

Report on the Funding of Domestic Public Water Services in Ireland

November 2016

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Summary of Recommendations

The detailed recommendations of the Expert Commission are set out in Chapter 5 of this report. The principal recommendations can be summarised as follows:

Public Ownership

- As part of the overall approach to settling the issues addressed in this report, the Expert Commission recommends that the adoption of a suitable constitutional provision on public ownership of water services be more fully addressed by the Special Oireachtas Committee, as part of its deliberations.

Funding Domestic Water and Wastewater Services

- The funding of water services for normal domestic and personal use should be out of taxation. The question of whether there should be a dedicated tax, a broadly-based fiscal instrument, or an adjustment to existing taxes to fund this requirement would be a matter of budgetary policy.
- Special provision should be made for those with special medical or other needs.
- The volume of water necessary to meet the normal domestic and personal needs of citizens should be independently assessed through an open and transparent process.
- Under the proposed arrangement, the national water utility will provide sufficient water to all citizens to cover their domestic and personal needs, and the cost of that water will be recovered from the State, which will be a customer of the utility, based on tariffs approved by CER following consultation. What is proposed does not therefore amount to the provision of a 'free allowance' of water.
- Excessive or wasteful use of water should be paid for directly by the user at tariffs determined by CER.
- Excessive or wasteful use of water will be discouraged by charging for such use and therefore is consistent with the 'polluter pays principle'.

Funding Operations, Maintenance and Investment

- Through directly billing the Exchequer for the cost of the agreed allowance for normal domestic and personal use, funds for covering the costs of water production and for further investment in infrastructure will be provided. Additional mechanisms should be considered to ensure that the necessary finance is guaranteed.

Metering

- While benefits have accrued from the metering programme already undertaken in detecting leaks and monitoring patterns of water usage, the question of whether to continue the metering programme in one of policy and is outside the Expert Commission's terms of reference. If it is decided to proceed with the metering programme, consideration should be given to an approach that is more aligned with the proposals in this report, with a focus on metering of buildings in the case of multi-occupancy or metering of households on request.
- Irish Water should complete a comprehensive programme of district metering to identify system-wide leakage and manage the network.

Public Engagement and Transparency

- The consumer's voice must be put at the heart of discussion and decision-making on the delivery of water services in Ireland. The Expert Commission recommends that over time the role of the Public Water Forum be further developed.
- The Expert Commission recommends that Irish Water renew its efforts to develop a positive engagement with consumers and put in place further initiatives to engage consumers in a positive and proactive way at the national, regional, and local level.
- Irish Water should commit to the provision of extensive open-access data, for research purposes and so that consumers can easily monitor and manage consumption.
- An EPA administered research budget on water management and conservation is necessary and should be put in place.

Role of Regulators

- The regulators are essential to hold Irish Water to account for compliance with drinking water quality, environmental requirements, and ever-improving levels of service and efficiency.
- Economic regulation, with adequate expertise, will be required to ensure that the appropriate capital expenditure investments are made and that operating expenditure costs are driven down over time. The Expert Commission recommends that the Commission for Energy Regulation and the Public Water Forum continue to be adequately resourced with the tools and expertise to drive efficiency targets in the sector.

Conservation Measures

- It is recommended that a much more proactive approach be taken to promoting domestic water conservation measures in Ireland. Irish Water can play a key role in this regard not only through educational and information campaigns but also through providing advice and access to water conserving devices.
- Further measures should also be considered, such as a requirement that new domestic buildings incorporate water conserving fittings and an extension of the Building Energy Rating (BER) Scheme to incorporate water conservation.

Equity and Fairness

- Equity with the proposed arrangements for consumers on public supplies must be maintained for those who are not served by public water supplies. The Expert Commission recommends that this be reviewed when the allowances for consumers on public supplies are determined and that equity for group schemes and private wells be maintained through additional subsidy or other means.
- The necessary measures should be put in place to give effect to the commitment that those who have paid their water bills to date will be treated no less favourably than those who have not.

1. Introduction

1.1 A new system of charging for domestic water services was introduced in Ireland in 2014. Following a number of amendments to the original scheme of charges and following talks for the formation of a new government in May 2016, the Minister for the Environment, Community and Local Government on 29 June 2016 announced the establishment of the Expert Commission on the funding of domestic public water services in Ireland. The terms of reference of the Expert Commission were to:

“Assess and make recommendation on the funding of domestic public water services in Ireland and improvements in water quality, taking into account:

- The maintenance and investment needs of the public water and waste water system on a short, medium and long-term basis;
- Proposals on how the national utility in State ownership would be able to borrow to invest in water infrastructure;
- The need to encourage water conservation, including through reviewing information campaigns on water conservation in other countries;
- Ireland’s domestic and international environmental standards and obligations;
- The role of the Regulator; and
- Submissions from all interested parties.”

Members of the Expert Commission

1.2 The Expert Commission was chaired by Mr Kevin Duffy, former Chairman of the Labour Court. The other members of the Expert Commission were:

- Dr Bill Emery, Chair of the Northern Ireland Utility Regulator;
- Dr Sarah Hendry, academic lawyer specialising in water and environmental law, University of Dundee, Scotland;
- Dr Andrew Kelly, CEO of EnvEcon Decision Support;
- Dr Xavier Leflaive, Water Team leader, OECD Environment Directorate;
- Ms Gritta Nottelman, strategy consultant for Waternet, The Netherlands;
- Mr Brendan O’Mahony, Chair of the National Federation of Group Water Schemes; and
- Mr Peter Peacock, Chair of the Customer Forum for Water Scotland and former Scottish Minister

1.3 The Expert Commission formally met on 10 occasions in the period from July to November 2016.

- 1.4 The Expert Commission invited submissions from interested parties. The Expert Commission also had presentations from a number of bodies and interested parties. The total number of parties with whom the Expert Commission met or from whom submissions were received was 70.
- 1.5 Secretarial and research support was provided by the Institute of Public Administration.
- 1.6 This report, for submission to the Special Oireachtas Committee, is set out as follows:

Chapter 2 sets out some relevant background to water services, water infrastructure and funding of services in Ireland.

Chapter 3 summarises the main points arising from the consultations submitted to the Expert Commission as part of the consultation process.

Chapter 4 provides a discussion and analysis of key issues relating to funding of domestic water services in Ireland.

Chapter 5 sets out the recommendations of the Expert Commission.

Chapter 6 provides a brief summary and conclusions.

2. Background

2.1 In this chapter, we briefly set out some background to the issue of funding domestic water services in Ireland, starting with the timeline of key decisions on the issue.

2.1 Water Charging in Ireland: Timeline of Key Decisions

2.1.1 The circumstances that led to the suspension of water charges and the establishment of the Expert Commission have developed over an extended period of time. Before discussing the issues in more detail, it is helpful to summarise some of the key stages and decisions that led up to that suspension:

- A charge for domestic water services existed prior to 1978 as part of domestic rates and again in 1983 as part of a local service levy.
- 1997: the Government abolished domestic water and sewerage charges for publicly supplied services and these services were now funded through taxation.
- 2010: as part of the EU/IMF Programme of Financial Support for Ireland, the Memorandum of Understanding referred to the commitment that “the government will have undertaken an independent assessment of transfer of responsibility for water services provision from local authorities to a water utility, and prepare proposals for implementation, as appropriate with a view to start charging in 2012/2013.”
- 2011: the Programme for Government included the commitment to establish Irish Water and to implement charges based on usage above an allowance funded by taxation.
- 2013: the Water Services (No. 2) Act 2013 set out the statutory position regarding water charges. Under this Act, a ‘Water Charges Plan’ was prepared and submitted by Irish Water to the Commission for Energy Regulation (CER). It specifies the manner and method by which charges shall be calculated. The CER is responsible for approving the Water Charges Plan. Both Irish Water and the CER can be subject to the policy direction of the Minister.
- July 2014: the Minister for the Environment, Community and Local Government issued a policy direction to the Commission for Energy Regulation (CER). This direction included policy principles with respect to the proposed domestic water charges regime. More details of the policy direction can be found in Appendix 1.
- September 2014: the CER decided on the water charges tariffs (taking account of the Ministerial Policy Direction) that came into effect on 1 October 2014. The main aspects of the charging regime were: a free household allowance of 30,000 litres; free allowance for each child; exemptions for certain medical conditions; charges for usage above the allowance; and households without a meter would

be charged on an assessed basis, using occupancy as the criteria for assessment. More details of the Charging Plan are listed in Appendix 2.

- November 2014: a revised charging regime was announced in November 2014, involving capped charges and a lower subsidised charge per litre of water. Key elements of the revised regime were set out in the Water Services Act 2014 and reflected in a revised Water Charges Plan published in March 2015. The main details of the revised charging regime (now suspended), which commenced on 1 January 2015, are provided in Appendix 3.
- May 2016: Agreement to suspend water charges and establish an Expert Commission as a part of the 'Confidence and Supply' arrangement agreed with Fianna Fáil to facilitate the formation of a Fine Gael led minority government.

2.1.2 For those on private wells, group water schemes, and septic tanks, water charges have been in place for many years, thus raising issues of equity with users on public supplies where no direct charges applied. A system of subsidies was introduced for the group water sector to cover the domestic use of water under these arrangements. According to a 2011 report by Engineers Ireland and The Irish Academy of Engineers, 22% of all users of water services are served by group schemes or private wells, and the waste water of 29% of households is treated through septic tanks (see Appendix 4).

2.2 Water Infrastructure in Ireland and the Need for Investment

- 2.2.1 The water network infrastructure in Ireland is fragmented for the size of the population. Ireland has a large number of public and private supplies for a relatively small population compared to other EU countries. The EPA has noted that "Ireland has 973 public water supplies in comparison to Scotland's 290 supplies for a similar population size. Managing Ireland's water supplies is complex due to the number and variation in types of supply – geographical location, size, treatment processes, management, consumers, ownership issues, distribution networks and a historical lack of investment" (EPA 2014:2). The maps provided in Appendix 5 reflect the fragmented network of treatment plants and wastewater treatment plants (as of 2011).
- 2.2.2 One the key challenges in producing and treating water in Ireland relates to the condition of the water infrastructure. The average age of Irish water mains is 65-85 years (compared to a European average of 36 years), and some date back to the 19th century (Irish Water, 2015). Many are in need of major repairs or replacement. Failing to address these infrastructural issues leads to problems, a number of which have been experienced in Ireland in recent years.

- 2.2.3 There is also a high level of unaccounted for water (UAW) in Ireland. As of 2011, the average leakage rate was 41%. Only 6 of the 34 water authorities had leakage rates below 30%, and 5 water authorities had leakage rates near or above 50% (PWC, 2011). A comparison of leakage rates in Ireland and UK is provided in Appendix 6. It should be noted that water leaks waste not only water but also energy and public money.
- 2.2.4 The costs that can arise from not investing in infrastructure in a timely manner can be significant. For example, EPA funded research into the costs of a specific incident (the outbreak of cryptosporidiosis in Galway City in 2007) provides evidence that investment in safe drinking water supplies and water treatment benefits both public health and the wider economy. In the case of the Galway outbreak, the research indicated that costs of €17 million could have been avoided had appropriate treatment been in place before the outbreak occurred (Morris et al, 2007: viii).
- 2.2.5 Compliance with the EU Drinking Water Directive has presented challenges. According to the EPA at the beginning of 2015, 23,000 people were on boil water notices, and at least 180,000 properties were at risk of not meeting the EU guideline on the maximum levels of lead in drinking water. The numbers on boil water notices had reduced to just 6,000 by the latter end of 2015.¹
- 2.2.6 The EU Urban Waste Water Treatment Directive requires that sewage from towns and cities is treated before being released into the environment. The EPA continues to report ongoing cases of untreated sewage being discharged, and a significant number of treatment plants that are not meeting mandatory EU standards. The European Commission is taking infringement action against Ireland following an assessment that urban waste water is not adequately treated in 38 specific locations around the country.
- 2.2.7 According to the EPA, Ireland's natural waters are a long way from achieving the 'good status' required under the EU Water Framework Directive. Preliminary results from the implementation of the first round of river basins management plans indicate that there has been no overall improvement in water quality in the period 2009 to 2015.²
- 2.2.8 The EPA identifies public water supplies in need of remedial action, which are included on the Remedial Action List (RAL). As of October 2016, 117 of the 962 public water supplies are on the Remedial Action List. These supplies collectively provide

¹ Information provided to the Expert Commission by the EPA in October 2016.

² Information provided to the Expert Commission by the EPA in October 2016.

water to 850,000 consumers.³ The maps at Appendix 7 show the location of sites on the RAL and the priority areas for wastewater enforcement.

- 2.2.9 The Joint Oireachtas Committee on Environment, Transport, Culture and the Gaeltacht issued a comprehensive report (June 2012) on the subject of Water Provision in Ireland. The Committee set their review against the background of the need to further invest in water infrastructure, noting that “a recurrent investment of €600 million annually would be necessary” (2012:19).
- 2.2.10 There is general agreement that this deficit in water infrastructure needs to be addressed, not least given the social, environmental, and economic costs of failing to do so. Based on current projections, the minimum total capital expenditure required for the period 2014 to 2021 is €5.5 billion, with the likelihood that significant ongoing investment will be required in later years. This proposed capital expenditure will be subject to CER approval (Irish Water, 2015). The Expert Commission recognises the need for ongoing investment in infrastructure.

2.3 Valuing Water: Water Availability, Consumption and Conservation in Ireland

Water Availability

- 2.3.1 There is a high level of water availability in Ireland. Research shows that Ireland has one of the highest rates of water availability in the world – actual renewable water resources are about 13,000 m³ per capita per annum. By comparison, France’s actual renewable water resources are 3,371 m³, while Israel’s are just 255 m³ per capita per annum (Zhao and Crosbie, 2012). The vast majority (over 80%) of drinking water in Ireland is abstracted from surface water.
- 2.3.2 However, just because there are high levels of water availability does not mean that issues of local water scarcity do not arise. OECD (2010) notes that “scarcity is not a mere physical phenomenon. ‘Dry’ areas may not be water scarce if use remains within the limits of local availability. Conversely, ‘wet’ areas may be stressed if use approaches the limits of availability” (2010:65).
- 2.3.3 As noted earlier, there is a serious problem of water leakage in Ireland, and there is a serious issue of lack of spare capacity in some cities. Consequently, although there is a high rate of water availability in Ireland, inadequate infrastructure means that there are serious pressures on the supply and treatment of water.

³ Information provided to the Expert Commission by the EPA in October 2016.

Water Consumption

- 2.3.4 Accurate data on domestic water consumption in Ireland has only become available recently, following the introduction of domestic water meters. In the Irish Water Charging Plan submission to CER, consumption data was provided based on the Irish Water Consumption Research Project, which stated the following with regard to consumption data:

“The key findings from the IWCRP Phase 1 are as follows: Average usage when outliers are excluded is 111 litres per person per day, when weighted against the 2011 CSO census data; Average usage when outliers are included is 123 litres per person per day, when weighted against the 2011 CSO census data; Assuming a linear model the incremental consumption of the marginal occupant is 57.2 litres per person per day, which equates to 20.886 m³ per annum; and average consumption, assessed on a per person per day basis, appears lower than that assumed in recent Government announcements, which is based on 145 litres per person per day” (2014:6).

The full table of consumption data from this report is provided in Appendix 8.

- 2.3.5 Irish Water presented consumption data to the Expert Commission based on metered consumption to date, which indicated that domestic consumption is relatively low in Ireland with average consumption of 123 litres per capita (compared, for example, to 140 litres per capita in the UK). This metered data also indicated that 7% of households are using six times more water than the average household, although Irish Water indicated this level of consumption is likely to decline as customer-side leaks are fixed.
- 2.3.6 While comparison of domestic consumption with other European countries is difficult due to differing methods of measurement and because the data can be out of date, this most recent consumption data suggests that Ireland is at the lower end of the spectrum of EU countries with regard to domestic consumption.

Water Conservation

- 2.3.7 In terms of conserving scarce water resources, charging for water has been proposed as an effective method for promoting conservation among users. The extent to which demand for water is responsive to price has been discussed in many research reports. The overall conclusion is that demand responds to price in combination with other policy signals, such as education, information, etc.

- 2.3.8 In Ireland, the reduced domestic consumption due to charges was originally projected to be 6%, but Irish Water subsequently indicated that this estimate would have to be modified downwards in the light of the introduction of a cap on charges.
- 2.3.9 Many independent reviews and reports have referred to the value and significance of education and promoting water conservation measures. The Joint Oireachtas Committee that reviewed water provision in Ireland (2011) recommended that a grant scheme should be established to incentivise water conservation (2011:10). While it can be debated whether public money should be spent to subsidise water saving devices, active promotion of water conservation devices (e.g. low-flow showers or rainwater harvesting systems) should be encouraged.

2.4 Pricing Water Services

- 2.4.1 Water is essential for human life. It is expensive to produce water for consumption, to treat wastewater, and to renew infrastructure. Therefore, water services must be paid for – through taxation, tariffs, or some combination of both.

Pricing Strategies for Water Services

- 2.4.2 There are differing views on water pricing and how cost recovery can be efficiently and equitably achieved. For example, there are those who regard water services as an economic good that should be fully priced with full cost recovery, and those who regard water services as a right that should be free to all at the point of delivery.
- 2.4.3 Putting a price on water services is generally considered to serve four main objectives:
- Generate finance to cover investment and operation and maintenance costs;
 - Allocate water efficiently among competing uses;
 - Manage demand, support conservation, and discourage depletion of water resources; and
 - Ensure adequate and equitable access to affordable water and water-related services.
- 2.4.4 In the European Commission's July 2000 Communication, *Pricing policies for enhancing the sustainability of water resources*, the Commission stated that efficient water pricing policies have a demonstrable impact on the water demand of different uses. As a result of changes in water demand, efficient water pricing reduces the pressure on water resources. It did recognise the sensitivity of pricing issues for a wide range of stakeholders and Member States but said that this sensitivity should not be used as a reason for misreading the Commission's message as an advocacy for a 'pricing alone' policy.

2.4.5 Until the recent introduction of a tariff structure for domestic consumption, Ireland was unique in Europe in not having any direct charge on users of domestic water. However, as noted above, not having a specific charge for water does not mean that water does not have to be paid for by the citizen.

Tariff Structures

2.4.6 Reflecting the general categories of tariff structures available, OECD (2010) notes that domestic water pricing typically derives from various combinations of the following components:

- A one-time connection fee, to gain access to the service.
- A recurrent fixed charge (sometimes known as a standing charge or flat fee) that can be uniform across customers or linked to some customer characteristic (e.g. size of supply pipe or meter flow capacity; property value; number of water-using appliances). The fixed charge does not reflect consumption.
- If a metering system is in place, a volumetric rate, which, when multiplied by the volume of water consumed in a charging period, gives rise to the volumetric charge for that period. The rate can be the same for any level of consumption; or it can increase in steps with volumes consumed (increasing block tariffs – IBT); or it can decrease in steps with volumes consumed (decreasing block tariffs).
- In some circumstances, a minimum charge is paid for each period, regardless of consumption.

Appendix 9 reports tariff structures for water supply and sanitation services in several OECD countries in Tables 1 and 2, respectively.

2.4.7 In seeking to determine the best type of tariff structure, a number of different research papers and independent reviews have identified a range of criteria. For example, the report of the Independent Review of Charging for Household Water and Sewerage Services in England and Wales in 2009 (commonly referred to as the Walker Report) used the following principles: water efficiency incentive; cost-related; polluter pays; affordable; fair to companies (there are a number of private companies involved in water provision in England and Wales); simple and transparent; administratively feasible; and intergenerational equity.

2.4.8 Having reviewed the various systems, the Walker Report concluded that “charging by use of water should be the preferred charging method and recommends that the basis of charging for water should continue to move away from the current mixed system towards a charging system based primarily on the volume of water used” (2009:69).

2.4.9 In 2012, the Joint Oireachtas Committee on Environment, Transport, Culture and the Gaeltacht that reviewed water provision in Ireland recommended that a single national charging system for domestic water be adopted stating that “given that it is

government policy to introduce metering...that a single national tariff be introduced, that a just and fair waiver system that takes account of household income, medical needs, family size etc. should be introduced, that consumers must have a strong voice, and that bills must be clear and transparent" (2012:96).

- 2.4.10 In the charging plan submitted to the CER, Irish Water assessed three tariff structures: flat, volumetric, and two-part (fixed and volumetric) against five principles: equity and non-discrimination; cost reflective; efficient use; cost recovery; stable; and easy to understand. Irish Water (2014) proposed a system of uniform volumetric charging, combined with a fixed charge.

Types of Household Tariff Structures in Use in Europe

- 2.4.11 Appendix 9 provides a summary of the household tariff structures for drinking water and wastewater in various European countries (OECD, 2010). Table 1 provides a summary of the household tariff structures for drinking water, and Table 2 provides a summary of domestic wastewater charges structures.
- 2.4.12 A constant volumetric charge with a fixed charge is the most common and is utilised in 12 of the 20 countries. Increasing block tariffs are also fairly common (7 countries), as are charging systems based on constant volumetric rates with no fixed charge (6 countries). Only 3 countries incorporate a flat fee tariff structure: Czech Republic, Sweden, and England & Wales. However, the Czech Republic, Sweden, and England & Wales also utilise other tariff structures, as some tariffs are determined and managed locally rather than nationally. In total, 6 countries have more than one tariff structure in use within the country. The other 14 countries utilise the same tariff structure for the entire country, although there may still be some variation in tariff levels regionally.
- 2.4.13 Water use is the most common way sewerage and sewage treatment charges are determined (water in = water out). 10 countries use the same tariff structure for wastewater and drinking water, and 8 countries have separate charges for sewerage and sewage treatment. Only one country (Denmark) has the same fee for drinking water and wastewater connections.

Affordability and Equity

- 2.4.14 Whatever the basis for charging or the type of tariff structure in use, there is general agreement that effective affordability measures must be put in place for low-income households. It is also important that affordability measures are well-targeted at those who are most in need of support. Affordability is measured by comparing the bills for water and sanitation services with the ability to pay (typically based on disposable household income, share of income that should be spent on paying for water, or some other metric).
- 2.4.15 Most typically, affordability is measured by reference to the share of household disposable income that is spent on water charges. According to OECD figures, on average these charges account for between 0.2% and 1% of disposable income, but “the picture is more contrasted when one considers the lowest decile of the population” (OECD, 2010: 77).
- 2.4.16 Based on the charging regime that was in place in Ireland, the Expert Commission has been supplied with the following figures on affordability (based on Central Statistics Office figures for average disposable incomes):

Affordability Assessment of Irish Water Charges

	Mean Household	Median Household	Household in Lowest Income Decile
Net disposable income in 2014	€41750	€34351	€8435
Average water bill per household in 2014	€199	€199	€199
Water bill as % of net disposable income	0.5%	0.6%	2.4%
Water bill (net of WCF) as % of net disposable income	0.2%	0.3%	1.2%

Source: the Department of Housing, Planning, Community and Local Government

- 2.4.17 In Ireland an Interdepartmental Group was established in 2013 to consider affordability measures with respect to water charges. The Inter-Departmental Group considered options such as maximising support to vulnerable households with a small universal allowance, social tariffs (with or without Government subvention), a social protection scheme, or using existing redistribution schemes (tax and social protection). The Group concluded that the approach to affordability measures could not be developed in isolation either from the design of water charges (including assessed charges), the determination of the level of State funding or the proposed free allowance.
- 2.4.18 A number of affordability measures were introduced during 2014, including a free allowance and provision for tax and social welfare supports. As previously outlined, the overall charging regime was revised in November 2014, including the introduction of a Water Conservation Grant for all eligible households. The Water Conservation Grant replaced the tax rebate and social protection measures that were previously announced and was proposed as a more straightforward means of addressing water issues for all households on equal terms thereby reducing households' outlay on water services.

Non-Domestic Charges for Water

- 2.4.19 Although the Expert Commission has been asked specifically to consider funding of water services for the domestic sector, it is also relevant to briefly consider charging in the non-domestic sector, not least in the context of how charges are apportioned between users.
- 2.4.20 In the non-domestic sector, different local authorities have traditionally charged different rates, and these have been inherited by Irish Water pending the setting of a new national tariff structure by CER, which is scheduled to be in place by 2018. A summary of the variation in volumetric rates for non-domestic customers across the local authorities is provided in Appendix 10.
- 2.4.21 Similarly, connection charges have in the past been charged by local authorities, again at different rates and collected as part of development levies. CER proposes to introduce a national connection charging policy by 2018.
- 2.4.22 There have also been problems noted with the collection rate for non-domestic charges, and according to Boyle (2012) "service indicator data for Irish local authorities shows that some local authorities have experienced significant difficulties with collecting water charges from the non-domestic sector," and noting that the collection rate for commercial water charges was much worse than for other charges

“with almost half of water charges being unpaid across all local authorities.”
(2012:22)

2.4.23 Irish Water have indicated that in proposing to CER the enduring tariff framework for non-domestic customers they would, as data is migrated from the Local Authorities, build up a consumption profile for non-domestic customers which will assist in determining the appropriate proportion of total costs to be recouped from the non-domestic sector. However, care is required to ensure that the competitiveness of commercial entities is not adversely affected in this process.

2.4.24 It is also worth noting that, in Ireland, there is no comprehensive system of abstraction charges for water, and this matter should be addressed.

Financing Infrastructure

2.4.25 The approach to financing water infrastructure depends on the particular model adopted, including, for example, the mix of central, local, or user charges and the mix of public and private finance. Appendix 11 provides some examples of how water infrastructure costs are financed in selected OECD countries (OECD, 2012). In all of the countries listed, at least 50% of operating and maintenance costs are covered by water users and municipalities. Investment for infrastructural development tends to be primarily funded by central government, rather than directly by water users or municipalities. France is a notable exception, where investment costs are shared 50-50 between the government and water users/municipalities. Ireland's estimated operation and maintenance costs for 2015 are included in this table. It is important to note that Ireland's reported operating and maintenance costs do not include debt and service depreciation, which is consistent with standard accounting practices.

2.4.26 As referenced earlier in the report, there has been historic underinvestment in water infrastructure in Ireland. The Expert Commission has noted there is an investment target of €5.5 billion to 2021 to bring water services to an acceptable level, and it is quite likely that significant ongoing investment will be required beyond 2021. A total capital requirement of €13 billion has been identified by Irish Water (2015) as the minimum to meet good infrastructure and service standards.

2.4.27 The PWC report (2011) that recommended the establishment of a single utility for water services envisaged that Irish Water would become self-financing, perhaps as early as 2018, and could potentially achieve a borrowing capacity of €2.9 billion by 2030, stating also that “a key factor in evaluating the merits of the new operating model is the possibility that the borrowings of Irish Water could be outside the General Government Balance” (2011: 18). Indeed, it was recognised that a significant

component of the strategy to establish Irish Water was that Irish Water would be classified as a market corporation under Eurostat rules. However, the Eurostat decision in July 2015 that Irish Water is a non-market entity controlled by government and should therefore be classified within the government sector, clearly impacted on that strategy, including the strategy for borrowing to fund infrastructure.

2.4.28 The Expert Commission has also been informed that NewEra (New Economy and Recovery Authority) has prepared a report for Government on funding options for Irish Water, examining matters such as the financial cost of external borrowing versus the provision of funds from central government sources. This was not available to the Expert Commission at the time of reporting but of course is essential to a complete and accurate assessment of financing options.

3. Public Consultation

3.1 Public Consultation Process

- 3.1.1 As a part of the information gathering work, the Expert Commission invited interested parties to make submissions in writing on the future funding of domestic water and wastewater services and improvement in water quality. The Expert Commission requested that submissions be concise and focus on solutions. The Expert Commission also requested that submissions refer to its terms of reference.
- 3.1.2 Overall, the public consultation proved to be a valuable process which enabled the Expert Commission to obtain the views of a broad range of groups, political parties, and individuals. These views have been taken into consideration in our analysis of the existing funding system and in the development of recommendations for a new model for domestic water services funding.
- 3.1.3 The total number of parties with whom the Expert Commission met or from whom submissions were received was 70. A list of these parties is included in Appendix 12. Below we summarise some of the most common themes to emerge from the submissions.

3.2 Public Ownership

- 3.2.1 The most commonly expressed message related to the concern about the potential privatisation of Irish Water. Many submissions did not express opposition to water charges per se, but rather expressed concerns that water charges, and metering of domestic households, could eventually lead to privatisation. This was sometimes set in the context of wider concerns about privatisation of public services, and the commodification of water. The most commonly expressed preferred method for confirming Irish Water in public ownership was by a constitutional amendment, and many submissions made clear that a plebiscite, as provided for in legislation, did not provide the necessary level of guarantee.

3.3 Funding

- 3.3.1 Many submissions expressed support for a system based on “paying for what you use” or “paying for excessive use” so long as appropriate social protection and affordability measures were introduced and public ownership of Irish Water is guaranteed. Some took the position that there should be a generous allowance. Some submissions emphasised that pricing was a key tool for conservation of water.

There was also the view that pricing of water for domestic consumption was essential to comply with the EU Water Framework Directive.

- 3.3.2 Others took the view that water was a human right that should not be paid for directly through charges but instead through general taxation. There was also concern that the establishment of the charging regime had been rushed and should not have happened until leakage and other infrastructural deficits had been addressed.
- 3.3.3 There were concerns about how unpaid water charges would be managed (including concerns that water could be shut off), the possible introduction of water poverty, and other affordability issues. The previous system of tariffs was generally viewed as being regressive, while general taxation as a means of paying for water is viewed as more progressive. Some also expressed frustration that they had paid water charges while others had not and noted that this was inequitable.

3.4 Institutional Arrangements

- 3.4.1 There was support for a central body that manages water systems, increases the efficiency of water services, oversees the maintenance and investment in infrastructure, etc. and recognition that the previous distributed water management model was dysfunctional and unsustainable. However, there was also a view that the reputation of Irish Water was irreparably damaged, that there had been excessive spending on consultancy and public relations, and that a new or different type of body could achieve more public support. The regulatory role of the CER is generally supported, although the exact role of the regulator could be clarified.

3.5 Conservation

- 3.5.1 There were also proposals that conservation policies be more emphasised and targeted. Suggestions included tax rebates or grants for households that purchase efficient water fixtures, expanded education and outreach programmes, implementation of new building standards, public campaigns on care of septic tanks, etc. There are concerns that excessive water leaks are a waste of energy and public money and an environmental concern.
- 3.5.2 Regarding metering, some submissions note that meters are important for managing the system, for locating and repairing leaks, and in aiding water conservation. However, other submissions expressed concern that the excessive cost of installing water meters in every home may be substantially higher than the environmental

gains and that meters may primarily be a means of preparing Irish Water for privatisation.

3.6 Infrastructure and Legal Issues

- 3.6.1 There was general consensus about the need for significant investment in infrastructure, which is acknowledged to be weak and already leading to serious problems for consumers and the environment. There was also consensus that the Irish Water investment plans seem reasonable and necessary to meet the standards required by the various EU directives. However, there was concern about becoming reliant on the private sector for that investment.
- 3.6.2 There was concern about the ongoing lack of clarity about Ireland's EU obligations, including legal obligations under Article 9 of the Water Framework Directive, and different interpretations of the legal obligations were put forward. Some submissions note that it is difficult to propose viable alternatives to the current system if the legal obligations are uncertain.
- 3.6.3 There was a concern that the share of revenue for funding water services and infrastructure that was supposed to come from domestic users is substantially greater than the revenue from non-domestic users, despite non-domestic users being associated with higher levels of pollution.

3.7 Other Issues

- 3.7.1 While not necessarily all directly related to the terms of reference, many submissions expressed frustration about a number of other issues including: a lack of public involvement in decision-making processes, the lack of easily accessible information and transparency from Irish Water, the lack of clarity on the improvements that are being made to water infrastructure, the lack of clarity on why water meters are useful and/or needed, the lack of consistency in water charging policy between different types of users including domestic and non-domestic users and urban vs rural users (it was pointed out many rural households have been paying for water through maintaining personal wells or through group water schemes), issues with unmetered dwellings (including apartments), and the disconnect between policy aims and outcomes (e.g. Water Conservation Grant does not promote conservation).

3.7.2 There was also the view that the decision to introduce water charges was imposed as part of the EU-IMF programme of financial support to Ireland and not as a natural part of the domestic socio-political process. Many submissions also expressed frustration that there has been little consistency in policy direction on water charges over several decades, which has resulted in a lack of trust in government decisions on this issue. As such, there was concern that any proposed new policy directions will not be seen as credible or reflecting the views of Irish citizens. There was also some mistrust of the independence of the Expert Commission, including concern that the establishment of the Expert Commission is merely a 'box-ticking' exercise for already settled government policy. In this context, some expressed the view that the terms of reference of the Expert Commission had already precluded certain outcomes.

4. Discussion and Analysis

4.1 Many of the independent studies and reviews of methods for funding domestic water services refer to key criteria that can be used to assess the feasibility of the different approaches. In summary, according to these criteria, the ideal funding model should:

- Provide adequate and secure funding for the operational and capital costs of supplying and treating water;
- Be affordable and not place an undue financial burden on those who can least afford to pay;
- Help to support the conservation of water and support a clean environment;
- Be practical in terms of its implementation; and
- Ensure optimal allocation and usage of water.

4.2 In Ireland up until the introduction of water charges for domestic consumers, households were paying for water through their taxes and still continue to subsidise the production and treatment of water through the general taxation system. The difficulty was clearly that insufficient funds were available or made available to address the infrastructural deficit in a planned and systematic way.

4.3 However, when assessing the optimal method for funding domestic water services, it is also important to consider country-specific factors and context, including the relevant weighting that should be attached to these various criteria. In the following section we discuss what we consider to be some of these relevant contextual and background issues in Ireland, in the light of the evidence available to the Expert Commission and taking account of the consultation process.

4.1 Water Availability, Conservation and Consumption in Ireland

4.1.1 As noted in Chapter 2, the issue of water scarcity and the need for water conservation is complex. Ireland has abundant renewable water resources leading to a high level of water availability when compared to many other countries. Local water scarcity occurs nonetheless, especially in selected urban environments, driven by high levels of leakage and growth in water demand.

4.1.2 The Expert Commission has not seen any evidence that Ireland has particularly high levels of domestic water consumption. While it is important to be cautious about the different methods used for collection of domestic consumption data internationally, the domestic consumption figures for Ireland compare favourably with other

developed countries and do not show evidence of extensive excessive or wasteful water consumption by households in Ireland. While the Expert Commission understands that it will not be possible to definitively assess levels and patterns of domestic consumption until a number of years of metered data have been collected, we have not been presented with any particular evidence to suggest that the consumption data collected by Irish Water to date is in any way anomalous or that it is not indicative of real consumption trends.

- 4.1.3 However, water has to be treated before being consumed, and wastewater has to be treated before being discharged. Compared to many other countries, Ireland has a relatively fragmented distribution network, and the majority of this infrastructure is in serious need of upgrade and investment. When this is combined with changing environmental conditions, changing patterns of land use and habitation, and population growth particularly in major urban centres, the challenge of providing clean drinking water and proper treatment of sewage becomes much more acute.
- 4.1.4 The Expert Commission has noted the evidence of ongoing incidences of contamination of the drinking water supply in certain parts of the country, the lack of adequate contingency supplies of water in cities, and ongoing problems with untreated sewage entering the rivers, lakes, and sea. The Expert Commission has also noted that the level of leakage is high in Ireland and that this is largely due to the poor state of the infrastructure.
- 4.1.5 While renewable sources of water may be plentiful in Ireland and average domestic consumption is not excessive, the infrastructural deficit is leading to problems and currently represents an unacceptable level of risk to the population. If this infrastructural deficit is left unaddressed, this will undoubtedly lead to further and more serious problems in the future. The evidence of the need for major ongoing investment in improving water infrastructure in Ireland is overwhelming.

4.2 Funding Infrastructure

- 4.2.1 The decision by Eurostat in 2015 that Irish Water did not qualify to be classified as a market corporation and that funding must, therefore, remain on the government balance sheet has compromised the potential for Irish Water to borrow on the market on the basis anticipated in the PWC report (2011). Yet, one of the main reasons why such 'off balance sheet' funding was suggested was that historically funding of water infrastructure had been compromised by the uncertain and cyclical nature of 'on balance sheet' government funding.
- 4.2.2 With regard to the funding of water services by different categories of users and the appropriate allocation of costs amongst users, it was not within the Expert

Commission's terms of reference to consider charges outside the domestic sector. However, the Expert Commission has noted that charges for non-domestic customers have been retained on the same basis as those charged by the local authorities as at 31 December 2013. The level of these charges varies considerably between local authorities, but it is envisaged by CER that a more coherent range of national non-domestic tariffs will be in place by 2018. Similarly, the system for determining the level of connection fees to the water network is complex, and the charges vary between local authorities. It is understood that proposals are also being developed to replace the current charging arrangements.

- 4.2.3 In the context of overall funding of water services in Ireland, it is appropriate that a coherent set of tariff and funding structures are in place. The Expert Commission supports the move to a more harmonised and realistic structure of charging for the non-domestic sector that takes account of the costs of water production and treatment for different categories of users. Water bills to commercial users should be collected more systematically. This is relevant to the overall funding situation of Irish Water because until such a coherent structure of charging is in place it is not possible to clearly establish how costs will be allocated between different categories of users or to clearly establish the revenue stream that will be available to Irish Water.
- 4.2.4 With regard to funding more generally, the Expert Commission notes that unlike a number of other EU countries, there has not been a strong tradition in Ireland of levying local charges for public services. For example, water charges are set in the context of local charges levied by municipalities or local councils in a number of other EU countries. By contrast, in Ireland there has traditionally been a higher reliance on central funding for local services, and this was also the case with water up to the transfer of responsibility for water to Irish Water and the introduction of usage-based charges. This is relevant in the context of efforts to introduce user charges for services that have traditionally been funded from central exchequer funds, as is the case with water.

4.3 Policy and Legislative Environment

- 4.3.1 Section 2(1) of the Water Services Act 2014 provides:

"A bill providing or allowing for the alienation of any share or shares in Irish Water to a person other than a Minister of the Government shall not be initiated by or on behalf of a Minister of the Government in either House of the Oireachtas unless –

- (a) A Resolution of each such House is passed approving a proposal to provide or allow for such alienation,*

(b) A proposal to provide or allow for such alienation is submitted by Plebiscite for the decision of the People, and

(c) A majority of votes cast in such Plebiscite shall have been cast in favour of the proposal."

4.3.2 There was no evidence available to the Expert Commission that any party is in favour of privatisation of Irish Water now or in the future. However, in the course of our deliberations, including through the process of consultation, it also became clear to the Expert Commission that the issue of Irish Water staying in public ownership remains critical for many stakeholders and that the aforementioned provision in the Water Services Act was not sufficient to allay concerns about possible future privatisation. It is also clear that this issue has contributed to the creation of a climate of uncertainty and mistrust and represents a barrier to making progress.

4.3.3 The Expert Commission is also cognisant of the overall water policy environment and, in particular, the obligations imposed on Ireland as a member state of the EU arising from a variety of regulation and directives, including the Water Framework Directive. Ireland also faces serious challenges in meeting its obligations under the Urban Waste Water Treatment Directive and the Drinking Water Directive, and the consequences of non-compliance are material.

International Law and the Human Right to Water

4.3.4 A number of submissions received by the Expert Commission advanced the proposition that there is right to access clean water enshrined in international law. While the existence of such a right can readily be acknowledged, its nature and scope is less easily delineated.

4.3.5 The UN's position is that drinking water should be safe and sufficiently available to everyone, in line with the human rights principles of non-discrimination and equality, participation, accountability, access to information, and transparency ('General Comment 15', UN Committee on Economic, Social and Cultural Rights, 2002). The literature is focused on developing countries, for those with no or inadequate supply. Deficiencies in providing these services in developed countries are most likely to emanate in rural and in small-scale supplies.

4.3.6 There is no specific convention on the human right to water, but other UN human rights conventions make mention of water in the International Covenant on Economic, Social and Cultural Rights (1966), and the specialist Convention on the Rights of the Child (1990) and Convention on the Elimination of All Forms of Discrimination against Women (1981), linked to adequate standards of living and to other specific human rights, such as housing and health. The human right to water

and the primary responsibility of the State to protect it have been recognized by both the UN General Assembly (e.g. UNGA, 2010) and the UN Human Rights Council (e.g. UN HRC 2010). Since then, there have been several resolutions on water and sanitation, and both rights were recognised in the 'Outcome' document from the UN Conference on Sustainable Development in Rio in 2012 (UN, 2012). The rights to water and sanitation substantially underpin Goal 6 in the new 2030 Sustainable Development Goals (UN General Assembly, 2015) and the right to water is now widely accepted as a customary right in international law.

4.3.7 At a European level, the Council of Europe, which is broader than the EU and responsible for the (European) Convention for the Protection of Human Rights and Fundamental Freedoms, recommended in 2001 that members adopt the European Charter on Water Resources (Council of Europe 2001). Article 2 provides for 'equitable and reasonable use' with special regard to vital human needs; Article 5 states "[e]veryone has the right to a sufficient quantity of water for his or her basic needs." The European Citizens' Initiative 'Water is a Human Right' (European Commission, 2014) obtained 1,884,790 signatures and led to a debate in the European Parliament, and a vote in favour of the Commission bringing proposals to recognise the human right to water and sanitation.

4.3.8 The UN's first special rapporteur for water and sanitation has reported extensively on operationalising the rights to water and sanitation. Whatever institution or legal entity is used to deliver the service, the responsibility to provide the service remains with the state. However, the right does not mean that water services can or should always be delivered without a charge, except perhaps for the indigent poor: "The human rights framework does not, however, rule out tariffs and user contributions for water and sanitation provision. Water and sanitation do not necessarily have to be available free of charge. The human rights framework recognizes that revenues have to be raised in order to ensure universal access to services" (UNGA HRC, 2015, para.6).

4.4 Affordability

4.4.1 The data on the affordability of water charges presented in Chapter 2 confirms that when domestic user charges for water are being introduced, putting in place appropriate affordability measures is critical to ensure that no one is deprived of the basic requirements for water and that water charges do not represent a disproportionate outlay of disposable income. If account is taken of the Water Conservation Grant, the percentage outlay on water for households in Ireland compare favourably with other OECD countries. This data also confirms other

international studies that show that such charges represent a more significant burden for the lowest income decile.

- 4.4.2 This confirms the need for the design of well-targeted affordability measures. While the Expert Commission acknowledges the efforts made to address this issue, given the way in which the charging system has evolved in Ireland, we are not convinced that the affordability measures that have been introduced to date, such as the Water Conservation Grant, are well-targeted. At the same time, affordability measures also need to be feasible. While certain approaches proposed may score highly in terms of targeting those most in need, they may not be practically or administratively feasible. More generally, issues of affordability and income equality in society are typically dealt with through the systems of taxation and social welfare. The Expert Commission notes that within OECD countries Ireland is regarded as having a relatively progressive system of general taxation.

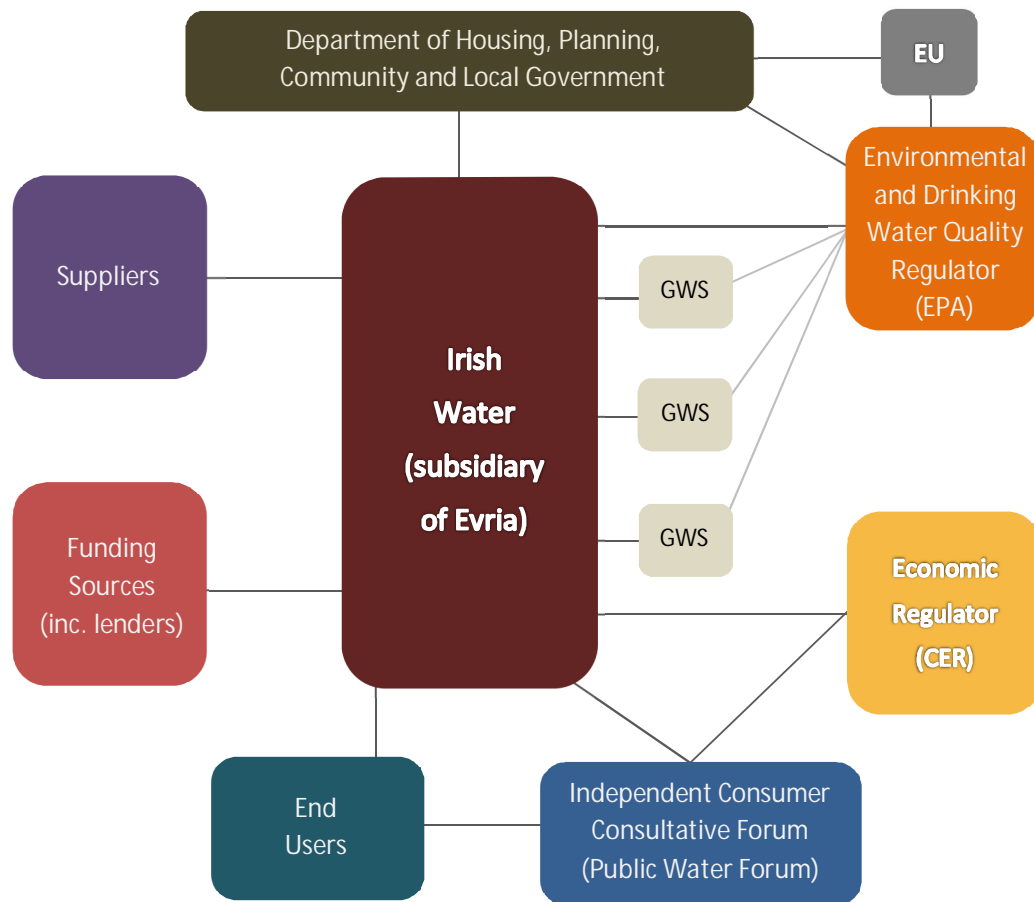
4.5 Trust, Public Engagement, and Governance

- 4.5.1 It is clear that there is a lack of trust among significant sections of the Irish public with regard to the regime of water charges that has been introduced to date. This would seem to have arisen for a number of reasons, as outlined in Section 3.7.
- 4.5.2 While the Expert Commission is not empowered by its terms of reference to make any recommendations with regard to the institutional arrangements that are currently in place, it seems clear that a centralised public utility clearly established in public ownership has the potential to achieve economies of scale, improve and standardise the operation and maintenance of water treatment plants, and address the serious water infrastructure deficits that now exist in Ireland. Indeed, the Expert Commission has been impressed by some of the progress made to date, including the upgrading and installation of new wastewater and water treatment plants and progress made in addressing customer-side leakage.
- 4.5.3 Establishing a robust governance model for Irish Water is essential, not least to re-establish trust and to ensure meaningful engagement of citizens in the discussion on the development of water services. The Figure 1 below provides an overview of the current model of governance and accountability for Irish Water.
- 4.5.4 To date, the focus has been mainly on the economic and environmental aspects of regulation, but the Expert Commission considers that insufficient attention has been paid to social governance and the engagement of civil society. In this context, the Public Water Forum was established under the Water Services Act 2014 as an independent consumer consultative forum. The primary purpose of the Forum is to represent the interest of the public and water consumers. The Expert Commission

believes that the role of the Forum could be further developed so that it provides civil society with a broadly-based and trusted means of influencing the plans and activities of both Irish Water and CER.

- 4.5.5 Due attention must also be paid to the institutional governance structure appropriate to a regulated utility such as Irish Water that is guaranteed in public ownership, which may be different to the model originally envisaged and currently established.

Figure 1. Overview of Governance and Accountability for Irish Water



Source: Adapted from Figure 39 (p70) in PWC (2011)

4.6 Efficiency

- 4.6.1 In a situation where Irish Water is effectively operating as a monopoly provider, it is essential to ensure ever-improving efficiency in its operation so that the overall costs of water services are minimised. The UK Walker Report notes that “it is essential that incentives in the system as a whole are designed to minimise the total costs of providing water and sewerage services” (2009: 120). The role of the regulator is critical in this regard. A key part of the remit of the CER is to ensure that water services are provided economically and efficiently in the interests of the citizen and taxpayer. In its engagement with the CER as part of this review, the Expert Commission was informed of the challenging efficiency targets that have already been set for Irish Water. The Expert Commission was reassured by the steps being taken to ensure the ever-improving efficiency of the utility in the provision of water services but recognises that there is still significant progress to be made and many challenges to be met.
- 4.6.2 It is of utmost importance that all consumers and taxpayers can be reassured of the ongoing focus on the efficient provision of water services and that consumers are centrally involved in supporting the drive to ever-improving efficiency. In this regard, the Expert Commission recognises the important role already being played by the Public Water Forum in representing the voices of consumers and considers that this is a role that can be further developed, not just to rebuild trust in the system but also to promote ever-improving efficiency.

4.7 Options for Funding Domestic Water Services

- 4.7.1 The Expert Commission does not propose here to re-state all of the arguments for and against the various tariff options for funding domestic water services. In summary, a number of those options are assessed as being weak when measured against the key criteria referred to earlier, namely:
- Conservation and environmental sustainability;
 - Affordability and fairness;
 - Financial sustainability;
 - Economic efficiency, so that water is allocated to the highest value uses; and
 - Administrative feasibility.
- 4.7.2 Flat rate charges, where a standard rate is applied regardless of use, while simple to apply, are generally regressive and do not address the issue of conservation. Similarly, assessing a water charge by reference to another proxy charge such as property tax (as has happened in certain parts of UK), while also relatively easy to apply, can lead to unfairness in the system and does not accurately reflect usage.

- 4.7.3 Traditionally water services in Ireland have been paid for through general taxation. This system has the merit of simplicity and is progressive to the extent that the taxation system is progressive and is complemented by social welfare supports. However, it does not address the issue of water conservation, and funding for water infrastructure could be 'crowded out' by demands from other parts of the system. It should also be emphasised that water funded through general taxation is not free but paid for by the taxpayer.
- 4.7.4 A number of independent reviews, both in Ireland and internationally, have come to the conclusion that a volumetric charging system based on metering, supported by a well-targeted affordability system, represents the approach that is most in line with best practice and best meets the criteria described above. The original charging plan approved by the CER was also generally consistent with established practice in a number of other jurisdictions.
- 4.7.5 However, it is also clear that the charging framework put in place in Ireland has not been able to deliver enduring political support nor did it attract a sufficient degree of popular acceptance. This is clear, for example, from the subsequent modifications to the charging system within a very short period of time. The process culminated in the suspension of water charges (by which time a significant proportion of consumers had already paid some or all of their water bills) and the establishment of the Expert Commission. These successive modifications, taken together with other factors, have undermined confidence in the system and have led to increased doubt and uncertainty around the basis and legitimacy of the charging regime.
- 4.7.6 The Expert Commission is of the view that in now determining the best method of funding domestic water services in Ireland, in addition to the generally agreed criteria referred to above, due account must also be taken of the background and context to water charging in Ireland, including the issue of acceptability. In this context, when considering the options for funding various local services, including water services, the Indecon Report on Local Government Financing (2005) noted that "making recommendations which are correct in principle but which are not capable of being implemented does a disservice to the need to reform the system of local government funding" (185)... "Changes also have to take account of political constraints and the overall acceptability of options to the community." (2005:176)
- 4.7.7 The Expert Commission similarly believes that making recommendations that meet the standard criteria and that may theoretically align with best practice but do not take account of the relevant background and context in Ireland – including the criterion of acceptability – would not be useful.

5. Recommendations

- 5.1 After reviewing the background evidence from Ireland and other countries, taking account of the consultations, the analysis provided in Chapter 4, and the necessity for public acceptability, the following are the recommendations of the Expert Commission:

5.1 Public Ownership

- 5.1.1 Despite the safeguards put in place to date, the issue of the utility, Irish Water, continuing in public ownership remains a concern for many. This is creating an obstacle to making progress on important issues, such as addressing the serious infrastructural deficit. It is implicit in the Expert Commission's terms of reference that the utility will remain in state ownership, and the terms of reference mandate the Expert Commission make its recommendations on that basis.
- 5.1.2 It is also abundantly clear from our consultations and engagement with stakeholders that there is overwhelming support, including amongst political parties, for retaining Irish Water in public ownership. Nevertheless, as part of the overall approach to settling the issues addressed in this report, further measures are required to alleviate the concerns of those who believe that the eventual privatisation of Irish Water remains a possibility.
- 5.1.3 A number of submissions received by the Expert Commission urged that the alienation of Irish Water out of public ownership be made constitutionally impermissible. While the precise legal mechanism by which clarity and certainty on this question can be achieved is properly a matter for the Irish Government and legislature, the Expert Commission sees considerable merit in that approach.
- 5.1.4 Accordingly, the Expert Commission recommends that the adoption of a suitable constitutional provision on public ownership of water services be more fully addressed by the Special Oireachtas Committee in its deliberations on this report.

5.2 The Funding of Domestic Water and Wastewater Services

- 5.2.1 Having considered various options and the background to the current situation, the Expert Commission has reached the conclusion that the optimal arrangement that should now be put in place is one that involves the funding of water services, for normal domestic and personal use, as a charge against taxation. The system should

be predicated on an acceptance that access to adequate clean water for living requirements should not be determined by affordability.

- 5.2.2 A distinction must, however, be made between a right to water for normal domestic and personal purposes and wasteful usage. The former can reasonably be regarded as a public service that should be funded out of taxation and which the State should provide for all citizens. Where water is used at a level above those normal requirements, that principle is no longer applicable and the user should pay for this use through tariffs.

Based on those principles, it is recommended that:

- 5.2.3 Each household that is connected to the public water supply receives an allowance of water and a corresponding allowance of wastewater that corresponds to the accepted level of usage required for domestic and personal needs without any direct charge being levied. This allowance should be related to the number of persons resident in the household and adjusted for special conditions.
- 5.2.4 The Expert Commission is cognisant of the difficulties in determining normal usage. The Expert Commission believes at least two options can be considered:
- (1) The allowance could be computed to cover all of the normal domestic and personal usage for which water is typically required. As referenced in Appendix 13, the standard uses for domestic water consumption relate to personal washing, toilet flushing, drinking, cooking, clothes washing, dishwashing, waste disposal, and house cleaning. A more detailed analysis should be carried out to establish the precise levels of allowance to be made available, based on analysis of consumption patterns for different occupancy households.
 - (2) An alternative approach that could be considered is to determine the level of water required for normal domestic and personal needs by reference to current household usage. On this model, an allowance could be set at a level that corresponds to the actual consumption of a significant proportion of water users (for example, for illustrative purposes, 90% of users or, for example, 150% of average domestic consumption). The allowance could be regularly reviewed and, if necessary, adjusted to reflect changes in water use patterns in Ireland (typically more efficient water uses).
- 5.2.5 Whatever the method, the Expert Commission recommends that the level of allowance be set as a result of an open and transparent process that includes the CER and the Public Water Forum, with the level of the allowance adjusted to reflect the marginal water consumption in multi-occupancy households.

- 5.2.6 This volume of water should be financed by the State out of taxation. Usage above this allowance should be paid for directly by the user to the water utility at a rate to be determined by the CER.
- 5.2.7 Despite the fact that under these proposals a vast majority of consumers will not have to pay direct charges for water, exceptional cases may arise. The special exemptions already in place for households catering for medical or other conditions that require high water usage should be maintained. Other exceptional circumstances may arise for households where consumption above the normal could be justified. In such cases, although they should be very limited, an exceptional waiver option by application (for example, to the Department of Social Protection) should be put in place.
- 5.2.8 This proposed arrangement would ensure that the normal domestic and personal water requirements of all citizens are provided for by the State through taxation rather than by tariffs levied on individual households. Excessive or wasteful use of water will be discouraged by applying a tariff for such use and therefore is consistent with the 'polluter pays principle'.
- 5.2.9 What is proposed here does not amount to the provision of a 'free allowance' of water nor does it involve additional direct subsidies by the State to the water utility. Rather, the water utility will provide sufficient water to all citizens to cover their domestic and personal needs, and the costs of providing that water will be recovered from the State, which will be a customer of Irish Water, based on tariffs approved by CER.

Cost of the Proposals

- 5.2.10 The implementation of the recommendations contained in this report should not result in any significant change in the funding available to Irish Water in respect to its operational costs. Rather, it is intended that the budgeted income of the utility would be maintained with that responsibility for paying tariffs in respect of the normal domestic and personal needs of users being met by the exchequer rather than by householders directly.
- 5.2.11 Data furnished to the Expert Commission by the Department of Housing, Planning Community and Local Government in August 2016 indicates that the operational costs of providing water services by Irish Water in each of the years 2014 and 2015 is provided in the table below.
- 5.2.12 These costs were to be met by a combination of subventions from the exchequer and income from domestic and non-domestic tariffs and connection charges (in the

case of non-domestic users). A breakdown of the sources of income to Irish Water is also contained in the table below.

Irish Water Operating Costs and Revenue Components 2014-2015 (€m)		
	2014	2015
Operating Costs* (€m)	779	794
Revenue Components* (€m)		
Domestic Tariff	No charges	232
Non-Domestic Tariff	181	183
Connection	67	37
Subvention	439	399
Total	687	851

Source: Department of Housing, Planning, Community and Local Government

* Estimates for additional years were not available to the Expert Commission.

- 5.2.13 The subvention provided by Government includes payments to Irish Water for the purchase of water to give effect to child allowances and the cap imposed on domestic charges (amounting to €189m in 2015). Apart from those charges, there is no breakdown of the remaining elements of the subvention as between domestic and non-domestic services.
- 5.2.14 Up to the introduction of domestic water charges in 2015 the entire cost of domestic water services was met by the exchequer out of taxation. The understanding of the Expert Commission is that the introduction of domestic tariffs was not intended to reduce the level of exchequer subvention. Rather, domestic tariffs were intended to provide an additional stream of income for the financing of water services.
- 5.2.15 Since the suspension of domestic water charges the full cost of providing water services to domestic users has reverted to the exchequer. Consequently, the additional on-going cost to the exchequer of these recommendations should, at most, correspond, to the amount which was to have been collected from domestic tariffs prior to their suspension. There will, however, be some income from domestic users in respect of excessive or wasteful usage.
- 5.2.16 There will, however be a continuing need to closely monitor the operational expenditure of Irish Water and to achieve savings from greater efficiencies across the organisation.

- 5.2.17 The recommended funding model, if implemented, will place the main burden of financing the operational costs of providing domestic water services on the exchequer to be paid for through taxation. The question of whether there should be a dedicated tax, a broadly-based fiscal instrument, or an adjustment to existing taxes to fund this requirement would be a matter of budgetary policy and outside the scope of this report, but is worthy of further consideration.
- 5.2.18 The Expert Commission has also noted the arrangement whereby Irish Water has entered into Service Level Agreements (SLAs) with local authorities for the provision of water services. The rationale for concluding these agreements is that they promote stability in the delivery of the services to which they relate – the first such SLAs running for a period of 12 years. While understanding the need for transitional arrangements, the Expert Commission is concerned that these SLAs could become a barrier in the drive towards ever-improving efficiency, and we recommend that these arrangements be reviewed in the context of the CER's remit in ensuring a cost-efficient water service.

5.3 The Funding of Operations, Maintenance and Investment

- 5.3.1 As a regulated industry, the independent economic regulator is required to independently approve a price determination for water that also provides for the investment requirements to meet national objectives and international obligations, with an appropriate efficiency target incorporated in this determination.
- 5.3.2 Under the arrangement proposed above, it is envisaged that the state-owned utility, Irish Water, should levy a charge against the State (which under this proposal becomes a customer of Irish Water) for the total volume of drinking and waste water comprising the allowance to households. The charge should be based on tariffs approved by the Commission for Energy Regulation, working with the other regulators, after public consultation and engagement with the Public Water Forum.
- 5.3.3 Based on this regulatory settlement and by Irish Water billing the Exchequer for the cost of the allowance, funds for covering the costs of water production and for further investment in infrastructure will be provided. Additional mechanisms should be considered to ensure that the necessary finance to meet the regulatory settlement is guaranteed. This could include making specific provisions for 'ring fenced' funding in legislation, a requirement for Government to report to the Oireachtas on any variation between budgetary provision and the regulatory settlement, and review by the Comptroller and Auditor General. Additionally, the

State is obliged to meet its obligations under European law, as underpinned by the various directives on water and wastewater.

- 5.3.4 The Expert Commission also recognises that a comprehensive and standardised model for charging commercial users still has to be put in place. Once this is achieved, the revenue stream available to Irish Water from this source will become clear.
- 5.3.5 There will be a need for ongoing borrowing to fund infrastructural development. When available, the NewEra report on investment options will provide greater clarity on the most advantageous approach to borrowing for such infrastructural development and the optimal sources of borrowing. However, given our earlier recommendation to guarantee Irish Water in public ownership and the proposed funding model, the Expert Commission is of the opinion that the Irish Government, Irish Water, and its parent company Ervia may need to fundamentally re-assess the funding model for investment, since a number of the assumptions that were originally made (e.g. Irish Water would be treated off the General Government Balance Sheet) are no longer valid.

5.4 Metering

- 5.4.1 An extensive programme of metering has already been undertaken. It is estimated by Irish Water that 873,000 households have now had meters installed out of a target of 1.4 million households. While the installation of meters was primarily intended to facilitate billing, they have proved to be highly effective in detecting leakages in the water system and a means of collecting valuable data concerning patterns of water usage. The question of whether, in light of the recommendation in this report, the metering programme should be continued is one of policy and is outside the scope of the Expert Commission's terms of reference. If it is decided that the metering programme should proceed, consideration should be given to an approach that is more in keeping with the recommended scheme with a focus metering of buildings in the case of multi occupancy or metering of households on request. Irish Water should complete a comprehensive programme of district metering to identify system-wide leakage and manage the network.
- 5.4.2 Clearly, measurement by meter is the optimal approach to managing consumption to promote water conservation and for managing the system of water distribution more generally, and as indicated above, an extensive metering programme is already in place in Ireland. However, it is recognised that metering may be challenging with some multi-occupancy buildings, such as apartment blocks and flats. For households that cannot be metered for technical reasons, under the proposed new arrangement it is reasonable and fair to assume that such households do not consume water

above the level of allowance to be funded by the exchequer, not least because excessive or wasteful usage is less likely in households without individual gardens or opportunities for outdoor use of water. However, the Expert Commission recommends that ongoing analysis and study be carried out to establish whether consumption patterns in unmetered households reflect usage in excess of the average metered household. For example, district meters and other new technologies have been shown to be helpful in disaggregating consumption data. Where a pattern of excessive use is identified in non-metered households, some adjustment to the currently proposed arrangement may have to be considered.

- 5.4.3 The approach proposed above is consistent with the principle of funding domestic water through taxation and also respects the need to monitor consumption levels in Ireland on an ongoing basis so as to maintain consumption levels within the norms of other water-conserving EU countries. The allowance to households should be periodically reviewed in an open and transparent way as further consumption data is gathered and with a view to ensure that consumption levels are maintained at levels that are aligned with best practice in water conservation.

5.5 Public Engagement and Transparency

- 5.5.1 Given the background to the current situation in Ireland, the consumer's voice must be put at the heart of discussion and decision-making on the delivery of water services in Ireland. In this regard, the Expert Commission recognises and supports the role of the Public Water Forum in representing the interests of consumers. The Expert Commission recommends that over time this role be further developed and that the Public Water Forum could have a more direct role in such matters as discussing the acceptable level of water use in the allowance to households, agreeing future performance measures for Irish Water as they relate to consumer experiences of services standards and delivery; agreeing the consumer engagement and educational and research priorities of Irish Water; helping to ensure that the investment priorities of Irish Water meet consumer service expectations; an annual performance review with Irish Water of the standards of service delivery to consumers; and addressing issues related to consumer compensation for service failures. As noted earlier, based on our consultations, the role of the Forum is currently not sufficiently understood, and this needs to be addressed.
- 5.5.2 The Expert Commission recommends that Irish Water renew its efforts to develop a positive engagement with consumers and put in place further initiatives to engage consumers in a positive and proactive way at the national, regional, and local level. For example, as a national utility in public ownership, Irish Water could be given a

direct role in promoting and supporting the provision of water conservation measures to domestic consumers (see Section 6 below).

- 5.5.3 As a further measure to promote transparency and openness, Irish Water should commit to the provision of extensive open-access data, for research purposes and so that consumers can easily monitor and manage consumption. An EPA administered research budget on water management and conservation is necessary and should be put in place.

5.6 The Role of Regulators

- 5.6.1 The Expert Commission believes that the regulators will continue to have an important role in ensuring that the obligations of Irish Water with regard to efficiency and quality of water services are met.
- 5.6.2 Economic regulation, with adequate expertise, will be required to ensure that the appropriate capital expenditure investments are made and that operating expenditure costs are driven down over time. The Expert Commission recognises that significant further progress has to be made in ensuring the efficient operation of Irish Water. The Commission for Energy Regulation, complemented by the Public Water Forum, will continue to play a key role in driving these efficiencies. The Expert Commission recommends that the Commission for Energy Regulation and the Public Water Forum continue to be adequately resourced with the tools and expertise to drive efficiency targets in the sector.
- 5.6.3 The Environmental Protection Agency also plays an important role as the drinking water and environmental regulator and should continue to play a key 'challenge' role to ensure that Ireland meets its requirements under various EU legislation.
- 5.6.4 The Expert Commission considers that even in public ownership, water users and taxpayers will benefit if Irish Water is overseen by strong and effective regulators. We believe that both economic and quality regulators are needed to hold Irish Water to account for the services it delivers to consumers and its compliance with both drinking water quality and environmental obligations. We consider that the regulators should be responsible for holding Irish Water to account for the timely delivery of its improvement programmes. The Expert Commission would expect that the Commission for Energy Regulation will establish challenging trajectories for the ever improving efficiency of Irish Water and its progress towards excellence in asset management and hold the utility to account to deliver on these programmes.
- 5.6.5 We see a strong and continuing role for the Public Water Forum to work with all parties, including Irish Water to help ensure success. Finally we see the need for an

open and transparent and inclusive process to be established to ensure that properly costed and deliverable medium term plans are developed by Irish Water that meet the needs of water users, the State, and all other stakeholders.

5.7 Conservation Measures

- 5.7.1 It is recommended that a much more proactive approach be taken to promoting domestic water conservation measures in Ireland. Irish Water can play a key role in this regard not only through educational and information campaigns but also through providing advice and access to water conserving devices. There are many domestic conservation devices now available such as rain harvesting systems and shower, tap and cistern fittings.
- 5.7.2 Further measures should also be considered, such as a requirement that new domestic buildings incorporate water conserving fittings and an extension of the Building Energy Rating (BER) Scheme to incorporate water conservation.

5.8 Equity and Fairness

- 5.8.1 The Expert Commission believes that this overall package of measures, when taken together, represents a fair and equitable approach to addressing the funding of domestic water services in Ireland.
- 5.8.2 The Expert Commission also notes that the Group Water Schemes and private wells have proved effective, not least in reducing consumption of water and addressing leakage. Equity with the proposed arrangements for consumers on public supplies must be maintained for those who are not served by public water supplies. The Expert Commission recommends that this be reviewed when the allowances for consumers on public supplies are determined and that equity for group schemes and private wells be maintained through additional subsidy or other means.
- 5.8.3 The Expert Commission also notes that under the 'Confidence and Supply Agreement' for Government, it is asserted "those who have paid their water bills to date will be treated no less favourably than those who have not." The Expert Commission considers it important that the necessary measures to make good on this commitment be put in place.

5.9 Compliance with European Law

- 5.9.1 In the submissions to the Expert Commission, several parties referred to the State's obligation under Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the

field of water policy (the Water Framework Directive). Different views were expressed as to the nature of the obligations imposed on Member States of the European Union by this Directive in relation to charging for water services. It was also asserted by some parties that Ireland retains an effective derogation from the requirement of Article 9.1 of the Directive by operation of paragraph 4 of that Article.

- 5.9.2 In a communication sent to the Expert Commission, the European Commission made a number of points in relation to the obligations of Member States under Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy.
- 5.9.3 This letter was received on 24 November 2016. It restated similar points to those already made to the Expert Commission. For the assistance of the Oireachtas Committee, a copy of the Commission's letter is included in Appendix 14 of this report.
- 5.9.4 While considerable weight must be given to the opinion of the European Commission, the definitive interpretation of European law is a matter for the Court of Justice of the European Union.
- 5.9.5 The recommendations in this report provide for the recovery by Irish water of the cost of providing services to households thus ensuring proper funding of the water utility. Furthermore, the approach recommended provides incentives for domestic users to use water resources efficiently and respects the 'polluter pays' principle. Charges are being retained in respect of excessive or wasteful use of water.
- 5.9.6 While the Expert Commission cannot purport to offer an authoritative opinion on questions of European Law, it is satisfied that it can cogently be argued that its recommendations will achieve the objective pursued by Article 9 of the Directive.

6. Conclusions

- 6.1 As stated at the outset of this report, the background to the introduction of water charges in Ireland is complex. The charging regime introduced was subject to several changes over a short period of time and has been the subject of controversy. As evidenced by the consultation process, there are many strongly held views on all sides of the debate. While these views are clearly genuinely felt, these are also frequently irreconcilable. In reaching its conclusions the Expert Commission has sought to take account of the key policy objectives to be achieved and to balance these with fairness.
- 6.2 Ultimately we believe that the recommendations in this report, if taken as a package, represent a fair and balanced outcome to this complex issue and potentially provide a basis for assuring stable and predictable funding for the delivery of improved water services in Ireland, provide an affordable and equitable approach for individual consumers, support ongoing conservation of water by targeting excess use, and has the merit of being simple to understand and efficient.
- 6.3 In addition, we hope that this report will assist the Special Oireachtas Committee in their deliberations and help to:
- Make the true cost of water supply and sanitation more transparent;
 - Promote an informed public debate on the allocation of costs between taxpayers and water users;
 - Create a relationship between Irish Water and the Irish Government that secures necessary funding for water infrastructure; and
 - Discourages the profligate use of water.
- 6.4 Finally, we suggest that once this report and these recommendations have been considered by the Special Oireachtas Committee, the new model be put in place as soon as possible and maintained unless and until there is strong evidence and a consensus that the arrangements warrant review due to circumstances that cannot be envisaged at the present time. This is to provide much the needed stability and predictability that is essential to addressing the urgent infrastructural deficit.

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Appendix

A1. 2014 Policy Direction

In July 2014, the Minister for the Environment, Community and Local Government issued a policy direction to the Commission for Energy Regulation (CER). This document included the following policy principles with respect to domestic water charges:

- An annual free allowance of 30,000 litres of water supply per household
- A free allowance be provided to cover the normal consumption of both water supplied and wastewater treated per child in primary residencies in the State
- Capped charges for people with high water usage due to certain medical conditions
- Unmetered charges based primarily on occupancy

In addition to the policy direction, the Government introduced the following affordability supports for households at the time domestic water charges commenced in October 2014:

- Household Benefits Package and Fuel Allowance recipients were to receive a €100 'Water Support' payment per year
 - Household Benefits Package – available to everyone aged over 70, those between 66 and 70 receiving a State pension, and those under 66 in receipt of certain State benefits or below a certain income level
- Water Charges Income Tax Relief
 - At the standard rate of 20%
 - Available up to a maximum of €500 per household per year
 - Worth up to €100 per household per annum when claimed in the following year
 - Individuals cannot claim both the 'Water Support' payment and the tax relief in respect of the same water charges
- The Exceptional Needs Payment system would continue to be available to people experiencing severe financial difficulties

Source: Department of Housing, Planning, Community and Local Government

A2. September 2014 Water Charges Plan

In September 2014, the CER decided on and confirmed the water charges tariffs (taking account of the Ministerial Policy Direction) that came into effect on 01 October 2014. The main aspects of the charging regime were:

- For households fitted with a meter, charges were based on usage above a free allowance. Each household would receive a free allowance of 30,000 litres of water (and a corresponding amount of wastewater treated) a year.
- Households would receive a free allowance to cover a child's normal consumption of water supplied and wastewater treated so that charges only apply to adults in households. The CER determined an allowance of 21,000 litres per child, the figure based on the evidence emerging from metered consumption data.
- The domestic metered tariffs were €2.44 per cubic meter of water supplied and €2.44 per cubic meter of wastewater.
- Households without a meter would be charged on an assessed basis, using occupancy as the criteria for assessment.

The following unmetered tariffs (per year) applied:

No. of adult occupants	Water charge	Wastewater charge	Combined charge
1	€87.84	€87.84	\$175.68
2	€139.08	€139.08	€278.16
3	€190.32	€190.32	€380.64
4	€241.56	€241.56	€483.12
5	€292.80	€292.80	€585.60
6	€344.04	€344.04	€688.08

In addition:

- To help customers transition from assessed charges to metered charges, there was provision for retrospective adjustment of charges (including a rebate) where assessed charges were above a reasonable threshold by comparison to the subsequent metered usage.
- Domestic water charges were to be fixed until the end of 2016.
- Customers with a medical condition that required increased water consumption would have their charges capped at the relevant assessed charge. Customers were to self-declare their eligibility for this provision by contacting Irish Water. Irish Water could selectively audit an individual's circumstances, including requiring supporting evidence to be provided by a customer's medical practitioner. In addition, Irish

Water would have been able to investigate instances of high usage to determine if there was other water use (e.g. that of a business) or leakage at the property.

- Assessed charges were to be based primarily on occupancy and possibly refined based on data from metered usage to ensure that they were as close a proxy for metered usage as possible (the assessed tariffs equated to the total metered price charge on the basis of average usage minus the free allowance).
- For social reasons (to avoid disproportionate impacts on smaller occupancy households) and environmental reasons, no standing charge would apply to domestic water customers.
- Where water was declared unfit for human consumption for more than 24 hours (i.e. a boil water notice or drinking water restriction notice), a 100% discount would apply to the water supply portion of a customer's bill for every day that the restriction lasted.

Source: Department of Housing, Planning, Community and Local Government

A3. November 2014 Revised Water Charges Plan

A new charging regime was announced in November 2014, involving capped charges and a lower subsidised charge per litre of water (€3.70 per 1,000 litres – almost 25% less than previously proposed). Key elements of the regime were set out in the Water Services Act 2014 and reflected in a revised Water Charges Plan published in March 2015.

The main details of the revised charging regime (now suspended), which commenced on 1 January 2015, were:

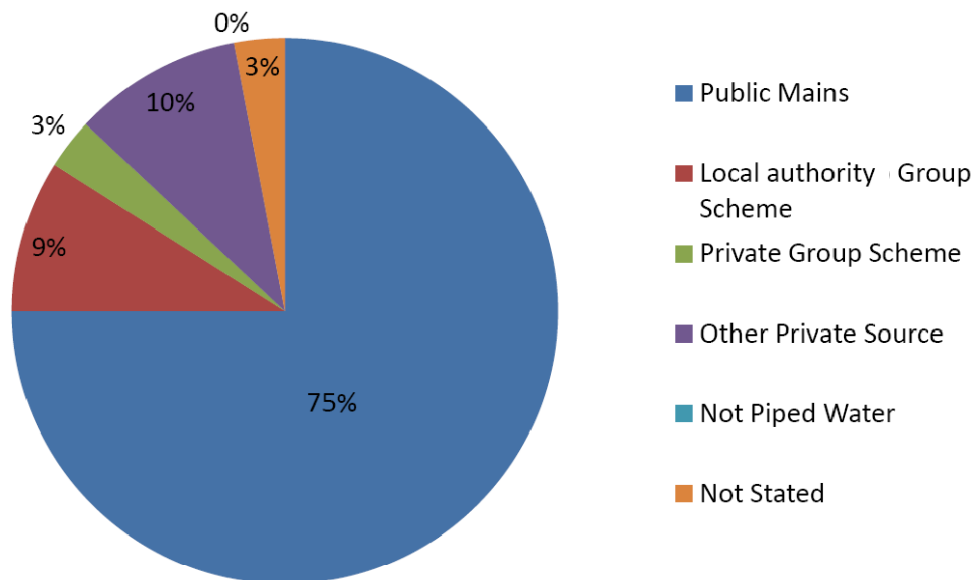
- Capped annual charges are set - the capped charges are €160 for single adult households and €260 for all other households until end 2018, with specific legislative provision made to allow for capped charges to continue beyond 2018.
- For the purpose of metered bills, the charge for water in/out is reduced to €3.70 per 1,000 litres.
- Households with either a water supply only or sewage only service will pay 50% of these rates.
- Metered usage can lead to lower charges than the relevant capped charge – households pay lower charges than the capped amount if their usage is lower than the capped charge equivalent amount of usage (approximately 40% of metered households have been paying lower than the capped charge amount).
- The child allowance remains at 21,000 litres per annum and applies to all persons resident in the dwelling aged under 18 (irrespective of whether the child qualifies for Child Benefit).
- Dwellings that are not permanently occupied pay a minimum of €125 per year (€62.50 per service) up to a cap of €260.
- All eligible households (i.e. principal private residences) are entitled to receive a Water Conservation Grant of €100 per year – households (both Irish Water customers and non-customers) are eligible to receive the grant if they register certain details with Irish Water. The Water Conservation Grant replaced the tax rebate and social protection measures that were previously announced.
- Domestic water charges payment is not connected to the Water Conservation Grant – a household that is a customer of Irish Water and that has registered with the utility can receive the grant, regardless of whether it has paid its water charges.

Source: Department of Housing, Planning, Community and Local Government

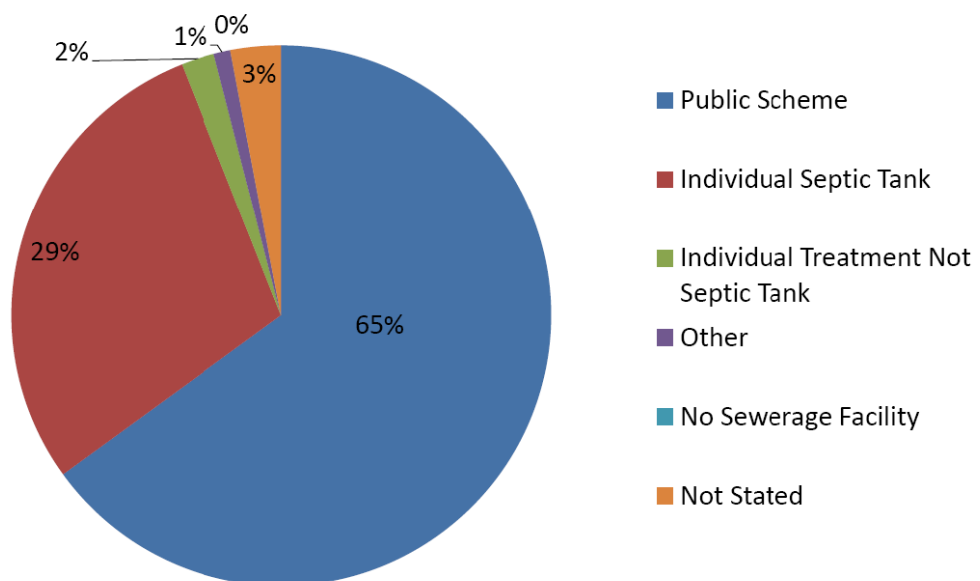
A4. Sources of Potable Water

Source of Irish Household Potable Water and Wastewater Treatment
(from p8 Engineers Ireland and The Irish Academy of Engineers, 2011)

(a) Source of Irish Household Potable Water



(b) Domestic Irish Wastewater Treatment



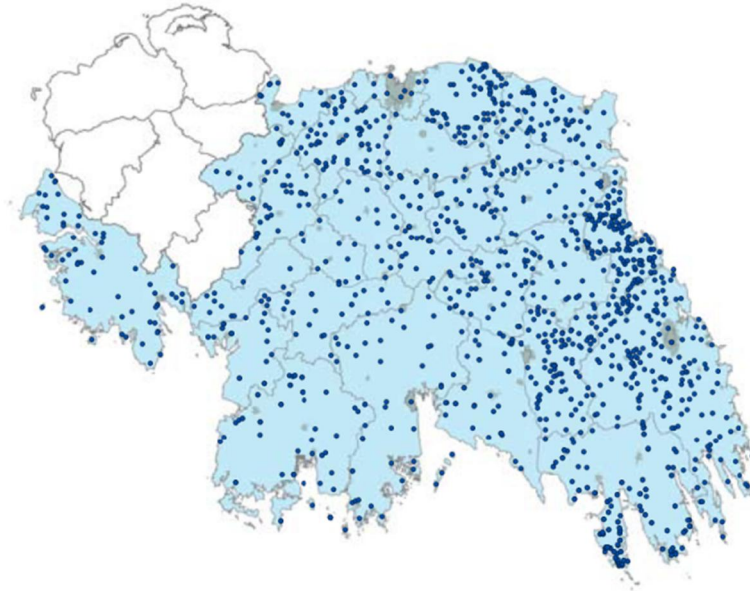
A5. Irish Water Treatment Plants

Maps of Irish Water Treatment Plants

Water Treatment Plants
from p xiv, Irish Water (2015)



Irish Water Water Treatment Plants



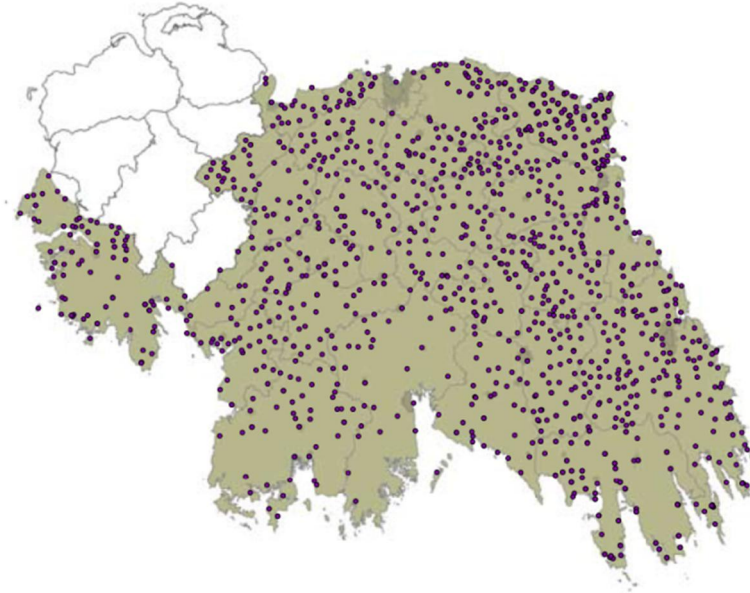
Source: Irish Water

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Wastewater Treatment Plants
from p xiv, Irish Water (2015)



Irish Water Wastewater Treatment Plants

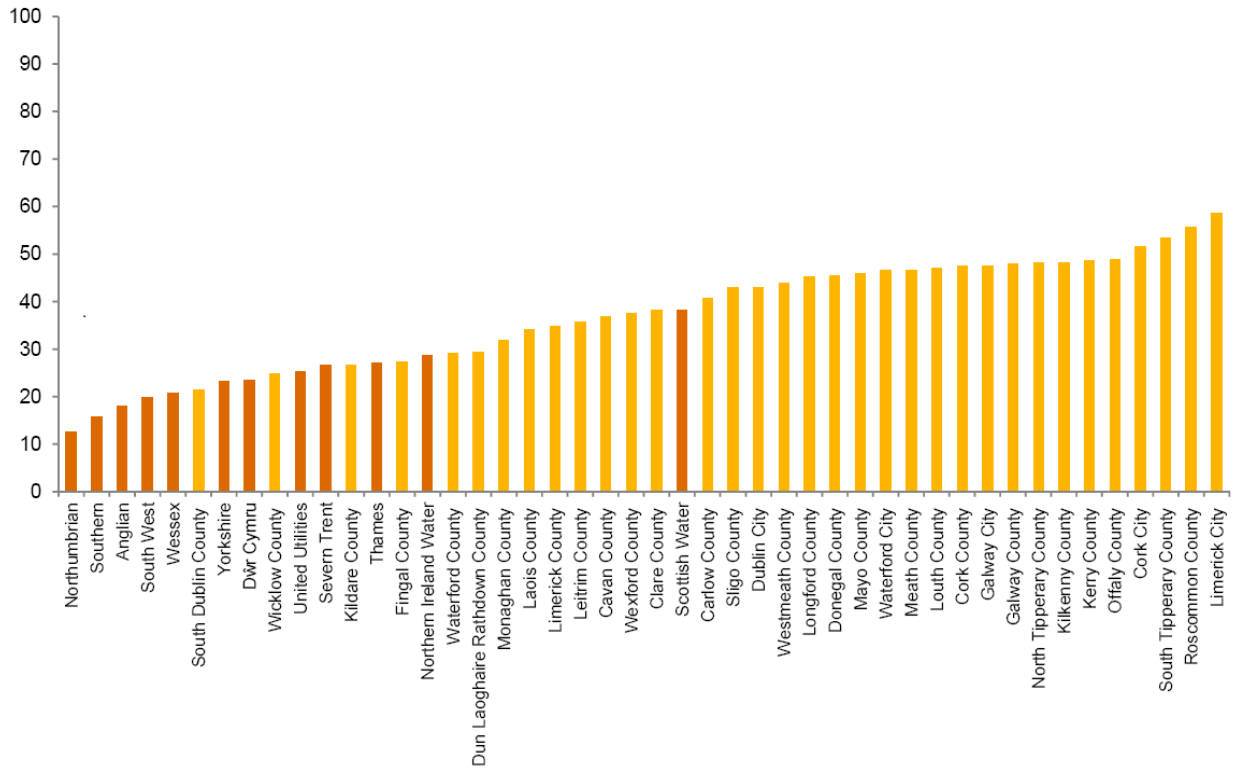


Source: Irish Water

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A6. Leakage Comparisons – Ireland and the UK

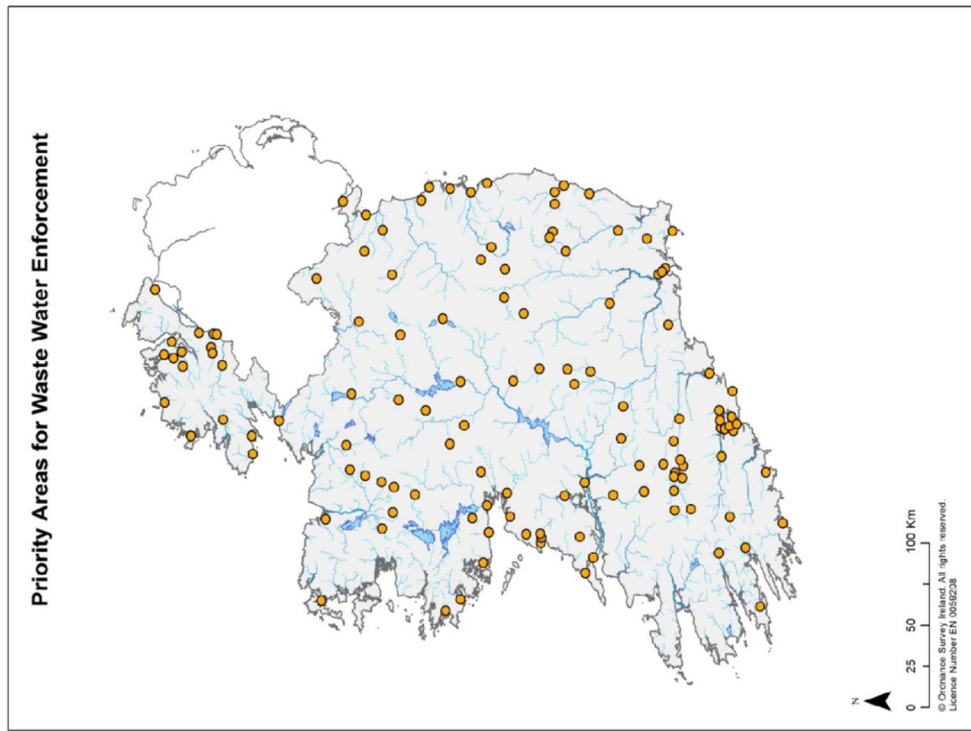
Leakage comparison: Irish local authorities and UK counterparts
from p58, PWC (2011)



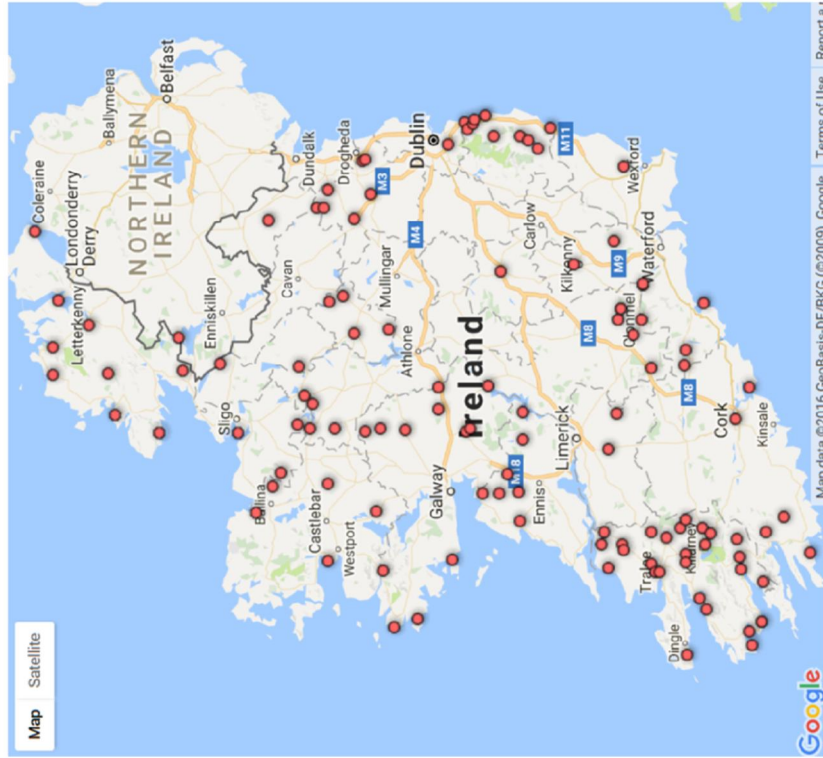
A7. EPA Remedial Action List Sites and Priority Areas for Waster Water Enforcement

EPA Remedial Action List Sites and Priority Areas for Waster Water Enforcement

EPA Priority Areas for Wastewater Enforcement from p9 EPA submission to Expert Commission (2016)



Map of the EPA Remedial Action List from p12 in EPA submission to Expert Commission (2016)



A8. Consumption Data from Irish Water Consumption Research Project

Household Water Usage by Occupancy (2014 estimates)

No. of occupants	Litres per person		Litres per household	
	Per day	Per year	Per day	Per year
1	181	66,228	181	66,288
2	119	43,557	239	87,114
3	99	36,000	296	108,000
4	88	32,222	353	128,886
5	82	29,954	410	149,772
6	78	28,443	468	170,658

Source: Commission for Energy Regulation (2014: 9)

A9. Comparison of European Tariff Systems

Table 1. Household Tariff Structures for Drinking Water in European Countries

Country	Types of Tariff Structures										Fixed element base	
	Connection Fee	Flat Fee	Constant Volumetric			Increasing Block Tariff			Min charge + FC	FC		
			No FC	FC	Min charge + FC	No FC	FC	Min charge + FC				
Austria				✓								
Belgium-Flanders										✓		
Belgium-Brussels	✓									✓		
Belgium-Wallonia	✓									✓		
Czech Republic	✓	✓										Pipe/meter size, user
Denmark	✓		✓									Area (urban/rural)
Finland	✓			✓								Meter size
France	✓			✓								Meter size
Germany				✓								Meter size
Greece				✓						✓		
Hungary	✓			✓								
Italy	✓									✓		
Luxembourg										✓		
Netherlands	✓			✓								
Norway	✓									✓		
Poland				✓								
Portugal	✓									✓		
Slovak Republic				✓								
Spain	✓									✓		Meter size
Sweden	✓	✓		✓						✓		Meter size
Switzerland	✓											
UK-Northern Ireland	✓	✓										Property value
UK-England and Wales		✓								✓		
UK-Scotland		✓										Property value

Source: Table 2.5 (p 52) in OECD (2010).

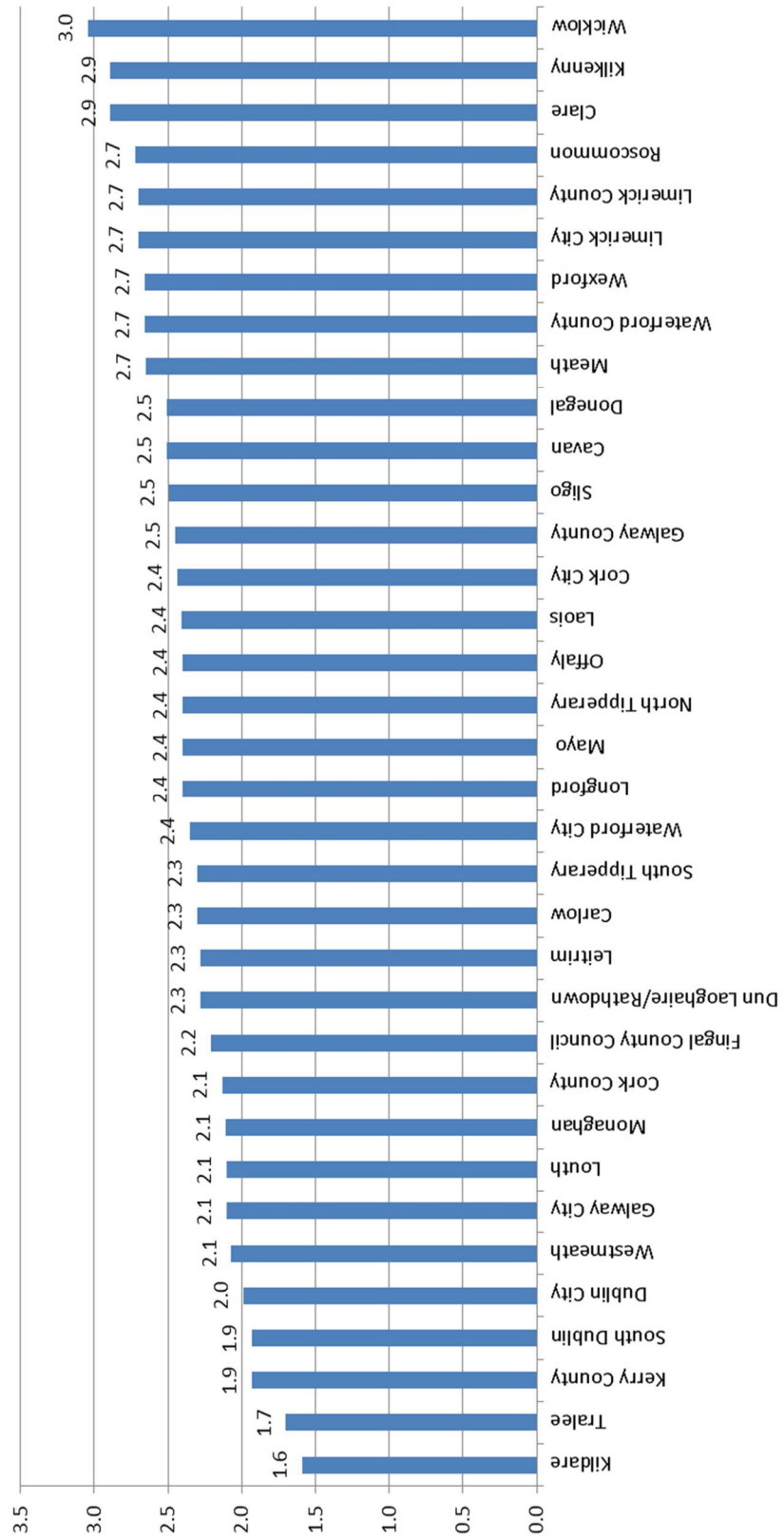
Table 2. Domestic Wastewater Charge Structures in European Countries

Country	Connection fees			Separate charge for sewerage and sewage treatment	Determination of sewerage and sewage treatment charges
	In place	Same as water connection	Same tariff structure as water		
Bel.-Flanders	✓	✗	✗	✓	Uniform rate on consumption
Bel.-Brussels	✓	—	✗	✓	Water use
Bel.-Wallonia	—	—	✓	✗	Fixed and volume-based
Czech Rep.	✗	—	✓	✗	Water use
Denmark	✓	✓	✗	✓	Water use
Finland	✓	✗	✓	✗	Water use
France	—	—	✓	—	—
Hungary	✓	✗	✓	—	—
Italy	✓	—	✓	✗	Water use
Portugal	—	—	✗	✓	Water use (% of water tariff)
Spain	—	—	✓	✓	Water use (% of water tariff)
Sweden	✓	✗	✓	✓	Same as for water
Switzerland	✓	✗	✗	✓	Sewage: connection fee + fixed charge; Sewage treatment: volumetric rate
UK-N. Ireland	✓	✗	✓	✗	Total costs for WW service apportioned according to wastewater produced which is 95% of water consumed
UK-Scot.	✓	✗	✓	✓	Unmetered charges based on Council Tax bands

Source: Table 2.6 (p 55) in OECD (2010).

A10. Combined Volumetric Charges for Non-Domestic Customers

Combined (Water Supply and Wastewater Service) Volumetric Unit Rate (€/m³) for Non-Domestic Customers by Local Authority Area
 Source: Department of Housing, Planning, Community and Local Government submission to the Expert Commission



A11. Financing of Water Infrastructure Costs in Various Countries

Financing of Water Infrastructure in Various Countries (Estimated %)

	Investment for Water Sector Development		Operation and Maintenance Costs	
	Government	Water Users & Municipalities	Government	Water Users & Municipalities
Spain	70	30	50	50
France	50	50	0	100
Canada	75	25	50-70	50-30
Japan	100	0	0	100
USA	70	30	50	50
Ireland	–	–	52	48

Source: Estimates for Spain, France, Canada, Japan, and USA are from Table 2.2 (p45) in OECD (2012). Estimates for Ireland are 2015 estimates provided by the Department of Housing, Planning, Community and Local Government.

A12. List of Consultations

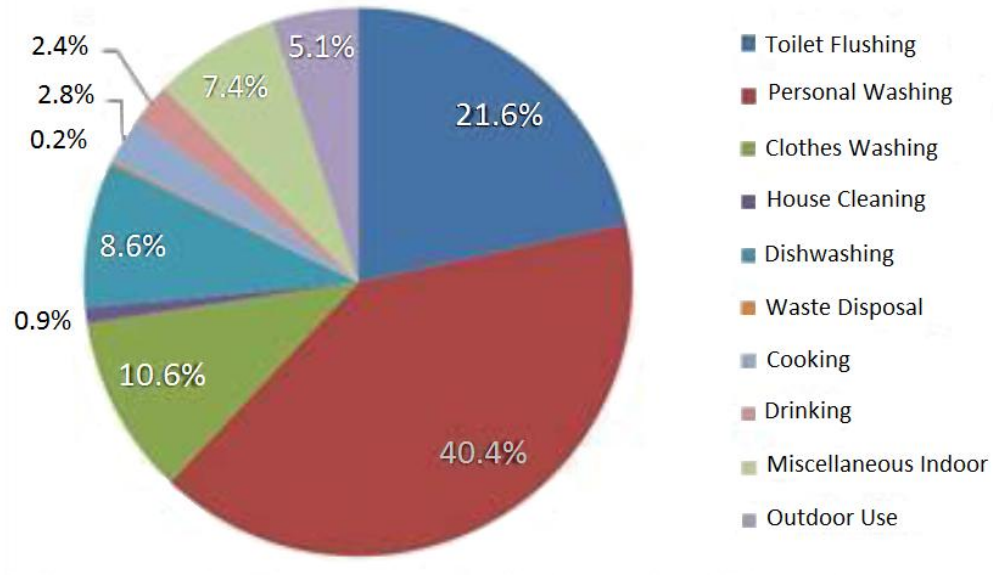
Below is a list of the parties with whom the Expert Commission met or from whom submissions were received.

Anti-Austerity Alliance – People Before Profit
Apartment Owners Network
Athlone Municipal District
Blue Planet Project
Commission for Energy Regulation
Community Group Ballyphenane / South Parish Says No
Dundalk Right2Water
Engineers Ireland
Environmental Pillar
Environmental Protection Agency
EurEau
European Commission Directorate – General Environment
European Water Movement
Fine Fáil
Fine Gael
Green Budget Europe
Green Party
Gurrabraher Meter Watch
IBEC
IMPACT
Irish Academy of Engineering
Irish Congress of Trade Unions
Irish Water
Labour Party
Law Society of Ireland
Mayfield Has Had Enough
National Federation of Group Water Schemes
Public Water Forum
Publicpolicy.ie
Right2Water
River Shannon Protection Alliance
Sinn Féin
Sustainable Water Networks (SWAN)

Adrian Conway
Aengus Melia
Alistair Smith
Allen Morgan
Andrew Cross
Brendan Kelly
Danny O'Connor
Declan O'Connor
Eamonn Grennan
Edmond J. Stack
Emma Kennedy
Eoin Ward
Gerry Breen
Ide Cussen
Joe Dalton
Joe Smith
John Blake Dillon
John Burke
John Doyle
John S. Holmes
Linda Roddy
Mark Egan
Michael Byrne
Michael Dunbar
Micheál Kelliher
Mike Norris
Noreen M. Murphy
Paul Twomey
Philip O'Neill
Roger Connolly
Roger Timlin
Ronan Furlong
Sara Glennane
Seamus Ward
Sean Connolly
Shane P.
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A13. Drivers of Household Consumption in Ireland

Estimated drivers of household water consumption in Ireland 2018
(from p18 Irish Water, 2014a)



A14. Letter from European Commission Directorate – General Environment

Ref. Ares(2016)6607639 - 24/11/2016



EUROPEAN COMMISSION
DIRECTORATE-GENERAL
ENVIRONMENT

The Deputy Director-General

Brussels, 24. 11. 2016
ENV/C1/CMC/as (2016) 6970808

Mr Kevin Duffy
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Dear Mr Duffy,

Thank you for your letter addressed to Commissioner Vella, to which he has asked me to reply.

The Expert Commission on Domestic Public Water Services has an important task and the services of the European Commission are aware of the high level of public interest in this work. We understand that recommendations will be submitted to the Irish parliament with the aim of securing better water services for Irish citizens in the most sustainable way.

I am pleased to set out the observations of my services on the funding of domestic public water services in Ireland and improvements in water quality, including the maintenance and investment needs of the public water and waste water system, with a focus on the compliance with EU law.

I would like to draw your attention to the fact that the Water Framework Directive (2000/60/EC) includes a clear obligation for the Member States to establish and apply a water pricing policy on the basis of two key principles: the cost recovery and 'polluter pays' principles. Both of them entail an efficient use of water resources. The Directive nevertheless allows Member States to take into account local circumstances, including – importantly social considerations, for the purposes of the application of the principles and in particular for the level of recovery.

Article 9 of the Directive is the relevant provision for the purposes of the work of your Expert Commission. I would like to elaborate in the following lines on the policy consequences of this Article and, specifically, on the core obligations it lays down, on the margins of autonomy it offers to public authorities in addressing various national circumstances, and on the boundaries of this autonomy.

Four aspects are of paramount importance:

1. Complying with the principle of cost recovery allows the proper funding of water infrastructure

The principle of cost recovery does not introduce an unreasonable constraint on the Member States and water consumers: the recovery of costs for the water services provided is indispensable for generating the resources for the public and/or private investments in the maintenance and development of the infrastructure necessary for the provision of water services. The investments required are significant and these should

evolve to address societal needs and concerns and to take into account technological developments.

The maintenance and development of Ireland's water and wastewater infrastructure to bring it to the standards required by the applicable EU rules require considerable investments. The Irish Government itself has acknowledged that the present state of water and wastewater infrastructure in Ireland is unsatisfactory¹. Irish Water has estimated that it would need to invest €5.5bn to bring Ireland's water infrastructure and services to an "acceptable level".²

This is one of the reasons why the European Commission, when launching infringement procedures, considered Ireland did not comply with the Urban Waste Water Treatment Directive and the Water Framework Directive, and why Trihalomethane (THMs) exceedances in drinking water are also under investigation.

2. The 'polluter pays' principle requires consumers to pay charges in return for safe drinking water at the tap and proper waste water treatment infrastructure

Achieving the objectives set out in EU water legislation requires investments in adequate infrastructure backed by a sound policy framework which incentivises the rational and equitable management and use of water resources. Water charges have been applied in the majority of EU Member States as a means of ensuring that investments in infrastructure can be made and in turn, acceptable water provision is in place for the benefit of all.

Water charges are a well-established mechanism to ensure sustainable financing of costly infrastructure, at the same time ensuring a responsible use of the resource. In terms of households (consumers), charging based on individual consumption is common practice across the EU.

According to 2011 data, Ireland had the highest water use per capita from public water supplies in Europe, with 146.2 m³ per inhabitant compared to just 26.5 m³ in Belgium.

3. Complying with the obligations defined by the Water Framework Directive does not require a one-size-fits-all approach. National authorities can apply social tariffs

While the EU Water Framework Directive requires that water-pricing policies provide adequate incentives for users to use water resources efficiently, it also allows such a system to have regard to social effects of the cost recovery.

Many EU Member States with water charges based on metering have introduced social tariffs and/or water vouchers/credits responding to affordability of lowest income families.³

¹ See: http://www.merrionstreet.ie/MerrionStreet/en/ImageLibrary/Programme_for_Partnership_Government.pdf. (see page 38)

² See: <https://www.water.ie/docs/Irish-Water-Business-Plan.pdf> (page 5).

³ In this regard we would like to draw the attention to the work carried out by TASC (<http://www.tasc.ie/publications/tasc-paying-for-water/>) which takes into account the specific conditions in Ireland and recommends supplementing the water pricing model "by income supports in the form of differentiated water allowances. Differentiated water allowances are a more economically and ecologically efficient method of solving the affordability problem than universal free allowances". We are aware that examples from other countries on existing mechanisms to address affordability have been compiled recently by several organisations such as WAREG (www.wareg.org), Aqua Publica Europea (www.aquapublica.eu) and Eureau (www.eureau.org).

4. The Directive's flexibility does not allow, however, 'disapplying' water charges once instated

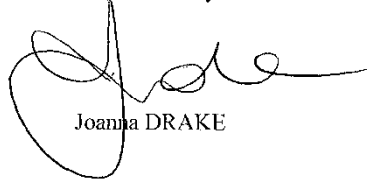
The application of the exemption in article 9(4) of the Water Framework Directive is subject to strict conditions, which are not met here. A Member State wishing to avail of this flexibility provision had to take a decision before the end of 2009 not to apply the provisions on water pricing policies, in accordance with established national practices. The reasons needed to be reported in the river basin management plans due by 22 December 2009 and such a decision should not compromise the objectives of the directive.

Ireland adopted its river basin management plans in July 2010, making a clear commitment to set up water charges to comply with the provisions on water pricing in Article 9(1) of the Water Framework Directive. Ireland subsequently applied water charges. The Directive does not allow Member States to revert to any previous practice not entailing the recovery of costs and the application of the polluter pays principle.

Conclusion

The European Commission strongly supports the work of the Expert Commission in assessing the funding of domestic public water services in Ireland and in making recommendations to the Irish Parliament on a water pricing policy which complies with the requirements of EU water legislation and, importantly for the Irish people, allows Ireland to be able to finance the necessary improvements in water quality and infrastructure.

Yours sincerely,



Joanna DRAKE