa and Australia were reviewed.

The study showed that the fragmented nature of water service provision in most countries has been or is being addressed by the amalgamation of municipal water services, the creation of utilities or the use of inter-communal structures. Creation of larger bodies for the provision of water services, often outside of municipal control, is a key trend in the industry over the past 20 years.

Most of the models identified are based on **Public Utility Models**. Another approach found to be in use is where several municipalities jointly set up a company to which they delegate the provision of water services (referred to as the **Intercommunal Model** in the report).

Where a single function utility has been created, the evidence indicates that it has delivered cost reductions and improvements to the quality of service provided to customers. These improvements have been driven in part by regulation that has focussed on economic efficiency, environmental compliance and ensuring good outcomes for customers.

Proposed Model for Irish Water

Based on the assessment of the current structure, international benchmarks and stakeholder soundings, the independent assessment recommends that Irish Water be created as a **public utility** in a regulated environment. Irish Water would be allocated full responsibility by statute for all aspects of water services planning and delivery at national, regional and local level.

The utility would need a regional and local focus, which would be achieved by organising operational regions based on river basin districts. Assets and liabilities of local authorities would be transferred to Irish Water and it would be responsible for collection of water charges, both domestic and non-domestic. This will provide an income stream to support third party funding with a view to Irish Water becoming self funding over time.

This model is being recommended as it provides benefits over other models considered (and over the *status quo*) under each of the following headings:

Efficiency and Effectiveness	<ul style="list-style-type: none"> • Provides an opportunity to build a fit for purpose operating model to deliver water services in the most efficient and effective manner. • Irish Water controls all assets, revenues, costs – better economies of scale – optimised borrowing capacity. • Better able to ensure security and quality of supply. • Consistent and transparent service quality; more rapidly deploy resources through a national customer service centre with a regional and local presence. • More efficient cost base; lower unit cost of delivery. • Single entity for regulators to regulate, as opposed to complexity of 34 separate local authorities. • Critical mass to attract key talent.
Funding	<ul style="list-style-type: none"> • Borrowing capacity higher than other models; can become self funding sooner. • Reduces the burden on the exchequer – positive impact on GDP/debt ratio.
Strategic planning and accountability	<ul style="list-style-type: none"> • Better able to implement national strategies; not curtailed by local authority boundaries or non-water related activities. • One decision making authority as opposed to 34; more coherent and integrated organisation structure. • Clear lines of accountability, authority and responsibility.

Funding

Water services cost over €1.2 billion to run in 2010, of which operational costs amounted to some €715 million, with capital costs of over €500 million. With revenue of just over €200 million from non-domestic charges, the balance of around €1 billion is largely State funded, through a combination of Exchequer grants and local authority resources, including the Local Government Fund.

Our capacity to fund the future capital investment requirements from the exchequer is severely constrained. The Government's plan for *Infrastructure and Capital Investment 2012-16* shows a decline in exchequer capital investment in water and waste water services from €435 million in 2011 to €371 million in 2012 and a further decline to €296 million by 2014.

Meeting the investment needs and rising operational costs within the current funding model is unsustainable. A new funding model will be influenced by:

- **Capital requirement:** The independent assessment recognises that, in common with other international norms, there will need to be a “steady state” of investment in

water services (estimated at €600 million annually) together with provision for the backlog of investment required mainly to meet statutory obligations. The overall level of capital investment for the sector will be determined and approved by the Regulator on the basis of an investment plan to be developed by Irish Water.

- **Operational requirements:** Operational costs, which largely comprise labour, energy use, and chemicals for treatment processes, have been rising as new and more complex infrastructure has been built over the past decade.
- **Efficiency gains:** The increased operational costs can be offset to an extent by efficiency gains arising from moving to the new organisational form. Scottish Water, for example, which transitioned from local to regional to national organisation of water services, achieved operational savings of 40% over a five year period.
- **Government funding:** As indicated earlier, the Government's capacity to fund the future water/waste water investment requirements from the exchequer is severely constrained with capital funding for water services under the Government's plan for *Infrastructure and Capital Investment 2012-16* showing a reduction of almost 32% between 2011 and 2014.
- **Ability to access markets:** The independent assessment also makes assumptions in terms of the regulated capital value of Irish Water and its ability to raise debt on the financial markets.

Ultimately the setting of the water charge, both domestic and non-domestic, will be a matter for the regulator within an overall policy and pricing framework which will be developed by the Government

Functions of Irish Water

It is proposed that Irish Water will be the Water Services Authority and single point of contact for customers, and would be statutorily responsible for both investing in and operating water services infrastructure in its role as a provider of drinking water and waste water services to household, commercial and industrial customers in Ireland (not served by Group Water Schemes). It will have responsibility for:

- The abstraction, treatment and distribution of drinking water;
- Conserving water supplies through maintaining and upgrading the infrastructure;
- The collection and treatment of waste water and the management and operation of combined sewer overflows;
- Sludge disposal;

- Customer billing and relationship management, including requests for new connections;
- Strategic planning for the sector, water resource management and localised catchment management focused on source protection;
- The roll-out of the water metering programme;
- Sourcing private finance for investment in capital projects.

This would include bulk water provision to the group water sector. Irish Water would also assume the current role of local authorities in assisting, including financially, the sector to address quality deficiencies in both publically and privately sourced group water schemes.

Irish Water will be regulated by the EPA from an environmental perspective and by the Commission for Energy Regulation (CER) from an economic perspective. Transformation planning for the establishment of Irish Water will consider the interaction of the proposed utility with other key actors in the water environment including: Roles retained by local authorities; the EPA; the ESB through its involvement with certain water courses and reservoirs; the NRA in respect of road drainage; the OPW in respect of fluvial and sea flooding protection and bodies responsible for the management of inland waterways and the Department of Agriculture, Food and the Marine.

Irish Water will be an important key player in the context of wider water management, required by Water Framework Directive. The river basin management plans include a whole range of measures applying across several sectors, reflecting the fact that water policy is inextricably linked to agriculture, industry, transport and other policies. Work is ongoing on examining these wider governance aspects for the delivery of the Water Framework Directive in Ireland.

Establishment of Irish Water

One of the key mandates assigned to NewERA is to examine the governance of semi State companies. As part of this process, and building on the analysis undertaken in the independent assessment, NewERA and the Department of the Environment, Community and Local Government are engaged in a detailed review of a number of state agencies to determine whether, and in what manner, the skills within the sector can be harnessed for the successful implementation of the proposed water sector reforms, and particularly the establishment of Irish Water.

Transition strategy

The proposed public utility model represents a major change with significant implications for local government, the water industry in Ireland and its many stakeholders. The initial transition strategy envisages a staged approach involving:

- Appointment of an interim board and Project Management Office in 2012 pending the establishment of Irish Water under its own statute by mid 2013;
- Irish Water would acquire statutory responsibility for water services in mid 2013, with ownership of assets transferring from local authorities from that date;
- Local authorities would be agents of Irish Water for a period with Irish Water taking over their operations on a phased basis from January 2015;
- The full transfer of operations would be completed by end 2017.

This transition plan will be the subject of further detailed analysis in early 2012 leading to the development of a detailed implementation plan which will, amongst other things, take account of the work being undertaken by the Department and NewERA on whether, and in what manner, skills within the State sector can be harnessed for the successful implementation of the proposed water sector reforms.

From a staffing perspective, Irish Water will be able to present opportunities not otherwise available to staff who wish to pursue a career in water services. Increased specialisation will provide routes for career development as well as enhancing job satisfaction. An increased emphasis on training and development and the introduction of new systems at an accelerated pace will provide both challenges and opportunities.

As Irish Water will be a public sector body, considerable protection will be provided by law for staff transferring to Irish Water from local authorities. The transition of staff from local authorities to Irish Water will involve discussions with staff and the unions.

PART 3

FUNDING THE PROVISION OF WATER SERVICES **WATER METERING AND WATER CHARGES**

Water services cost over €1.2 billion to run in 2010, of which operational costs amounted to some €715 million, with capital costs of over €500 million. We are the only country in the OECD where households do not pay directly for the water they use. The most recent *OECD Environmental Performance Review of Ireland (2010)* noted that “the absence of household water charges impedes the development of an economically, environmentally and socially efficient water services sector”. *Eurostat (February 2011)* reported that most “EU Member States show annual rates of freshwater abstraction of between 50 m³ and 100 m³ per capita, although extremes reflect specific conditions: for example, in Ireland (141 m³ per capita) – where the use of water from the public supply is free”.

In line with the Programme for Government (PfG), it is intended to embark on a universal water metering programme with installation to commence by the end of the 2012. This will lead to the creation of 1,500-2,000 jobs for each year of the installation programme. The aim is to achieve completion of the programme as quickly as possible while not compromising the quality of the installation process.

There has been criticism from some commentators about the timing of a large scale investment programme of this nature when charges could be introduced either by way of a simple flat rate water charge or by the installation of meters on a request basis (in other words an opt-in approach). While acknowledging these views, the Government believes the installation of water meters represents a long term investment in how we, as a society, manage and fund our water resources and that it is appropriate to press ahead with this programme at this time. From an environmental point of view, the best way to conserve water is to incentivise people to use less. Furthermore, the OECD (2010) has concluded that water metering is unequivocally the fairest way to charge for domestic water usage. The Government’s intention is to provide a free allowance and charge for usage above that threshold.

The 2009 *Independent Review of Charging for Household Water and Sewerage Services in England and Wales* (the Walker Report), where charging for water was well established, concluded that “charging by volume of water used, which required meters to be installed, is the fairest approach to charging. It can incentivise more efficient water use.” The report goes on to say that “the current largely optant system (of metering) is a very expensive way to install meters”.

Where charges are based on metered usage, households are provided with an incentive to reduce consumption, which leads to a reduction in the requirement to produce treated drinking

water by water services authorities. The Walker Report estimates that water metering in the UK has the potential to achieve a reduction of approximately 16% of average household demand. This includes an estimate of reduced consumption of approximately 15 litres per person per day and reduced customer side leakage. In Ireland, average consumption per person is estimated at 150 litres per person per day. In Denmark, a reduction of 12.6% in household consumption was achieved in the period 1996 – 2007 following the introduction of water meters and volumetric water charges. The average consumption per person per day in Denmark now stands at 114 litres (24% lower than estimated use in Ireland).

A number of specific trials assessing the effect of metering on demand have been carried out in the UK. In 1993, national trials were carried out in 11 sites, covering over 8,000 properties. Over the four-year period of the trial, average household consumption fell by 11%. On the Isle of Wight, 50,000 households had meters installed and there was a 22% decrease in the distribution input. It was estimated that leakage control and metering each induced a reduction of around 10% in the Isle of Wight. Several other studies were carried out in the UK (including Clyde Water Board 1971-72, Malvern in 1976, Anglian Water in 1996 and Mid-Kent in 1997) and reported reductions in annual demand of between 10% and 15%. Evidence from the Group Water Sector in Ireland also indicates the potential for significant reductions in consumption where meters have been installed.

It is estimated that approximately 1.05 million households on public water supplies (out of the total estimate of 1.35 million households on public water supplies) would be included in a universal metering programme. The remaining households on public supplies which would be either too expensive or technically difficult to meter individually initially (e.g. houses with shared service connections and houses in multi-occupancy premises such as apartment or flat complexes and gated-communities) will have charges levied on a fixed basis.

A strategy for procurement of the metering programme is being finalised by the Department and two key objectives will be to maximise value for money and facilitate to the greatest extent possible the scope for SME participation in the overall programme.

Alternatives to metering and volumetric charges

While the PfG envisages a universal metering programme, a number of other approaches were considered as follows:

Fixed charge: Instead of paying volumetric charges, households could be charged on a fixed/assessed basis on an ongoing basis. This has the advantage of raising revenue without extensive capital investment while meeting the EU/IMF commitment to introduce water charges. However, the approach does not address conservation of water resources including customer usage and supply side leakage and would not be a sustainable approach over the long term.

Opt-in approach: Households could opt to have meters installed with those customers being billed on the basis of usage and other households paying on a fixed/assessed basis. This approach would reduce the requirement for extensive capital investment and may allow a more phased approach to metering, while giving households a choice as to how they wish to pay. One of the main concerns with this approach is that only “water conscious” users will opt to install a water meter and water consumption will not be reduced significantly. There will also be higher installation costs and operational costs; UK data suggests it could add between 40-100% to the costs of installing meters. An alternative option whereby customers would meet the cost of meter installation with subsequent incentives through reductions in their water charge would have similar drawbacks in terms of higher costs and could be socially divisive.

Meter selected classes of property: Consideration was given to metering specific categories of properties. For example, area based metering could be an option, targeting areas with water scarcity. Alternatively, metering could be targeted at newly built houses or houses which are meter-ready for example recently built properties which were required, under planning conditions, to be meter ready – estimated 135,000 units. Targeting these categories of property for priority metering would lead to inefficiencies in the overall cost of metering and in the collection of the billing data.

Other options would be to require metering on a change of occupancy (this method is employed in some parts of the UK) or metering for rented properties. Both of these options would result in significantly higher installation costs. Another approach would be to meter high discretionary users but in practice it would be very difficult to identify such discretionary users.

Investment in water mains rehabilitation has also been considered as an alternative to metering. The estimated costs of the metering programme would finance the rehabilitation of about 3.5% of the distribution network and would reduce leakage levels by about 5 to 5.5%. The domestic water metering programme is expected to achieve savings of approximately 10% in consumption as well as significant savings through reductions in customer side leakage. Mains rehabilitation does not address customer side leakage and does not impact on consumer behaviour. Mains rehabilitation needs to be sustained as part of long-term strategy complementary to metering rather than instead of it.

Longer lead in for metering: Another option would be to take a longer lead in time for completion of the metering programme. Rolling out the metering programme over a 10 year period, with an average of 100,000 households metered per annum would imply a fixed/assessed charge for the majority of households for a number of years. Assuming a metering programme of 100,000 properties per annum, by 2021 there would still be an estimated 500,000 households on a flat rate charge. There would also be a significantly longer period before savings relating to reductions in consumption and leakage would be realised.

Free allowance: The PfG proposes water charges based on usage 'above a free allowance'. A decision has yet to be taken on the level of allowance to be provided and how it will be funded. An allowance per household would be more practical from an administrative point of view but the impacts on larger households of this approach will need to be further considered. Providing allowances based on occupancy would be administratively difficult and costly, as well as being open to potential fraud.

Affordability and supports for lower-income groups

The introduction of water charges can lead to issues of affordability when the portion of disposable household income used to pay water charges exceeds a certain threshold. Affordability does not always arise due to low incomes alone; households with large families or those with medical conditions requiring the use of large quantities of water may also have affordability issues.

In the UK, for example, low income metered customers with a high essential use of water receive support from a special 'Watersure' tariff. This caps the bills of metered households in receipt of a qualifying means-tested benefit or tax credit at the average bill for the company's operating area where the household either has three or more children living at home under the age of 19 or somebody in the household has a medical condition which necessitates a high essential use of water.

At present, social support for other utilities and services (e.g., electricity, telephone, fuel allowances and television licence) are funded through the Household Benefits Scheme which is administered by the Department of Social Protection. Further work will be undertaken to the approaches to be deployed to support low income households.

Economic Regulator

There is no economic regulation of the water sector in Ireland at present. Water charges for the non-domestic are set by individual local authorities with the rates being charged varying significantly between local authorities (from €1.75 per m³ in Kildare to €3.04 per m³ in Wicklow).

Independent regulation of the water sector has been identified as a prerequisite if Irish Water is to source private finance for investment in capital projects. It is proposed that rather than establish a new regulator, regulation of the water sector will be managed under the Commission for Energy Regulation (CER). This is similar to the approach adopted in Northern Ireland where both energy and water are regulated under one regulator, the Northern Ireland Authority for Utility Regulation.

The legislation to establish the regulator will determine the powers to be assigned to the regulator and the approach to be taken to regulation. The primary duty of the economic regulator will be to protect the interests of customers. This will be achieved by having an appropriate regulatory framework that is clearly enforced with the aim of ensuring:

- a clear determination of the efficient costs for the provision of water and waste water service;
- that efficiencies are driven, costs are reduced and that these benefits are passed on to consumers. Cutting costs significantly from their present levels will be a key objective for the regulator;
- a stable and predictable environment for the utility to finance and undertake long term investments having regard to the utility's obligations in relation to the metering programme, ensuring security of supply, improving drinking water quality, addressing waste water discharges, climate change, supporting new industry, innovation, public participation, etc. Confidence in this is vital for ensuring that the utility will be able to finance its investments at reasonable interest rates;
- that there is a framework where users understand the basis for water charges, and have clear rights as consumers;
- that policies are in place to address affordability for those on low incomes or those that have medical conditions that necessitate a high level of water use.