



ZERO WASTE ALLIANCE IRELAND
Towards Sustainable Resource Management

**OBSERVATIONS ON THE DRAFT WATER SERVICES
POLICY STATEMENT**

**Submission by Zero Waste Alliance Ireland to the
Department of Housing, Planning and Local
Government in Response to the Public
Consultation launched on 04 April 2018**

**Túr na Gaoithe
Philipstown HBX
Castleblaney Road
Dundalk
County Louth**

25 April 2018

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Water Services Policy Statement (Public Consultation),
Department of Housing, Planning and Local Government
Custom House,
Dublin, D01 W6X0.

BY EMAIL TO:
wsp@housing.gov.ie

Dear Sir / Madam,

Observations on the Draft Water Services Policy Statement

***Submission by Zero Waste Alliance Ireland to the Department of Housing,
Planning and Local Government in Response to the Public Consultation
launched on 04 April 2018***

On behalf of Zero Waste Alliance Ireland (ZWA), we attach our observations on the Draft Water Services Policy Statement.

The submission provides a brief overview of our policy and objectives on water, supporting the well-established strategy and policy of aiming for “Zero Waste”, and supporting repairing, preparation for re-use, reusing and recycling materials and objects, in accordance with the revised European Waste Hierarchy and the “Circular Economy”.

Our observations express concern that the Draft Water Services Policy Statement places great emphasis on water as an economic asset rather than a basic human need, and a requirement for life on this planet, and therefore the Policy Statement does not sufficiently deal with the requirement to save water and treat it with respect in the same manner as we treat food and human health.

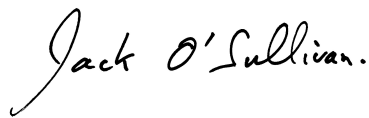
Little attention is paid to the possibility of re-using treated grey water, and almost nothing is said about the old Irish tradition of saving rainwater which can be used in households, agriculture and in some industries which do not depend on clean water. In our submission, rainwater should be considered as a valuable resource, available to augment our existing water supplies which we take from surface waters and groundwater. Furthermore, nothing is said in the

Policy Statement about recovering valuable nutrients from wastewater, and re-using these for sustainable food production; and we advocate that this aim should be included as a matter of high-level policy.

In general, it is our observation that, while the draft Water Services Policy Statement contains some welcome policies and objectives, these are not clearly stated, and they lack definite targets and timescales.

We hope that the above observations, together with those in the attached submission, will help to influence the Policy Statement towards a more ecological approach to water management – in which human societies behave more like natural systems which produce nothing which cannot be fed back into the Earth's transformational and long term sustainable processes.

Yours sincerely,

Handwritten signature of Ollan Herr in red ink, underlined.Handwritten signature of Jack O'Sullivan in red ink.

Ollan Herr

Jack O'Sullivan & Dalia Smelstoriūtė

On behalf of Zero Waste Alliance Ireland.

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CONTENTS

	Page
1. INTRODUCTION AND PRELIMINARY COMMENT	1
2. ZERO WASTE ALLIANCE IRELAND (ZWA)	2
2.1 Origin and early activities of ZWA	2
2.2 Our basic principles	3
2.3 What we are doing	4
3. OBSERVATIONS ON THE DRAFT WATER SERVICES POLICY STATEMENT	7
3.1 Structure of our Submission	7
3.2 The importance of water for life	7
3.3 Demand management	8
3.4 Water conservation	12
3.4.1 The example of water conservation measures in the cities of Melbourne, Sydney and Goleta	13
3.4.2 A good example from Dublin	17
3.4.3 The cost of wastewater treatment when conservation is ignored ..	18
3.4.4 What practical steps can be taken to conserve water – some further suggestions for Water Services Policy	19
3.5 Using rainwater to replace or augment mains water	20
3.6 Using grey water for non-potable purposes	24
3.7 Leakage control and leakage reduction in water distribution systems	26
3.8 Recovering nutrients from wastewater	27
3.9 Public health issues	32
3.10 Large-Scale Transfers of water from one area of Ireland to another	33
3.11 The international dimension, and water as a human right	35

Contd.

CONTENTS, Contd.

TABLES

Table 3.4	Examples of Water Conservation Measures in the City of Melbourne. From: Interventions in terms of actions and reduction percentages in the 'city as a catchment' approach within the Total Watermark policy of the City of Melbourne	14-15
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FIGURES

Figure 3.5.1	A simple gravity system from a raised roof using no electricity to deliver filtered rain water	21
Figure 3.5.2	Another simple gravity system to utilize rainwater domestically	22
Figure 3.8	Nutrient separation, recovery and utilisation on a small scale	31

APPENDICES

Appendix I	Invitation on 04 April 2018 by the Department of Housing, Planning and Local Government to submit observations on the Water Services Policy Statement.	
Appendix II	Email from the Water Sector Policy division of the Department of Housing, Planning and Local Government, acknowledging receipt of the submission from ZWAI.	

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1. INTRODUCTION AND PRELIMINARY COMMENT

On 04 April 2018, an Information Paper on Water Services Policy, serving as a draft Policy Statement, was issued by the Department of Housing, Planning and Local Government, as a public consultation document. Views are sought on the paper's key themes, principles and objectives to be included in a Water Services Policy Statement which will be published in May 2018, to guide the delivery of water services over the period to 2025.

The Department intends that the proposed Water Services Policy Statement will be a high-level statement of Government policy, in that it will identify key policy and national objectives and priorities for the delivery of water and wastewater services in Ireland. Priority areas for action have already been identified by the Environmental Protection Agency in its most recent reports on drinking water quality and urban waste water treatment, and the proposed Policy Statement should reflect these priorities.

The Policy Statement should be consistent with the overall aims and objectives of the national River Basin Management Plan 2018-2021, the National Planning Framework and the National Development Plan 2018-2027. The proposed Policy Statement must also take into account:

- ✓ the European Union Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000;
- ✓ the European Communities (Water Policy) Regulations 2003 and the latest River Basin Management Plans;

- ✓ the need to prevent or abate risks to human health and the environment;
- ✓ any relevant Government policy on spatial planning;
- ✓ any relevant Government policy on promotion of economic development; and,
- ✓ the need for efficiency and cost-effectiveness in the provision of water services.

The purposes of the Water Services Policy Statement, when finalised, will be to give direction to future strategic planning, and to provide guidance for Irish Water on the Government's intentions to have certain areas of water supply and wastewater treatment and disposal prioritised when planning capital investment and operational spending.

In responding to the public consultation, ZWAI will comment on the three central themes identified in part 2 of the Information Paper on Water Services Policy (as requested by question 1 in the text box on page 22); but we will also focus on strategies for efficient resource utilisation, avoidance of waste, recovery of nutrients in wastewater, utilisation of other renewable water sources, and re-use of water where appropriate.

Our comments are based on the belief that water is a finite and valuable resource, that it is an essential component of life on Earth, that access to clean water is a basic human right, that other living organisms also depend on water for their survival, and that the naturally occurring water cycle should be respected and harmed as little as possible. Further details of these basic principles, and the background to our submission, are provided in section 2 below.

2. ZERO WASTE ALLIANCE IRELAND (ZWAI)

At this point we consider that it is appropriate to mention the background to our submission, especially the policy and strategy of ZWAI.

2.1 Origin and Early Activities of ZWAI

Zero Waste Alliance Ireland (ZWAI) was established in May 1999 as an alliance of anti-landfill and anti-incineration groups from many locations in Ireland, and has subsequently developed into a national confederation of local residents' groups, supported by all of Ireland's principal environmental organisations, with the objectives of:

- i) sharing information, ideas and contacts,
- ii) finding and recommending environmentally sustainable and practical solutions for domestic, municipal, industrial and agricultural waste management in Ireland;
- iii) lobbying Government and local authorities to implement environmentally sustainable waste management practices, including clean production, elimination of toxic substances from products, re-

- use, recycling, segregation of discarded materials at source, and other beneficial practices;
- iv) lobbying Government to follow the best international practice (for example, the policies and practices of countries such as New Zealand, Australia and many other countries, regions and cities which have adopted the policy of Zero Waste) and EU recommendations by introducing fiscal and economic measures designed to penalise the manufacturers of products which cannot be re-used, recycled or composted at the end of their useful lives, and to financially support companies making products which can be re-used, recycled or are made from recycled materials;
 - v) raising public awareness about the long-term damaging human and animal health and economic consequences of landfilling and of the destruction of materials by incineration; and,
 - vi) maintaining contact and exchanging information with similar national networks in other countries, and with international zero waste organisations.

ZWAI initially had nearly 50 affiliated organisations and groups throughout Ireland, including all the principal environmental NGOs (An Taisce, Voice, Friends of the Earth Ireland, Earthwatch Leitrim, Earthwatch Sligo, Friends of the Irish Environment, Cork Harbour for a Safe Environment (CHASE), Kinsale Environment Watch, the Irish Doctors Environmental Association (IDEA)), and more than 40 active local groups developing and implementing new ways to address Ireland's waste problems.

In Galway, the efforts of the **ZWAI** group "Galway for a Safe Environment" had a major impact on the waste management policy of the City Council, resulting in a pilot-scale recycling initiative which spread city-wide with significant benefits.

2.2 Our Basic Principles

Human communities must behave like natural ones, living comfortably within the natural flow of energy from the sun and plants, producing no wastes which cannot be recycled back into the earth's systems, and guided by new economic values which are in harmony with personal and ecological values.

In nature, the waste products of every living organism serve as raw materials to be transformed by other living creatures, or benefit the planet in other ways. Instead of organising systems that efficiently dispose of or recycle our waste, we need to design systems of production that have little or no waste to begin with.

There are no technical barriers to achieving a "zero waste society", only our habits, our greed as a society, and the current economic structures and policies which have led to the present environmental, social and economic difficulties.

“Zero Waste” is a realistic whole-system approach to addressing the problem of society’s unsustainable resource flows – it encompasses waste elimination at source through product design and producer responsibility, together with waste reduction strategies further down the supply chain, such as cleaner production, product repairing, dismantling, recycling, re-use and composting.

ZWAI strongly believes that Ireland should have a policy of not sending to other countries our discarded materials for further treatment or recycling, particularly to developing countries where local populations are being exposed to dioxins and other very toxic POPs. Relying on other countries’ infrastructure to achieve our “recycling” targets is not acceptable from a global ecological and societal perspective.

A further principle which we consider to be part of our core policy is that access to reasonable quantities of clean water is a human right, and that society must have regard to the rights of other living organisms which also depend on water for their survival. Given that water is a vital resource, we consider that it should be used efficiently, that conservation is an essential component of water use and management, that water should be re-used or recycled where possible, and that rainwater should be utilised where possible, in order to reduce the amounts of water abstracted from rivers, lakes and other ecologically vulnerable water sources. Other key principles are that the naturally occurring water cycle should be respected and harmed as little as possible, and that the polluter should pay for damage and restoration.

2.3 What We are Doing

Zero Waste Alliance Ireland has prepared a detailed policy document on waste management, we continue to lobby Government on the issue of sustainable resource management, and to express our concern at the failure to address Ireland’s waste problems at a fundamental level.

In recent years, as many older landfills were closed or became better managed (primarily as a consequence of the implementation of European Directives, Irish legislation transposing these Directives, the development of a waste licensing regime by the Environmental Protection Agency, and the establishment of the Office of Environmental Enforcement in 2003), the number of affiliated groups concerned about the adverse environmental and public health effects of landfills decreased considerably in number. ZWAI has therefore concentrated more on the objectives of ensuring that Ireland’s government agencies, local authorities and other organisations will develop and implement environmentally sustainable resources and waste management policies, especially resource efficiency, waste reduction and elimination, the promotion of re-use, repair and recycling, and the development and implementation of the Circular Economy.

Zero Waste Alliance Ireland has made the following submissions in response to public consultations:

- a) in September 2011, to the Department of the Environment, Community and Local Government, on waste policy;

- b) in September 2012, to the Environmental Protection Agency, on the Agency's draft National Implementation Plan (NIP) for the Stockholm Convention;
- c) in December 2013, to Dublin City Council Regional Waste Coordinator in response to a notice of intention to commence preparation of regional waste management plans;
- d) in January and February 2014, to the Department of the Environment, Community and Local Government, on proposals for the regulation of household waste collection and for dealing with used or end-of-life tyres;
- e) in January 2015, to the Eastern & Midlands Regional Waste Coordinator, Dublin, on the Eastern and Midlands Draft Regional Waste Management Plan 2015 – 2021;
- f) in March 2015, to the Environmental Protection Agency in response to the Agency's public consultation on the National Inspection Plan 2015-2017 for Domestic Wastewater Treatment Systems;
- g) in April 2015, to Irish Water, on the Draft Water Services Strategic Plan;
- h) in February 2016, a submission proposing amendments to the Building Regulations;
- i) in March 2016, to An Bord Pleanála, observations on the planning application by Indaver Ireland Ltd for a proposed incinerator at Ringaskiddy, County Cork;
- j) during 2016, undertaking a research project on the Circular Economy; and,
- k) in October 2017, to An Bord Pleanála, observations in response to the planning application by Irish Cement Ltd for permission to burn or utilise a greatly increased annual tonnage of non-hazardous and hazardous wastes as alternative fuels and raw materials in the company's cement production plant at Platin, County Meath.

It will be clear that ZWAI is primarily concerned with the very serious issue of discarded materials and goods, whether from domestic, commercial or industrial sources, how these become "waste", and how such "waste" may be prevented by re-design along ecological principles. These same ecological principles can be applied to the many ways in which we abstract and use water as a resource, and to the equivalent volumes of wastewater produced as a consequence of these uses.

ZWAI is represented on the Government's Waste Forum, is a member of the Irish Environmental Network and the Environmental Pillar, and is funded by the Department of Communications, Climate Action and the Environment (and previously by the Department of the Environment, Community and Local Government) through the Irish Environmental Network.

ZWAI continues to maintain active working relationships with Zero Waste New Zealand Trust, with the Grass Roots Recycling Network in the United States, the Community Resources Network Scotland (CRNS), with the Global Anti-Incinerator Alliance (Global Alliance for Incinerator Alternatives -- GAIA), and with other international environmental organisations.

As pointed out in our March 2015 submission to the EPA on domestic wastewater treatment systems, we suggested that the valuable nutrients contained in domestic wastewater should be recovered and re-used; and we indicated a number of ways in which this could be achieved, while pointing out that the technology was well-tried and tested. In that submission, we did not address the issue of water saving, the conservation of water and demand management, as these were not directly relevant to the subject of the public consultation, but in this current submission to the Department of Housing, Planning and Local Government we will be addressing these issues, as we consider that they are of prime importance to Ireland.

Summarising our aims – ZWAI promotes:

- a) Prioritising the achievement of pristine conditions in our rivers and aquifers;
- b) Reduction of the quantities of water extracted from virgin surface water and groundwater sources;
- c) Wastewater treatment should have as one of its principal aims the recovery and recycling of water and nutrients;
- d) Separation of nutrients such as N, P and K from wastewater so that these can be recovered and re-used to grow food sustainably; and,
- e) Achieving the above with minimum operational costs, and without the need for a continuously growing national economy.

Zero Waste Alliance Ireland is a registered charity, and a member of the Irish Environmental Network (IEN), and our directors are:

- Ollan Herr
- Sean Cronin
- Richard Auler
- Jack O'Sullivan

3. OBSERVATIONS ON THE DRAFT WATER SERVICES POLICY STATEMENT

3.1 Structure of our Submission

The three central themes identified in part 2 of the Information Paper on Water Services Policy provide a framework for our observations:



However, we consider conservation to be the most important of these, and we interpret conservation to include not only conservation of water, but recovery of the valuable nutrients contained in wastewater.

By way of an observation, we also wish to emphasise the importance of water for all life on the planet, as this does not appear to be emphasised (or even mentioned) in the Consultation Paper on Water Services Policy, despite the several references in section 2 of the document to the requirement under the Water Framework Directive that Member States must manage their water resources on an integrated basis to achieve at least 'good' ecological status, and that the Draft River Basin Management Plan for 2018-2021 is being prepared as part of Ireland's commitment to achieving good ecological status in its waters.

3.2 The Importance of Water for Life

Water, says Ivan Illich, is not just the H₂O produced by burning gases, nor is it the liquid that is metered and distributed by public authorities – it is “*the fluid that drenches the inner and outer spaces of the imagination*”¹. What we do with water reflects the fashion of each age. In our present time we have

¹ Illich, Ivan, 1985. *H₂O and the Waters of Forgetfulness: Reflections on the Historicity of Stuff*. Published 01 January 1985 by the Dallas Institute of Humanities and Culture, Dallas, Texas; and published subsequently by Heyday Books, Berkeley, California, USA. Quoted in “*The Re-Imagination Of Water -- Dealing with the Threats to Groundwater, Drinking Water, Rivers and Lakes*”; a paper presented by Jack O'Sullivan at a Seminar on Public Participation and Water Quality, held at the Environmental Change Institute, NUI Galway, on 23 June 2007. Also quoted in “*Restorative Commons: Creating Health and Well-being through Urban Landscapes*”, Edited by Lindsay Campbell and Anne Wiesen, United States Department of Agriculture, General Technical Report NRS-P-39; U.S. Government Printing Office, 2011; 278 pp.

transformed water from a spiritual substance that could baptize the newborn and purify the dead and the living, into a scarce resource in need of technological management, a kind of cleaning fluid that has lost the ability to excite our imagination, especially in the urban spaces where most of us live.

We need to ask what we are doing with water – from where do we obtain it, how are the natural reservoirs of water maintained and safeguarded, what happens when we use water, and how we, as a society and as individuals, choose to deal with liquid wastes, i.e., human excreta, wash waters and the products of our domestic and social cleansing activities.

The signs that all is not well are becoming more and more evident. We read that, worldwide, increasing numbers of people are denied access to water of a safe or acceptable quality for drinking, cooking and washing. Water, we are informed, will be the cause of future international wars, as countries squabble over access to water supplies.

In Europe, the European Commission has long recognised the threats to water quality, and (more recently) the growing problem of water scarcity and drought on the one hand, and flood risk management on the other.

In Ireland, we have seen an increasing incidence of drinking water supplies becoming contaminated, frequently by coliform bacteria derived from human or animal wastes, and more recently by another micro-organism – *cryptosporidia*. A forecast of growing water shortages in the eastern half of the country, which is also the most urbanised, has led Dublin City Council to plan for abstracting some 350 million litres of water per day from the River Shannon, and conveying it by pipeline to Dublin.

It is our submission that the root causes of these problems in Ireland are derived from the way in which we use water without demand management or conservation, and the way in which we dispose of our water-borne wastes. Let us therefore examine firstly how the key issues of demand management and conservation are addressed in the draft Water Services Policy Statement.

3.3 Demand Management

For most of the twentieth century, policy-makers have focused their attention on the supply side; and it was not until water scarcity became a public issue that demand management entered the arena. In Ireland, there is a widely held but mistaken view that we do not need to control our increasing demand for water, despite the fact the supplying potable water is incurring very high costs, and will continue to do so.

For example, when Dublin City Council and other Eastern Region local authorities first proposed to abstract water from the River Shannon at Lough Ree, the feasibility study produced in May 2006² relied significantly on estimates for domestic, commercial and industrial demand for water in the

² Greater Dublin Water Supply - Major Source Development -- (Draft) Feasibility Study, Veolia and RPS, 31st May 2006.

Greater Dublin Area (GDA) provided in a much earlier report commissioned by the Department of the Environment Heritage and Local Government (DEHLG) in conjunction with the seven Local Authorities in the Greater Dublin Area.³ This report, though partly revised in 2000 (to ensure compliance with the Strategic Planning Guidelines and to take account of population growth in the intervening period) was considered by Dublin City Council engineers to be “*the blueprint for the development of water services in the region to the year 2016*”.⁴

While the May 2006 feasibility study took account of increasing per capita consumption of water caused by greater affluence and lifestyle changes, and also considered very briefly the impacts of climate change, and the need to facilitate possible future industry wishing to locate in the GDA, any potential savings from the introduction of conservation measures and from increasing public awareness of the value of clean water were dismissed as being “*difficult to quantify*” and were not taken into account.

This was an extraordinary statement, given the potential for demand management, conservation and leakage reduction; and the feasibility study was robustly criticised for this and other reasons by the Shannon Environmental Protection Alliance, a group representing the interests of boat owners, anglers, tourism and boat hire operators, wildlife conservations and others.⁵

Even before the study was published, the Office of Licensing and Guidance, EPA, wrote to Dublin City Council’s consultants in April 2006:

“It is critical that the issue of radical water conservation measures (including metering / charging for private supply, use of rainwater for sanitary flushing and garden irrigation, grey water re-use on-site, etc.) should be emphasised in this SEA exercise, such that the scale / impact of any proposed infrastructure may be minimised or avoided;

*In addition, you are referred to the Waste Prevention Section of the EPA website www.epa.ie which provides a link to water conservation measures as implemented in the south-east of England which you should find of interest.”*⁶

³ The Greater Dublin Water Supply Strategic Study (GDWSSS) 1996 – 2016, undertaken in 1996.

⁴ Greater Dublin Water Supply - Major Source Development -- (Draft) Feasibility Study; Executive Summary, Section 1, Background, page 3.

⁵ *Environmental and Sustainability Assessment of the Proposal by Dublin City Council to Abstract Water from Lough Ree for the Purpose of Meeting a Projected Growth in the Demand for Water in the Greater Dublin Area.* A Report for the Shannon Environmental Protection Alliance (SPA). Prepared by Environmental Management Services, Castlepollard, County Westmeath; 14 August 2007; revised and extended, June 2008.

⁶ Greater Dublin Water Supply – Major Source Development: Strategic Environmental Assessment Report, page 126 of PDF version (immediately following a letter dated 24 March 2006 from Mr Tadhg O’Mahony, EPA, to Mr Gerry Geoghegan, RPS Consulting Engineers).

The EPA repeated its advice about the need for water conservation in a further letter dated 21 May 2008, addressed to the RPS group. The letter recommended that:

“If not already underway, consideration should be given to including a specific objective for the preparation of a water conservation strategy for the Greater Dublin Area, and in particular for the Greater Dublin Water Supply Area”.⁷

In November 2008, Dublin City Council (DCC), acting on behalf of the local authorities in the Dublin Region Water Supply Area (DRWSA), published a further group of reports under the title of “Water Supply Project - Dublin Region (Draft Plan)”

Unlike the previous Draft Feasibility Study which dismissed potential savings from conservation measures and increasing public awareness of the value of clean water, as being “*difficult to quantify*”, this study considered that the “*constant addition of new housing stock within the water supply area, including greater usage of water efficient appliances, should exert some downward influence on average Per Capita Consumption (PCC) levels over time. Similarly increased consumer awareness, for water conservation, through media campaigns will also exert some downward pressure on PCC levels*”.⁸

However, no attempt was made to quantify any possible or potential reduction in per capita consumption, while measures which have been regarded as normal in many other countries for at least 20 years, e.g., metering for private supply, use of rainwater for sanitary purposes / toilet flushing / garden irrigation, and on site re-use of grey water, were not even mentioned, let alone considered.

Furthermore, the predictions for population growth and per capita consumption used in the 2008 Plan were unchanged from those given in the Draft Feasibility Study published in May 2006. Per capita consumption was forecast to remain at 145 litres per head per day, giving rise to a total domestic demand of 317 million litres per day; while average and peak demand projections were also unchanged.

Given the history of failure (described briefly above) to consider any measures to reduce per capita demand for water, or to take account of any potential reduction in per capita consumption, we would expect that these issues might be important objectives of the draft Water Services Policy Statement.

There are a number of references to “demand” in the draft Water Services Policy Statement; for example, in section 4 on page 7:

“the Commission for Regulation of Utilities is required to carry out regular reviews of demand for water services. In its latest report published in

⁷ Letter and attachment dated 21 May 2008 from Mr Tadgh O’Mahony, Senior Scientific Officer, SEA Section, EPA, to Ms Emma Oliveira, RPS Group.

⁸ Water Supply Project – Dublin Region (Draft Plan). Veolia Water and RPS, for Dublin City Council, November 2008; section 2.4.2, page 11.

December 2017⁹, based on consumption throughout 2016, it is estimated that:

- *The average rate of demand to a dwelling is 125,000 litres, or 125m³ per year;*
- *The average annual rate of demand by an individual is 47,000 litres, or 47 m³ per person; and,*
- *The average incremental increase in demand after 4 occupants is 25,000 litres, or 25m³ per person per year”.*

On the following page of the Policy Statement (page 8), Table 1 summarises the estimated total demand for water from the public water supply system, including domestic and non-domestic use, network losses and water for operational use. The total is estimated at 608 million m³ per year, and this includes network losses of 273 million m³ per year and perational demand (mains flushing and networks maintenance) of 6 million m³ per year. Overall, some “45% of all water entering supply” is lost.

In our view, the figure for “network losses”, i.e., for “unaccounted for water” is grossly excessive, and reflects many years of failure to come to terms with the poor quality of the water supply network in nearly all Irish cities, towns and villages. To discuss conservation without addressing leakage is a major gap in the Policy Statement; and we examine the question of leakage in some further detail in section 3.7 below.

It is therefore our submission that effective demand management and reduction in domestic and commercial water use is a win-win strategy, an essential part of water services policy, and much more cost effective than attempting to meet the demand for water. While “*demand*” is mentioned in the Policy Statement, there is no reference to “*demand management*”, and this we consider to be a serious omission. Controlling demand should be an inherent part of conservation, and without some degree of demand management, any policy of conservation can be only partly effective.

We like the comprehensive definition given by the Department of Water Affairs and Forestry, South Africa; and suggest that a similar objective should be included in the final Water Services Policy:

“water demand management is the adaptation and implementation of a strategy (policies and initiatives) by a water institution to influence the water demand and usage of water in order to meet any of the following objectives: economic efficiency, social development, social equity, environmental protection, sustainability of water supply and services and political acceptability”.

⁹ CRU Report to the Minister: Review of Demand for Water Services, 15 December 2017; <https://www.cru.ie/wp-content/uploads/2017/12/CRU17339-CRU-Report-to-the-Minister-Review-of-Demand-for-Water-Services.pdf>

A definition from a social perspective is that water demand management is a practical strategy that improves the equitable, efficient and sustainable use of water, and this is achieved by:

- (i) stressing equitable access to water, reflected in a strategy that is specifically designed to improve service delivery to the poor;
- (ii) treating water as both an economic as well as a social good, and managing and pricing it accordingly;
- (iii) balancing the management of losses and consumption with new or augmented supplies; and,
- (iv) and managing the change from a supply driven to a demand responsive culture.

The Policy Statement appears to have little or no social policy component, even though the Expert Commission On Domestic Public Water Services (which reported in November 2016¹⁰) did include a social component in their recommendations for a sustainable long-term funding model for domestic water and waste water services, principally as a result of the widespread public anger surrounding the establishment of Irish Water.

The reference in the South African definition to “political acceptability” is a clear lesson for the Department, as demonstrated by the intense public anger at the manner in which Irish Water has been established.

3.4 Water Conservation

Conservation and demand reduction are two sides of the same coin – appropriate conservation measures will lead to a reduction in demand for water, while demand management can be greatly assisted by suitable conservation measures.

When the Government had indicated its intention to take a national approach to water, and to establish Irish Water as a new public utility, a public consultation process was undertaken in early 2012 along with the publication of a report on the establishment of Irish Water and a position paper setting out the reform of the “Water Sector”. The public consultation resulted in some 300 submissions, including submissions were made in relation to water efficiency actions, with support for increased efficiency measures such as water saving devices, rainwater harvesting and increased use of grey water.¹¹ We address these issues further in sections 3.5 and 3.6 below.

At first, these submissions were largely ignored, as we could find only a small number of references to water conservation in the Water Services Strategic

¹⁰ Report on the funding of domestic public water services in Ireland (November 2016)
<http://www.oireachtas.ie/parliament/media/committees/futurefundingofdomesticwaterservices/Report-of-Expert-Commission-on-Domestic-Public-Water-Services.pdf>

¹¹ Department of the Environment, Community and Local Government, 2012. Water Sector Reform – Implementation Strategy; 12 October 2012.

Plan, and in nearly all instances “conservation” means “leakage reduction”, and the term was not used in its wider sense of conserving water by more efficient use of water supplies or by augmenting public water supplies by greater use of rainwater harvesting.

It was clear at that time that the Water Services Strategic Plan considered conservation of water only in the narrow context of leakage control and saving of costs; and, while these are very desirable objectives, the Plan ignores the wider issue that water is a scarce and valuable resource, and should be treated as such.

It is good to find that the draft Water Services Policy Statement says clearly that:

“The promotion of water conservation and water resource management is an important plank of Irish water policy. This involves multi-faceted programmes, around leak detection, network repair and improvements, cost effective metering, public awareness campaigns and funding to fix customer side leaks”.

Nevertheless, the same problem remains: conservation of water is considered only in the narrow context of leakage control and saving of costs; and, the draft Policy completely ignores the wider issue that water is a scarce and valuable resource, and should be treated as such.

If we look at the wider view, we see that climate change, population growth and migration, increasing urbanization and ageing infrastructure are imposing significant strains on urban water supplies and water cycle systems in Europe (including Ireland) over the coming decades. Cities such as Dublin are already beginning to experience increasingly frequent shortfalls in the supply and demand balance, particularly during the summer months. More intense rainfall events are leading to local flooding of properties and to pollution of receiving waters.

Sustainable solutions to these challenges need to be sensitive to long-term investment needs, but also to increasing energy prices, demands for low carbon intensity solutions, and the need to reduce gas emissions from urban activities – but none of these issues are addressed in detail in the draft Water Services Policy.

3.4.1 The Example of Water Conservation Measures in the Cities of Melbourne, Sydney and Goleta

If we now consider the practical details of water conservation, we find that there is a wide range of measures and appliances which can be used or installed to conserve water, and we have listed these in Table 3.4 below. This example is taken from the City of Melbourne which has practiced total water-cycle management since 2002, supported by its adoption of the Total Watermark policy in 2004 and the Water Sensitive Urban Design (WSUD) Guidelines in 2005.

	ACTIONS	REDUCTION
Parks	Improve irrigation efficiencies (subsurface, soil moisture sensitive, technological improvements, limited time).	40 %
	Understanding soil types and subsequent soil moisture needs.	
	Mulching to prevent or reduce evaporation of moisture from the soil.	
	Planting climate responsive, drought tolerant species.	
	Staff training programs and contract provisions.	
Council buildings	Efficient fittings – flow restrictors on taps, showerheads.	40 %
	Efficient toilets – dual flush, reduced header tank flow.	
	Fire-sprinkler testing (reduced from weekly to monthly, or recirculating).	
	Cooling system efficiencies, resulting in water saving.	
	Staff training, contract provisions, education and behavior change programs.	
Business and commercial buildings	Cooling system efficiencies.	50%
	Appliances – efficient washing machines and dishwashers.	
	Reduction in water use up to 50% per employee achieved through alternate water sourcing.	
	Efficient fittings – flow restrictors on taps, showerheads.	
	Gardens – efficient species, layout and irrigation (to be maintained when water restrictions are not in place).	
	Property management and tenant behavior change programs.	
	Proceed with the rollout of water conservation projects, including fire sprinkler testing program, green hotels and sustainable office building program.	
Households /	Efficient fittings – flow restrictors on taps, showerheads.	40%

	ACTIONS	REDUCTION
residences	Water-efficient fittings and appliances, including more efficient washing machines and dishwashers	
	Gardens – efficient species, layout and irrigation (to be maintained when water restrictions are not in place).	
	Swimming pools – pool covers, re-use of backwash.	
	Householder behavior change through education.	
	Balance ring mains, fire sprinkler and cooling system efficiencies.	

Table 3.4 **Examples of Water Conservation Measures in the City of Melbourne.** Adapted from: Interventions in terms of actions and reduction percentages in the ‘city as a catchment’ approach within the Total Watermark policy of the City of Melbourne (*Total Watermark: City as Catchment*, City of Melbourne, 2009). Cited in: *Best Practices for Sustainable Urban Water Cycle Systems – An overview of and enabling and constraining factors for a transition to sustainable UWCSs*, by Christos Makropoulos (National Technical University of Athens), Evangelos Rozos (National Technical University of Athens), Stian Bruaset (SINTEF Building and Infrastructure), Jos Frijns (KWR Watercycle Research Institute), and, Mariëlle van der Zouwen (KWR Watercycle Research Institute), December 2012. Research funded by the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement number 265122.

While some of the above-listed measures may not be fully applicable to Dublin or other Irish cities and towns, they illustrate the range of possibilities yet to be considered in the draft Policy.

Another example is provided by the City of Sydney, also in Australia, which implemented in 2010-11 a water efficiency programme (entitled WaterFix) for residential, business and school buildings, supported by community education and research and development activities.

Under the WaterFix programme, the City administration provided households with a qualified plumber to install a new water efficient showerhead; to install tap flow regulators, to install toilet cistern flush arrestor for single-flush toilets, and to repair minor leaks. Each WaterFix service was estimated to save 20.9 thousand litres per household per year. Since the program started in 1999, a total of 485,211 properties, including Department of Housing properties, have taken up a WaterFix service.

For other water users, the City developed DIY Water Saving Kits as an alternative to the full WaterFix service. These kits, which were distributed to home owners, provided simple devices people could install to make existing showerheads and taps more water efficient. Each DIY kit was estimated to

save about 6.7 thousand litres per household per year. Since the program began in 2004, 211,623 DIY kits have been distributed.

Replacing a single-flush toilet with a 4 star dual-flush toilet can save about 23 thousand litres per household per year. Since it started in July 2008, 28,224 toilets have been replaced as part of this program.

Sydney offered residents a \$150 rebate for purchasing a water efficient washing machine; and, as a result, some 186,634 rebate applications have been paid, saving each household on average 18 thousand litres of water annually.

As part of the New South Wales (NSW) Government's Climate Change Fund, a \$150 rebate was offered for installing a hot water circulator with instantaneous gas hot water systems. A hot water circulator sends the cold water back into the hot water system to be reheated or used later. The NSW Government estimated that each hot water circulator saved up to 17 thousand litres a year.

Sydney Water offered customers a substantial rebate to cover the cost of installing and connecting a rainwater tank to existing homes. It is estimated that each rainwater tank installed saves between 35 to 60 thousand litres a year on average depending on how it is installed.

The WaterFix service also included a programme that helped customers identify and repair concealed leaks in their homes. Meter reading data was used to identify long and short term leaks; and, when notified of this consumption anomaly, if a customer could not find their leak an expert contractor was provided free of charge to detect the leak using specialist leak detection equipment. Since 2008, over 230 leaks have been detected and repaired; and it is estimated that this service saved each participating household 50,000 litres of water annually.

It is very good to see that Irish Water has implemented a similar scheme, under the title of “**First Fix**” (mentioned on page 21 of the draft Policy Statement). Since detecting over 30,000 suspected leaks in customer properties during its first meter reading cycle in early 2015, Irish Water has contacted 2,500 customers offering them a free leak investigation under the interim First Fix Scheme.

Irish Water’s Interim First Fix Scheme offers a free leak investigation to these customers to assist in identifying potential leaks and the scheme could provide a free repair of leaks located on the customer’s external supply pipe, i.e., the pipe located between the water meter box and the point of entry to the house.

According to Irish Water however, if a leak is confirmed which is internal to the house, customers will be advised to arrange a repair. While the benefit of a leak investigation at no charge to the customer is very welcome, we would suggest that financial assistance should be given to households where the cost of fixing the internal leak (or leaks) is beyond the financial capacity of the householder. If this financial help were to be provided, it would repay the State in the form of less wastage of water, reduced need to augment water supplies, and reduced demand on wastewater treatment facilities.

In total, the programmes implemented in the City of Sydney, as described above, saved 17,556 million litres of water in 2010-11; i.e., approximately 17.5 billion litres! While the cost of this programme was obviously substantial, the value of the employment generated, and the cost savings that resulted in having to supply less water in 2010-11 and into the future would almost certainly have yielded a positive return, and would continue to do so into the future. When we add the fact that less water supplied in homes, business premises and other locations results in less wastewater having to be treated, it is easy to see that conservation provides the best return on expenditure. The following example gives an indication of such savings:

“When [the city of] Goleta, California, faced high costs for new water supplies during a drought, the water authority helped its 74,000 people to install over 17,000 water-frugal toilets (14,700 of them aided by rebates), gave away about 35,000 high-performance showerheads, identified more efficient irrigation methods for hundreds of households, and aligned water tariffs with marginal costs so that people would understand what their next unit of water usage really cost the community. From May 1989 to April 1990, per capita residential water use fell by over 50 per cent compared with the previous 5-year average. Total usage fell by over 30 per cent, from 135 to 90 gpcd [gallons per capita per day] – twice the 15 per cent target. The average single-family, multifamily and motel savings were respectively 50, 40, and 40-50 per cent. Later savings raised the total savings from over 30 per cent to 40 per cent. The whole programme, costing \$1.5 million, reduced sewage flow from 6.7 to 3.9 million gallons per day by June 1990, indefinitely deferring a multi-million-dollar expansion of the previously overloaded treatment plant that had been thought necessary to comply with EPA standards.”¹²

3.4.2 A Good Example from Dublin

Closer to hand, we can point to the success of the water conservation project operated by the City of Dublin Energy Management Agency (CODEMA) in Dublin’s Civic Offices -- a 12-month project which in that short period of time reduced water demand by approximately 15% in the Civic Offices during 2003; but its methodology and the lessons learned from it have not been applied elsewhere or more widely.¹³

¹² Rocky Mountain Institute, 1994. *Water Efficiency: A Resource for Utility Managers, Community Planners and Other Decision makers*, (in co-operation with the US EPA), 4th ed., November 1994, Snowmass, CO, USA. Cited in Weizsäcker, E.von, Lovins, A.B. and Lovins, L.H., 1998. *Factor Four: Doubling Wealth - Halving Resource Use. The New Report to the Club of Rome*. London, Earthscan Publications Ltd., page 87.

¹³ Civic Offices Water Conservation Project. DublinWaterSave Website http://www.dublinwatersave.ie/civic_offices_water_conservation_project

3.4.3 The Cost of Wastewater Treatment when Conservation is Ignored

Another lesson from the example of Goleta is that by reducing the volume of water supplied to homes and businesses, the cost of expanding the city's wastewater treatment plant was saved. When Dublin City Council and the adjacent local authorities which comprise the Greater Dublin Area were planning to transport by a long-distance pipeline some 455 to 460 million litres of water daily from the River Shannon to Dublin City and other east coast local authorities, the cost of treating the equivalent volume of wastewater was completely omitted from the Feasibility Study and the Scoping Report for Phase II of the Strategic Environmental Assessment !

This was an extraordinary omission, which, if it had been included, would have shown the proposed water supply scheme to have been much more costly than estimated in the reports produced for Dublin City Council. As we have noted earlier, for every litre of water conveyed to a building, approximately a litre of wastewater is produced. This is recognised in Denmark, where the metered amounts of water supplied to a household are used not only to determine the household's water consumption, but also to calculate the volume of sewage requiring disposal, so that the appropriate wastewater treatment charges can be levied.

Irish Water also recognises this fact in its proposal to levy charges for wastewater treatment, but the draft Water Services Policy Statement fails to appreciate that the economics of supply and disposal are not evenly balanced. It has long been recognised that *"the cost of getting rid of abundant water proved many times more costly than getting it there is the first place"* and *"this disproportion was increased further when many large cities decided to combine the sewers for waste with storm waters for rain"*.¹⁴

As an example to be considered carefully, we can clearly see how ignoring water conservation, while providing large-scale sewage treatment, has been very costly for Dublin City. The Ringsend wastewater treatment works, which had cost €297 million (2011 prices, VAT exclusive), began operating in June 2003; but within two years it had to be extended and upgraded, as it was overloaded from day one (a plant that was supposed to have sufficient capacity until 2020 was over-capacity in 2002, partly due to miscalculation of the commercial load), it did not meet the EU Wastewater Treatment Directive standards, and a noxious smell persistently affected the surrounding communities in the Ringsend area.

The overloading of the wastewater treatment plant has also had financial consequences for Dublin City Council, which has had to pay additional fees to the operators of the plant, Celtic Anglian Water, as compensation for dealing with the extra load.

¹⁴ Illich, Ivan, 1985. *H₂O and the Waters of Forgetfulness: Reflections on the Historicity of Stuff*. Published 01 January 1985 by the Dallas Institute of Humanities and Culture, Dallas, Texas; and published subsequently by Heyday Books, Berkeley, California, USA.

After the project was finalised, the designation of the Liffey estuary as a sensitive water body requiring full tertiary treatment of discharges to it resulted in the need for an additional expenditure of a further €147.3 million (2011 prices, VAT exclusive), together with some €40 million on odour alleviation measures, which had to be paid by Dublin City Council.

In 2011 the City Council announced its intention to extend the capacity of the plant to 2.1 million population equivalent. The project has now been taken over by Irish Water, and the information provided on the project's website states that *"The ultimate cost of this project will be determined by a competitive tendering process and it would not be appropriate to speculate publicly on this without potentially compromising the bidding process. Suffice to say that the Dublin Bay Project will cost several hundred million euros to complete"*.

In other words, the overall expenditure on wastewater treatment for Dublin City and the adjoining portions of the drainage area could amount to around €700 to €800 million Euro; and we would have to ask how much of this expenditure was required to deal with greater volumes of wastewater derived from increasing per capita consumption of water, and how much of this expenditure could have been avoided if conservation measures had been implemented.

It is therefore our submission that any high level policy under which Irish Water is required to operate must insist on better governance structures, forecasting techniques and project management capability than that shown by Dublin City Council in its approach to the development of the Ringsend wastewater treatment plant. The poor quality of design, construction and overloading of the Ringsend WWTP also had a lasting and serious negative effect on the quality of life of Ringsend residents, a point noted by the European Commission in its 2012 Ex Post Evaluation of the Plant.

3.4.4 What Practical Steps can be taken to Conserve Water – some Further Suggestions for Water Services Policy

In sections 3.4.1 and 3.4.2 we have given some examples of conservation measures. In this short section we make some proposals to reduce water consumption and thereby reduce Ireland's increasing demand for mains water. Regulating for water use should be no different than providing suitable toilets for disabled people in public buildings; the principle is the same – to improve the quality of life for people, in this case by reducing water demand without causing hardship or discomfort. We therefore propose the following mandatory requirements:

- Dual-flush water-saving toilets should be installed in all new houses and refurbished houses in the future;
- Dual-flush water-saving toilets should be specified, and their installation required, under Part H of the Irish Building regulations;
- The sale of single flush toilet cisterns should be banned in Ireland; and,
- One or more male urinals should be specified and installed in new and refurbished houses, together with push-to-flush taps or some other form

of low-water-flush devices in these urinals so to significantly reduce water demand when half the population uses the toilet.

3.5 Using Rainwater to Replace or Augment Mains Water

As an important conservation measure, to reduce demand on other water sources (see point b) listed in our aims, on page 6), is the use of rainwater which is plentiful in Ireland. It is perhaps surprising that rainwater utilization is comparatively rare in Ireland, though it has been widespread in Germany since the 1980s, and around 50,000 professional rainwater harvesting systems are being installed every year, mostly in new one-family houses.¹⁵

Typically, the water is collected from the roof and is filtered, stored and primarily used for toilet flushing, garden watering and household laundry. Research by Erwin Nolde at the Technical University of Berlin has suggested a novel approach: instead of using only the water from the roofs, the results shows that rainwater draining from streets and courtyard surfaces could also be reused. This could be a viable option for densely populated urban areas and reduces drinking water consumption and wastewater production. It also minimizes the entry of pollutants into the surface waters, without the need for a sewer connection. He found that 70% of the toilet-flush demand can be replaced by treated stormwater without any comfort loss.¹⁶

There are numerous positive benefits for harvesting rainwater. The technology is low cost and highly decentralized, empowering individuals and communities to manage their water, and to improve access to water and sanitation at the local level. In agriculture, rainwater harvesting has demonstrated the potential of doubling food production by 100% compared to the 10% increase from irrigation. Rainfed agriculture is practiced on 80% of the world's agricultural land area, and generates 65-70% of the world's staple foods. The biggest challenge with using rainwater harvesting is that it is not included in water policies in many countries, where water management is based on surface and groundwater with little consideration of rainwater.¹⁷

According to the Irish Water Treatment Association, studies show that 55 % of domestic treated water could be substituted for rainwater while 85 % of water used for commerce and industry does not need to be of drinking standard. Rainwater harvesting systems have only started to grow in popularity in Ireland during the past couple of years or so, but they have long been popular abroad. For example, they have been used for about 20 years in Germany, which does not have as much rainfall as Ireland. To date, the demand for rainwater harvesting technology in construction projects has been driven by planning

¹⁵ Nolde, E., 2007. Possibilities of rainwater utilisation in densely populated areas including precipitation runoffs from traffic surfaces, *Desalination*, 215, pp. 1–11.

¹⁶ Nolde, E., 2007. *Op. cit.*

¹⁷ *Rainwater Harvesting: A Lifeline For Human Well-Being*. A report prepared for UNEP by Stockholm Environment Institute. Published by United Nations Environment Programme and Stockholm Environment Institute in 2009.

decisions, commercial developments and environmentally conscious builders and developers.¹⁸

Rain Water Harvesting remains a viable option that architects, developers and house builders can incorporate into the design when building a new home; though it is not a planning requirement in the same way that the installation of solar panels are for new build. Given the summer shortages of water for Dublin we strongly recommend that rainwater harvesting should become a new planning requirement for new buildings in Dublin and other large cities; and this should be reflected in the Water Services Policy. Perhaps we should point out that not all water comes through local authority (now Irish Water) pipework; some comes from the sky, and can be used for domestic and other purposes.

By “regulating and requiring” that all new roof design includes rain collection as one of its primary purposes; we will immediately reduce domestic water demand by 20 % to 40%. In addition it is perfectly feasible to build a roof for rain water harvesting that avoids pumps or a large network of ground level collection pipes. All that is required is to design these roof systems for this purpose from the start.

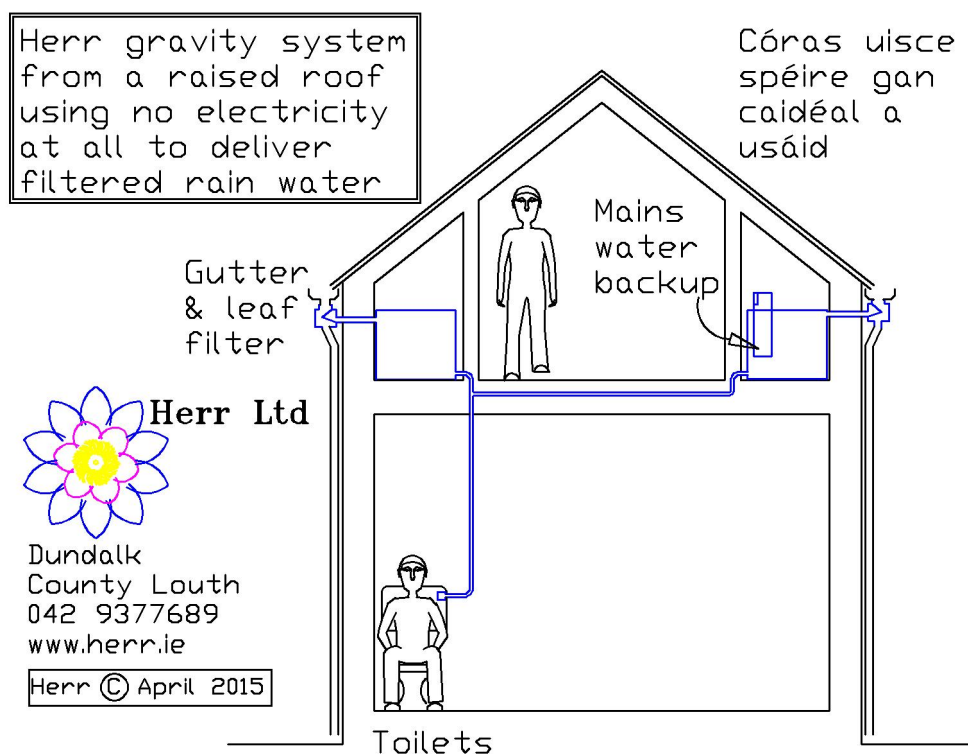


Figure 3.5.1 A simple gravity system to utilize rainwater domestically.

Advantages of the type of rainwater harvesting system depicted in Figure 3.5.1 and Figure 3.5.2 (below) are as follows:

- This new obligation would be helpful in meeting the SUDS obligations also. Dublin City lists rain water harvesting as one of 6 options to be considered under SUDS.

¹⁸ <http://www.iwta.ie/rainwater-harvesting/3/rainwater-harvesting.aspx>

- By keeping leaves from collecting in the gutters this system will have very little maintenance.
- The fine filters (not shown) can be easily washed in a sink by hand and replaced.
- There is no electricity running costs or pump replacement costs.
- Rain water harvesting is already included in Part H of the Irish Building regulations – there is therefore no planning obstacle to this proposed new requirement. All that is missing is the political will.

This would be a reasonable new regulation to be set by government and its low operating costs and high reliability would be acknowledged by homeowners.

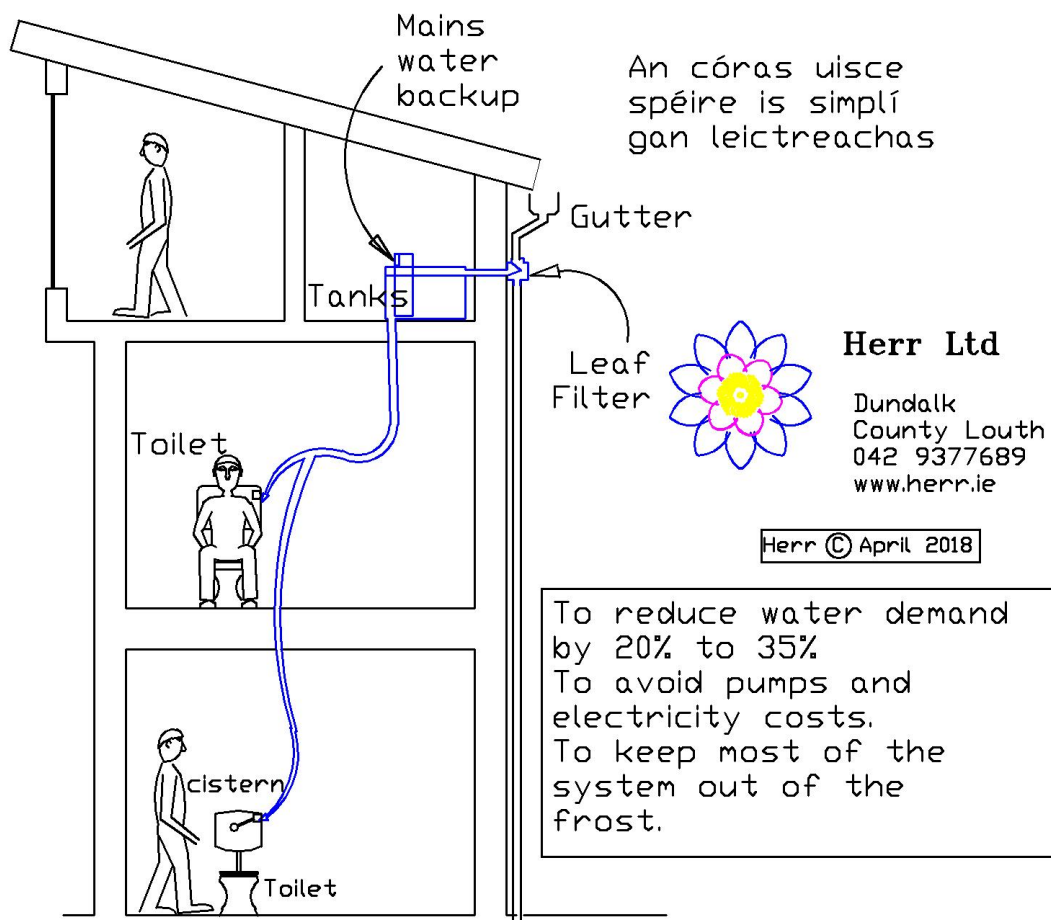


Figure 3.5.2 Another simple gravity system to utilize rainwater domestically.

The previous draft Strategy for Irish Water, mentioned rainwater only in the context of the combined sewerage system; and heavy rainfall is considered to be problematic because it results in increased hydraulic flows in the sewers, may overload the sewers and wastewater treatment plants, resulting in partly untreated discharges to rivers and streams, and serious intermittent pollution of these watercourses. In addition, heavy rainfall on impermeable surfaces such as roads and roofs can cause flooding of properties.

Irish Water's response to these undesirable consequences was to propose:

- Implementation of mitigation measures;
- recording and gathering of information on flooding events from combined sewers caused by inadequate capacity and other causes;
- undertaking some research and development;
- improving sewer network models; and,
- investigating (in collaboration with local authorities) the use of sustainable urban drainage systems in combined sewer areas.

The reference to sustainable urban drainage systems, even though it states very little about their implementation, is very welcome, as these systems (which are in use in many countries) reduce flooding and overloading of sewers by providing cost-effective solutions that are designed to replicate natural systems. Sustainable urban drainage systems (SUDS) allow surface water run-off after rainfall events to be collected, stored and cleaned before releasing it slowly back into the environment.

Examples of this type of SUDS include basins (shallow landscape depressions that are dry most of the time when it's not raining), rain-gardens (shallow landscape depressions with shrub or herbaceous planting), swales (shallow normally-dry, wide-based ditches), filter drains (gravel filled trench drain), bio-retention basins (shallow depressions with gravel and/or sand filtration layers beneath the growing medium), reed beds, constructed wetlands and other wetland habitats that collect, store, and filter dirty water along with providing a habitat for wildlife.

Their principal features (along with flood prevention) are that they should be easy to manage, requiring little or no energy input (except from environmental sources such as sunlight, etc.), resilient to use, and environmentally as well as aesthetically attractive.

It is our view that SUDS should be more widely used in Ireland, that they should be included in the planning and design of all new housing estates, town and village centres, retail centres, roads, and other developments which include large hard-surfaced impermeable areas. There are many examples world-wide where such systems are in use, and are serving their flood alleviation purpose while at the same time providing public open spaces or areas for wildlife.

As mentioned earlier in this section, rainwater harvesting is not included in any of the objectives of the draft Water Services Policy Statement; and we consider that this omission is regrettable.

We now have obligations to include renewable energy systems in new housing developments, and therefore we propose that a similar set of measures should be promoted in the Water Services Policy, to increase rainwater use, and to correspondingly reduce mains water use:

- It should be mandatory to install and use rainwater harvesting for toilet flushing and gardening in all new houses and refurbished houses in the future;
- Part H of the Irish Building regulations should be amended to require that rainwater must be used for toilet flushing in all new houses;
- The EPA should be requested to produce a Code of Practice for rainwater harvesting (similar to the existing and widely used Code of Practice for Site Characterisation and Assessment for proposed domestic wastewater treatment systems). These recommendations should include technical guidance and options to make treated rainwater safe to use for all other uses in the home with the exception of drinking water or water for cooking;
- Government funded “free” training and education (without obligations) should be provided to members of the public on water quality and health safety issues, on national standards and obligations for drinking water, on grey water treatment and re-use, and on the operation of septic tanks and domestic wastewater treatment systems;
- Planning authorities should inform architects and home builders at an early stage in the planning process that rainwater harvesting must be considered in all proposed developments, and that a planning application should include measures for rainwater harvesting;
- Planners and Planning Authorities should require that rainwater harvesting is included where possible as a useful element in any Sustainable Urban Drainage (SUDS) measures;
- A legal basis and financial incentives (tax incentives) should be drawn up for the supply of rainwater between adjoining or nearby houses, or the sale of rain water between nearby houses and properties – solely for non-potable water use and specifically for toilets, car washing and gardening only; as this would encourage the neighbourly sharing of water;
- Plumbers should be trained to install and maintain multiple water sources within buildings, so as to prevent contamination of the mains water supply from rain water or treated grey water, and thereby to maintain the quality of water essential for human health.

3.6 Using Grey Water for non-potable Purposes

Our obligations to recycle water are clearly set out in European Council Directive 91/271/EEC of 21 May 1991 (the Urban Waste Water Treatment Directive) which states in Article 12-1 that “*Treated wastewater shall be reused whenever appropriate*”.

Grey water is defined as wastewater generated from dish-washing and wash-hand basins, showers and baths, and can be recycled on-site for uses such as toilet flushing, landscape irrigation and constructed wetlands. Grey water may also include wastewater from clothes washing machines and discharges from

dishwashers and kitchen sinks. However, it is best to exclude wastewater from kitchen sinks and dishwashers, as this frequently contains solids which make treatment and re-use difficult.

Grey water differs from the discharge of toilets, which is designated as sewage or black water to indicate that it contains human waste. In contrast, the amount of human waste present in grey water is normally so small that its return to the environment requires no systematic wastewater treatment.

The potential benefits of grey water recycling include:

- Lower freshwater extraction from rivers and aquifers;
- Less impact from septic tank and treatment plant infrastructure;
- Topsoil nitrification;
- Reduced energy use and chemical pollution from wastewater treatment;
- Groundwater recharge;
- Increased plant growth; and,
- Recovery and re-use of nutrients especially nitrogen and phosphorus.

There is no reference to grey water in the draft Water Services Policy Document, and therefore no incentive to Irish Water to promote the reuse of grey water and water efficient domestic appliances, or to encourage commercial and industrial customers to reuse water where possible. While many Irish companies have a policy and practice of re-using water where possible, primarily for cost saving purposes, the domestic sector requires much more vigorous Government support to ensure that grey water is used.

Given the public concern about water charges, it is inevitable that people's attitudes and thinking will change, and we believe that a growing number will want to take more personal responsibility for water issues in their own homes. We therefore propose that the following policy recommendations should be included in the high-level Policy Statement:

- The EPA or Irish Water should provide training and appropriate technical recommendations for the installation of grey water treatment and recycling systems for communities and single homes, as permitted presently in Part H of the Building Regulations;
- The new planning regulations and a revised Part H of the Building regulations should make it mandatory and should impose a planning requirement for developments with a large number of houses (more than 30 housing units?) to provide and operate grey water treatment and recycling, with water storage for toilets, gardens, car washing and clothes washing in those houses;
- Management companies which operate these community or privately operated grey water re-use systems should be registered with the Local Authority; the re-use systems should also be registered, and should be inspected Local Authority inspectors (similar to the present inspection

regime for septic tanks and single-house wastewater treatment systems); and,

- Planning authorities should inform architects and home builders at an early stage in the planning process that re-use of grey water must be considered, and that the planning application should include measures for grey water re-use as far as possible.

3.7 Leakage Control and Leakage Reduction in Water Distribution Systems

The amount of water leaked in water distribution systems varies widely between different countries, regions and systems, from as low as 3–7% of distribution input in the well-maintained systems, to 50 percent and even more in some undeveloped countries and less well maintained systems.¹⁹

According to the Water Services Policy Statement quoted in section 3.3 above, some “45% of all water entering supply” is lost (Policy Statement, section 4); and it is extraordinary and disappointing to discover that the widespread problem of leakage is mentioned only once in the Statement (on page 21).

The earlier 2015 Strategic Plan by Irish Water had noted that “*nationally, we are losing approximately 49% of the water we treat due to leakage from our water mains and within customers’ properties*” (Executive Summary, page vii).

Both of these estimates place Ireland among less developed countries, and among those countries where water supply systems have been poorly maintained. The 2015 Water Services Strategic Plan stated the problem clearly:

“Leakage from our water supply networks is at unacceptable levels and well above international norms” (Chapter 1. Introduction, page 3-19).

and

“Leakage of water from supply networks is a serious problem on a national scale. ‘Unaccounted for Water’ (UFW), both in Irish Water’s networks and within customer properties, is estimated nationally at approximately 49% of the water produced for supply. This is twice the level of that in the UK and several times the typical figures in Germany, Denmark and the Netherlands, indicating that significant investment will be needed over a number of investment cycles to catch up with international norms in the water utility sector. High levels of leakage result in more raw water being abstracted and treated. This uses more energy and chemicals, requires larger treatment plants and pipelines, and leaves less water in our natural environment” (Chapter 2, Challenges and Strategic Priorities, page 8).

¹⁹ Covas D., Ramos H., 1999. Practical methods for leakage control, detection and location in pressurised systems. 16 pp. Available at URL: <http://www.civil.ist.utl.pt/~hr/bhrgroupEdin.pdf>

The response by Irish Water at that time was that Irish Water would

“prepare Regional Water Conservation Strategies that will deliver a targeted programme of leakage detection, leakage control, pressure management and leakage repair”;

And Irish Water also planned to reduce

“leakage across all schemes to less than 38% by the end of 2021 and will work to achieve a sustainable economic level of leakage, estimated to be in the range of 18-22%, by 2040”.

While accepting that reducing leakages and improving the distribution network is costly, we consider that the above targets are still too high, and that if leakage could be reduced to 10%, the resultant savings (by not having to develop new water sources to the currently predicted extent, and by reducing the need for large additional wastewater treatment capacity) would be very significant.

While we could not expect Irish Water to achieve this ratio, we consider that a more ambitious target of leakage control and reduction is achievable.

It is therefore essential that the high-level Water Services Policy must set a greatly improved target and accompanying timescale for leakage reduction; and the Policy should require Irish Water to comply with the target and timescale.

3.8 Recovering Nutrients from Waste Water

One of the most important conservation issues to which we refer briefly in section 2.3 above is that essential plant-growth nutrients such as N, P and K should be separated at source or recovered from wastewater so that these can be and re-used to grow food sustainably (see point d) in our aims on page 6).

This aim has become more important, as reducing phosphorous from waste water has become one of the emerging challenges in recent years. In the section on the theme of “Future Proofing” (page 20) there are some excellent policy proposals, but no mention of an impending nutrient shortage and the need to recover nutrients from wastewater.

Setting targets of 2 mg/ litre for most treated water discharges has been the established standard for most large and small municipal waste water treatment systems. Reducing this treatment standard still further to a figure of 0.5 mg / litre has become an additional obligation when discharging to ecologically sensitive or protected environments. All of this has required an additional treatment stage and further cost to Waste Water Treatment Plant operators.

In spite of these new standards we are still wasting phosphorous. This wasting of phosphorous into the aquatic environment continues on a large scale. Much of the thinking about phosphorous in waste water is about eliminating it. There is no great awareness of the need to recover it and to also reuse it.

We in ZWAI believe however that we should be removing it from water for the purposes of recycling it as a fertilizer. Without phosphorous fertilizer we cannot grow crops. Most significantly, while phosphorous is a very abundant element in living organisms, there is a finite amount of this material left on the Earth as a minable or easily extractable resource.

We mention this phosphorous issue because we believe that this will cause two very significant world-wide changes over the coming decades.

The first change will be the very significant rise of conventional phosphorous fertilizer prices as the availability of this very finite resource begins to run out. The projections are that the extractable resource left in the ground will be only half of what it is today by the year 2100. In addition to the reduced resource, the increased world population will place a much greater market demand on a shrinking resource. World commodity food prices will increase significantly. As food prices rise people's diet in poorer countries will suffer. There are no alternatives to phosphorus and no other way to create it. Once the phosphorous is diluted in the sea or in lakes it becomes too expensive to recover it.

The second change will be that the economics of phosphorous extraction and its recovery will very significantly improve. Instead of mining for phosphorous the emphasis will change to the separation, recovery and the recycling of phosphorous in urine. Living creatures will become the sustainable source of phosphorous. Animal manures and human urine will become the new raw material of the fertilizer industry in the future; and this should be reflected in "Future Proofing" of our water supplies.

Sweden is a leader in Europe in the use of urine separation and urine as a fertilizer. Already they are advanced in the safest methods to separate, store and apply urine on land successfully. The separation and recycling of phosphorous in urine that originated on our food will come to be recognised the world over as an important way of fertilising crops in the future. It will also become a mandatory method to avoid wastewater pollution.

As a policy we need to begin building our houses so that urine and toilet solids will be collected separately. It is by avoiding the mixing of human excreta with all of the rest of the domestic waste water that we can most effectively collect and recover phosphate.

Most often it is the case that society prefers to react slowly or to only reluctantly respond to a crisis rather than predicting it and acting to avoid the crisis as early as possible. This has been the case with peak oil and climate change. We acknowledge that most people's tendency is to remain with the old thinking. Certainly however if the move to efficient ways to recycling phosphorous is too slow then we will pay more for our food or we will go hungry.

As a relatively simple way to address this issue, we submit that modern waterless and composting toilets with urine separation should be permitted under the Irish Building Regulations

We also suggest that urinals in public buildings should be plumbed to keep urine separate from other domestic waste streams, that urine is then stored in large plastic tanks, and when the tanks are full of urine, a mini struvite processing unit could arrive to process the urine and convert the phosphorous to struvite.

The combined need to separate and recover phosphorous as well as the problem of pharmaceutically active substances in our water will force the European Union to enforce the measures that we are proposing above. The mixing of urine and toilet solids and grey water together will eventually be phased out. In three more generations our existing wastewater plants may be under-loaded, and because the BOD levels will be so low it might become difficult in many instances to operate activated sludge treatment plants.

Under the Third Central Theme “*Future Proofing*” (Page 20), no effort has been made in the Policy Statement to address the issues of phosphorus recovery and recycling from waste water. As we have noted briefly above, this is a very serious omission.

Our recommendations to fill this policy gap are:

- Ireland needs to largely eliminate the loss or the wasting of nitrate and phosphate as happens at present when percolating waste water or treated waste water into the ground after septic tanks and conventional domestic waste water treatment systems;
- Instead, more importantly we should now begin to separate, recover and to reuse the largest source of nitrogen and phosphorus from domestic waste water, which is in the urine and the toilet solids; in order to grow food crops, in accordance with the new EU Circular Economy Package;
- http://europa.eu/rapid/press-release_IP-15-6203_en.htm “*Closing the loop: Commission adopts ambitious new Circular Economy Package to boost competitiveness, create jobs and generate sustainable growth - to facilitate the recognition of organic and waste-based fertilisers in the single market and support the role of bio-nutrients*”
- The European Phosphorus Platform has been established to address this problem. <http://phosphorusplatform.eu/links-and-resources/p-facts> Phosphorus is essential for worldwide food security. This irreplaceable natural resource is being used up increasingly fast. The demand for phosphorus is growing and virtually all phosphorus rock is mined in countries outside of Europe. In Europe, phosphorus is not being treated sustainably. It disappears from the food chain as animal manure, human excreta and organic waste.
- Given that the phosphorus rock resources are finite, that it will take millions of years to form; it is therefore inevitable that this resource will be depleted eventually. Since we continue to be so wasteful of Nitrogen and Phosphorus from septic tanks, farms and inadequate sewage treatment

then we must begin now to recycle it. Our linear waste water systems are no longer what is needed. We must develop circular systems for nutrients and water.

- It is very worrying that no one the EPA in Ireland has been active in recommending to other Government bodies that phosphorus recycling should become an urgent national waste water policy. It does not appear that any on the list of city waste water treatment systems will include phosphorus recovery and recycling. A serious threat to our national food economy will arise when we are unable to afford to buy the mineral phosphate fertilizers for Irish farming. If Irish decision makers continue to stubbornly refuse to act responsibly then eventually there will be food shortages throughout the world.
- The research into the technical options to recover phosphorus from municipal sewage treatment systems was carried out by the EPA and is freely available on the internet. Please search “Research 189: Identification and evaluation of phosphorus recovery technologies in an Irish context”

<http://www.epa.ie/pubs/reports/research/water/research189.html>

The report states as follows:

“Phosphorus is essential for all life and the depletion of global phosphorus deposits; widening supply-demand gap and security of supply risks have economic, social and environmental implications especially in relation to food production and security for a growing population. Phosphorus cannot be produced synthetically and has no substitute in food production. Almost all of the phosphorus consumed in food by the global population enters the wastewater sector. Municipal wastewater therefore represents a major point source to recover phosphorus and re-establish a circular economy.”

Giving a focus on the need to recycle phosphorus from cities and single houses should have been highlighted under future proofing

- We believe that the recycling of phosphorus from large cities will not be enough to avoid future food price inflation. We believe that phosphorus recycling must happen with single houses also. At present all one-off houses septic tanks discharge most of the nutrients into the ground, where the nitrogen, phosphorus and potassium are wasted and can never be recovered to grow food. To reduce the projected increasing pressures on the family food budget we believe that many people will grow their own kitchen vegetables. Since most of the nutrients in waste water originate from human excrement we will have to begin managing these separated waste streams in a hygienic manner in order to fertilize kitchen gardens.

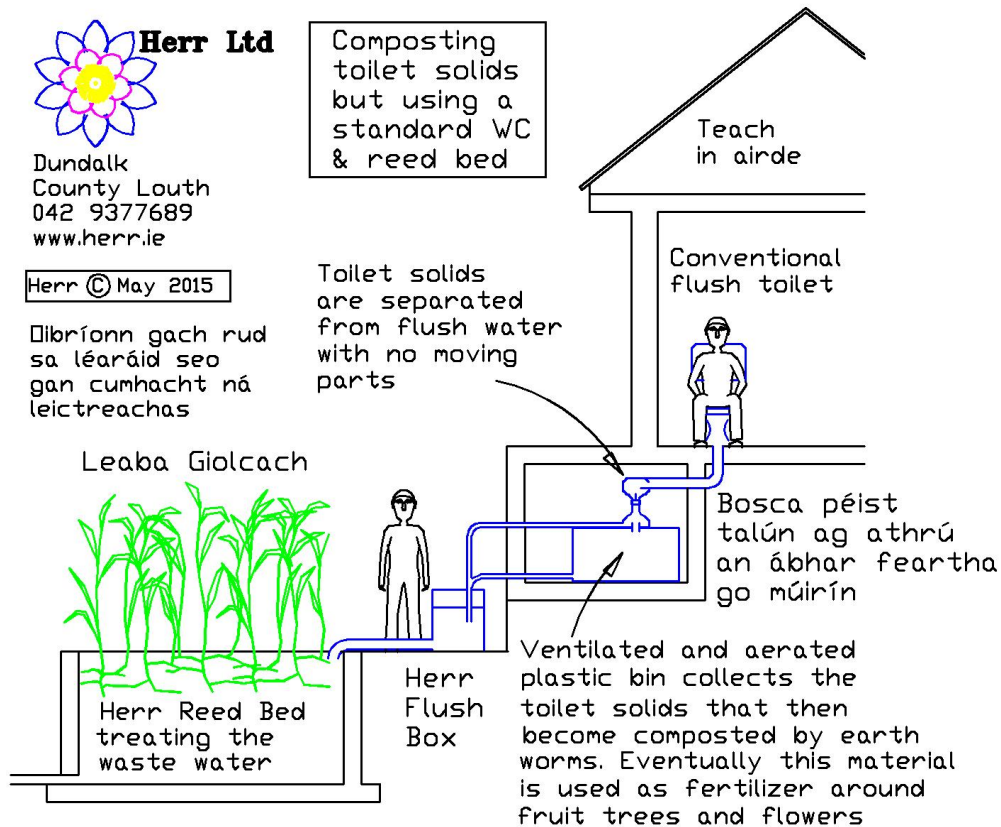
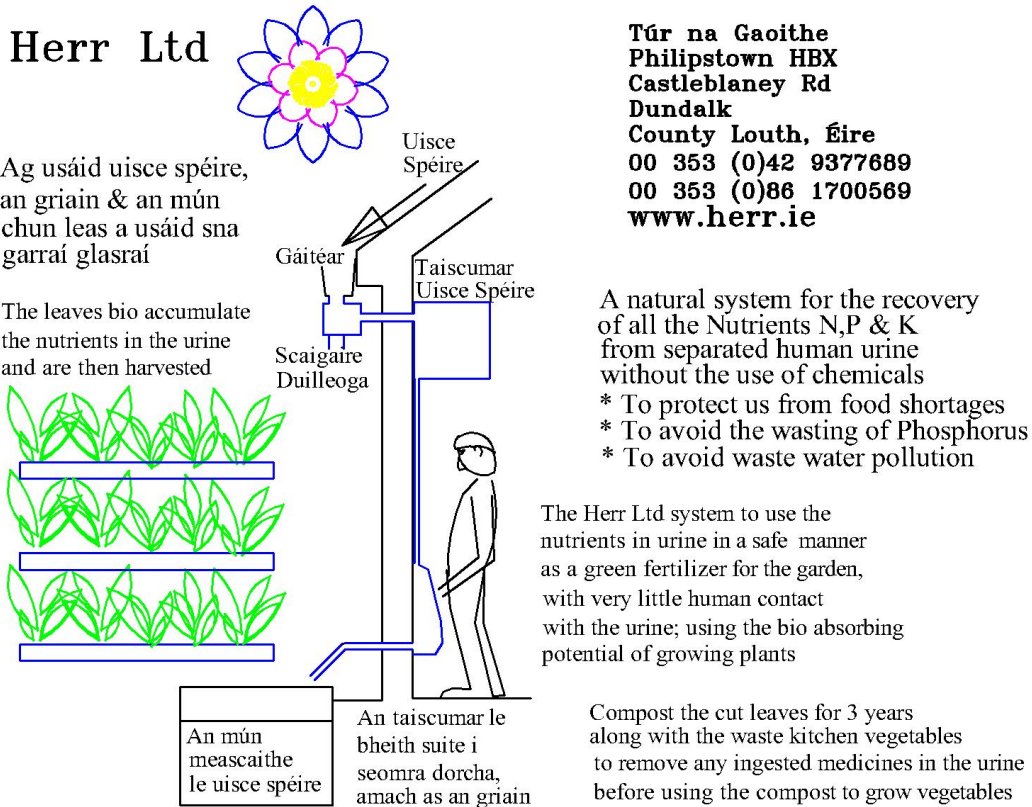


Figure 3.8 Nutrient separation, recovery and utilisation on a small scale

3.9 Public Health Issues

Public health is mentioned as an important policy consideration in section 7 (pages 14, 15 and 16) and in Part 2 under the theme of “Quality” (page 18), and again on pages 21, 22 and 25.

Clean water is stated to be “*essential for creating a healthy society*” (page 15), and one of the policy aims is to “*manage and conserve water resources in a manner that supports a healthy society*”.

But we would add that:

- If we do not achieve the recovery of a very high percentage of phosphorus from municipal and from domestic sewage treatment systems over the coming 30 years from now we are likely to see hunger and malnutrition among low income groups in Ireland again.
- Furthermore the issue of ingested medicines and pharmaceuticals in rivers is a growing issue. The importance of avoiding these medicines, hormones and antibiotics from getting into our water supplies cannot be overstated. The article “*The undiluted truth about chemicals in our waters*” - Irish Times Jan 5, 2012 quotes a number of Irish scientists who are concerned about this growing issue. There is now no doubt that compounds like estrogens are altering the hormones of male fish. Municipal waste water treatment systems need addition stages of treatment to remove this growing array of chemicals. In addition we believe that “preventing” this problem is better than “treatment” of the problem. We therefore recommend source separating toilets for urine and toilet solids in new houses. This approach will be more effective and less costly in eliminating ingested pharmaceuticals in the long run. <https://www.irishtimes.com/news/science/the-undiluted-truth-about-chemicals-in-our-waters-1.439674>
- ***It is for this reason that we believe that the domestic systems detailed above must also include a 3 year composting stage for the toilet solids and the harvested plant biomass to be sure that these compounds do not enter the food chain.***
- ***If we want to “future proof” our “health” as this document is for strongly advocating – then we must address the issue of nutrient recycling and the prevention of ingested pharmaceuticals.***

3.10 Large-Scale Transfers of Water from one Area of Ireland to Another

It has not escaped our notice that the Policy Statement does not mention one of the largest projects for which Irish Water has taken responsibility, namely, the Water Supply Project for the Eastern and Midlands Region (WSP), which had originally been known as the “*Water Supply Project – Dublin Region*”, when it was managed by Dublin City Council.

The Irish Water website <http://www.watersupplyproject.ie/> provides brief details of the Water Supply Project for the Eastern and Midlands Region, the principal feature of which will be abstraction from “*a new water source*”, i.e., a water supply from the River Shannon, and a connection to a Terminal Reservoir near Dublin. The need for a new long term additional secure and sustainable water source for the Dublin Region was identified as far back as 1996 by Dublin City Council and the Department of the Environment, Community and Local Government, and it appears that the responsibility for implementing this scheme has finally been given to Irish Water.

We have referred to this proposed scheme earlier in our submission, and to the feasibility studies which accompanied it. Unless there are major changes in the scheme to abstract large amounts of water from the River Shannon at Lough Derg, we have the following reservations about its suitability:

- ✓ This would be a major project – to bring 455 to 460 million litres of water daily from the River Shannon to Dublin City and other east coast local authorities, equivalent to 3,125,000 baths every day, or 28 million toilets being flushed daily.
- ✓ Very high “front end” capital costs:
 - abstraction from Lough Derg estimated at around € 515 million;
 - abstraction from Lough Derg and storage in a worked out area of peatland: € 551 million;
 - abstraction from Parteen Basin above Limerick: around € 621 million.
- ✓ Very high operating costs over a 25 year period:
 - abstracting from Lough Derg: € 126 million;
 - abstracting from Lough Derg and storage in an area of peatland: € 141 million;
 - abstracting from Parteen Basin: € 150 million.
- ✓ Therefore it is a high risk project, and one which would create a serious dependency on its functioning; and it is an “all or nothing project”.
- ✓ The reliance of Dublin water supplies on a single large-scale source would create a dependence on that source, so that in the event of adverse effects becoming apparent in the Shannon catchment, there is no provision for a shut-down of the scheme.

- ✓ The proposed scheme includes no provision for controlling and monitoring the abstraction.
- ✓ We need to question whether the proposed scheme is the only way to ensure that the people and the industries around Dublin are not short of water, and are there alternatives ?
- ✓ Have the adverse effects of the scheme, and the environmental and social costs been taken into account ?
- ✓ The proposal did not re-examine the earlier assumptions of population growth and business expansion on which the projected daily demand of 350 million litres of water was based.
- ✓ The proposal did not take into account the effect of the economic recession, including the effects of emigration, of significant reduction in household disposable income, changes in life-style and other factors which tend to reduce per capita water consumption.
- ✓ The feasibility study did not examine the reduction in water consumption which could be achieved by conservation and demand reduction measures.
- ✓ The proposal was based on Dublin continuing to lose around 53 million litres per day of customer-side leakage, and 20 % loss in the distribution network (amounting to 161 million litres per day).
- ✓ A reduction in the leakage rate from 30 % to 15 % in the Greater Dublin Area would save around 100 million litres of water daily.
- ✓ Other countries make much greater use of demand management and water conservation.
- ✓ The project report made no attempt to quantify any possible or potential reduction in per capita consumption.
- ✓ Measures which have been regarded as normal in many other countries for at least 20 years are ignored.
- ✓ Potentially large groundwater resources in Counties Fingal, Meath and Kildare are closer to Dublin, but did not appear to have been adequately assessed as either principal or supplementary sources of potable water.
- ✓ Abstraction from groundwater sources would be a much less expensive option than transporting water from the Shannon catchment.
- ✓ A combination of demand management and conservation measures, and the use of other sources of water could make this project unnecessary.
- ✓ The Technical Report provided no detail of the additional quantities of water treatment plant sludge which would require disposal.

- ✓ For every additional litre of water supplied to a household, an additional litre of wastewater has to be treated. The cost of wastewater treatment and disposal has not been taken into account, and international experience suggests that this cost is likely to be much greater on a volumetric basis than the cost of providing the water in the first place.
- ✓ No mention is made of the potable water requirements of Limerick City and adjacent parts of County Limerick which could be detrimentally affected by the proposed large-scale abstraction from Parteen Basin.
- ✓ Detrimental effects which would be experienced by people living and operating in the tourism industry within the lower part of the Shannon catchment have not been factored into the consultants' analysis.
- ✓ The importance of maintaining water levels for navigation, cruising and sailing tourism, water sports and recreation, and for local and tourist angling in the lower part of the Shannon catchment has been only partially addressed.
- ✓ The Shannon catchment contains a significant number of vulnerable and important Natural Heritage Areas (NHAs), Special Areas of Conservation (SACs), and Special Protection Areas (SPAs) for wildlife; and these designated areas and their unique flora and fauna would be at risk from excessive abstraction of water.
- ✓ There is no reference in the scheme to any over-riding national strategy or policy to conserve and manage this key resource for the benefit of all users; and in such a policy vacuum, the most powerful will dictate the terms.

3.11 Our Final Point – The International Dimension, and Water as a Human Right

Water, like air and food, is our life support. It covers about 70% of the surface of our planet. However, only 2.5% of that is fresh water. It is the only fresh water in our solar system and possibly in our galaxy. There is probably plenty of it for present and future needs – the total amount of water vaporised in a year to feed the world's population would fill a canal 10 metres deep, 100 metres wide and long enough to encircle the globe 193 times. But, as the Romans eventually found out, it will be spoiled without the right management, conservation and investment.

As a fragile resource, water must be nurtured with care, and we must safeguard our water as a source of well-being, prosperity and progress.

This means confronting several challenges globally, and Ireland needs to play its part in this wider sphere. To begin with, there are over 7 billion people on Earth, of which a billion routinely drink unsafe water and do not have basic sanitary facilities, leading to illness, disability and death. Access to clean water

and sanitation is a human right, which we must do more to honour – and this applies not only to developing countries, but to Ireland also.

The Department should recognise in its proposed high-level Policy that the European Citizens' Initiative (ECI) "*Water is a human right!*" collected 1.8 million signatures in 28 EU countries, and in 13 countries the quorum was surpassed.

Those who signed up to that ECI believe that the European Union must implement the human right to water and must promote national implementation of this right by setting binding targets for all Member States to achieve universal coverage. They have urged that the European Commission should take the following actions (which, we would suggest, are equally applicable to Ireland, and should be reflected in the State's high level Policy on water supplies):

- Prioritize water for domestic purposes; targeting access for the most disadvantaged.
- Encourage and support Member States to fulfil their obligations to ensure the right to water and sanitation.
- Make the Human Right to Water and Sanitation central to all communications on water and sanitation.
- Set a target for 100% coverage of good quality water and sanitation in all EU Member States by 2016.
- Define sanctions against Member States in case of non-compliance.
- Define options for situations where people cannot be connected to the grid (inhabitants of isolated areas) and how to fulfil the human rights obligations in these cases.
- Make regional structural funding dependent on democratic and human rights principles and refrain from making such funding dependent on market principles.
- Establish a coherent process for all legislative actions in relation to water and water resources.
- Declare water and water resources as a public good.
- Implement the demand that 'the management of water and water resources should not be subject to internal market rules' (EP Resolution P5_TA(2004)0183).
- Ensure that water services will not be included in any trade or investment agreement.
- Promote benchmarking for water services operators similar to long-standing practices in the Netherlands and Germany.
- Establish guidelines for transparency, accountability and participation to ensure that information on profits and payments to shareholders by water companies are made public.

Returning to the more global issues, it is likely that the world's population will reach 9 billion by 2050, which means more demand and more competition for

scarce resources. Farming already uses 70% of the world's fresh water and cannot expand more. Water is also needed for industry and energy output, not to mention drinking water and sanitation.

The third key challenge is pollution of fresh water and oceans. This threatens our health and our environment, generates costs for treatment, and hampers development.

Clearly the first goal must be to secure everyone's access to clean water, not by some market mechanism, but as a human right. International development goals have hitherto focused on "improved" water; but we can do better and "go clean" by ensuring safe and affordable water for everyone. Universal access to clean water and basic sanitation by 2050 would mean over 80,000 fewer deaths per year from basic illnesses such as diarrhoea. It would also generate major benefits for fisheries, tourism and livelihoods, particularly in the poorest countries.

Secondly, we must also improve efficiency and management, reduce waste, and maximise opportunities in all related sectors. Whether for advanced cities or remote countryside, addressing water scarcity or flooding, we must mobilise the rich range of economic and governance tools at our disposal to make this happen.

Thirdly, we must do more to tackle pollution, particularly effluent from cleaning products and medicines, and nitrogen and phosphorous discharges, so that we can safeguard soils, rivers and coasts, and our whole ecosystem. This goal should be primary, as human societies cannot function well in degraded or damaged ecosystems, and we have done much damage in recent decades – damage which must now be repaired.

While Ireland may appear to have escaped the worst problems of deforestation, soil loss, desertification and pollution, we need to be aware that many of our surface waters are affected by nutrient run-off and by organic pollutants; and it will be the task of Irish Water, acting with the EPA and local authorities, to ensure that these waters are restored to good ecological status. To date, we have failed to adequately protect our water resources, with the result that there are so few of our lakes and aquifers that are any longer in pristine condition. If Irish Water neglects this aspect of water management, then it becomes no more than a "water supply" organisation.

How can the goals described above be achieved? Firstly, as pointed out in Irish Water's Strategic Plan, and in the draft Water Services Policy Statement, there is a need for investment in infrastructure, technology and skills. There is a need to invest in smart irrigation systems, water conservation, leakage control, storm-water and rainwater capture, and effluent treatment.

The achievement of these goals will also need financing. Many investments are low cost, such as preserving wetlands to store or filter water; while others require substantial capital, and some large-scale projects may not be the best way forward, but could be replaced by smaller and more local-scale schemes. All require know-how and long-term management. Irish Water may need to tap

new sources of financing beyond taxes, transfers and tariffs; but must avoid becoming caught up in a dysfunctional market-led system which has caused destruction, inequality and poverty.

Ireland needs tough regulatory rules to deal with water pollution, to instil more responsible consumption and to generate reasonable (but not excessive) revenue.

Governance is critical, as pointed out by the EU report on the Ringsend wastewater treatment plant. Everyone uses water, and no one community should be left alone with the problem, or left to deal with the consequences of poorly thought-out planning. The Department of Housing, Planning and Local Government, acting as the parent Department of Irish Water, must therefore ensure that water-aware policies are adopted by interests beyond the water sector itself, by energy providers, agriculture, industry, transport, housing, land use planning, etc.

In any system where a resource is being extracted or polluted faster than the rate of replenishment, repair or recovery; then inevitably the system that depends on that resource will collapse. This applies to the national water resource also.

Our concern in ZWAI is that Ireland is “too focused” on investing in large centralized facilities that cater for unrestrained increasing water demand and the unrestrained generation of wastewater. Our water system is already under strain and will further weaken. Instead of the narrow single water policy we have at present we need a much wider and more diverse set of policies.

Ollan Herr, Jack O’Sullivan

For

Zero Waste Alliance Ireland

24 April 2018

Information on the Website of the Department of Housing, Planning and Local Government

<http://www.housing.gov.ie/water/water-services/irish-water/information-paper-water-services-policy-statement-public>

Information Paper on Water Services Policy Statement – Public Consultation

The Department of Housing, Planning and Local Government has published an Information Paper on the development of the Water Services Policy Statement and is interested in hearing views in relation to the key themes, principles and objectives that should be included in the Water Service Policy Statement which will be published in May 2018 and which will guide the delivery of water services over the period to 2025.

Why are we consulting

Preparation of the Water Services Policy Statement is a statutory requirement arising from the Water Services Act 2017. The Department is particularly interested in receiving feedback in relation to the themes, principles and objectives to be addressed in the Statement.

The Water Services Policy Statement will be a succinct high-level statement of Government policy. It will identify key policy objectives and priorities for the delivery of water and wastewater services in Ireland. Informing the Statement will be an understanding of the main activities and actions to be taken in pursuit of these objectives and priorities.

Elements of current water policy which will form part of the Water Service Policy Statement are already articulated in a range of other relevant documents including in the Water Services Acts 2007-2017, the National Planning Framework, the National Development Plan 2018-2027, and the Water Sector Reform Implementation Plan. The Statement will also reflect priority areas for action identified by the Environmental Protection Agency in its most recent reports on drinking water quality and urban waste water treatment. In this way, the Water Services Policy Statement will draw together the various components of water policy to ensure a coherent overview of policy objectives.

When finalised, the Water Services Policy Statement will provide clarity for Irish Water on the Government's expectations on key aspects of water and waste water services delivery, and areas to be prioritised when planning capital investment and through its current spending plans.

How to get involved

An information paper has been prepared to aid participation. For ease of use, the information paper is set out in two Parts. Part 1 sets out some useful background information, describing the process involved in the preparation of the Statement and the policy elements that will inform its content. Part 2 describes the emerging high level themes and principles to be addressed in drafting the Statement. The consultation process is particularly seeking views on these themes and principles.

Seven questions and a template for reply have been prepared to make it easier for people to respond effectively. Respondents are respectfully encouraged use the template provided and to outline their views as briefly and concisely as possible.

Respondents are also welcome to return any further views, comments or observations they wish, ideally on the template provided, or alternatively set out in an email and/or attachment.

Submissions should be made in writing and emailed to wsp@housing.gov.ie, to be received **by 1pm on Wednesday 25 April 2018**.



Jack O'Sullivan <jackosullivan2006@gmail.com>

RE: Submission by Zero Waste Alliance Ireland

Water Services Policy <wsp@housing.gov.ie>
To: Jack O'Sullivan <jackosullivan2006@gmail.com>

25 April 2018 at 13:55

Dear Mr. O'Sullivan

I am emailing you to acknowledge, with thanks, receipt of your submission and contents page, in respect of the above-mentioned public consultation.

Kind regards

Deirdre Byrne

Water Sector Policy

Department of Housing, Planning and Local Government

From: Jack O'Sullivan [mailto:jackosullivan2006@gmail.com]
Sent: 25 April 2018 12:40
To: Water Services Policy
Cc: Ollan Herr; reedbedsireland; qcsofficer
Subject: Submission by Zero Waste Alliance Ireland

Water Services Policy Statement (Public Consultation),
Department of Housing, Planning and Local Government
Custom House,
Dublin, D01 W6X0.

Dear Sir,

Observations on the Draft Water Services Policy Statement***Submission by Zero Waste Alliance Ireland to the Department of Housing, Planning and Local Government in Response to the Public Consultation launched on 04 April 2018***

On behalf of Zero Waste Alliance Ireland (Zwai), we attach our observations on the Draft Water Services Policy Statement.

We hope that the above observations, together with those in the attached submission, will help to influence the Policy Statement towards a more ecological approach to water management – in which human societies behave more like natural systems which produce nothing which cannot be fed back into the Earth’s transformational and long term sustainable processes.

We look forward to your acknowledgment in due course; and, if you have any queries about the submission or about our suggestions, please do not hesitate to get in touch with us -- we would welcome a discussion.

Yours sincerely,

Jack O’Sullivan

On behalf of Zero Waste Alliance Ireland.



Environmental Management Services
Aplinkos Apsaugos Konsultacijos
Comhairleoirí Comhshaoil
Environmental and Planning Consultants

Outer Courtyard,	Loc8 Code: MJM-20-W96
Tullynally,	Telephone +353 44 966 2222
Castlepollard,	Mobile +353 86 381 9811
County Westmeath,	Fax +353 44 966 2223
Ireland.	E-mail jackosullivan2006@gmail.com

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Deimhnítear leis an bhfo-nóta seo freisin go bhfuil an teachtaireacht ríomhphoist seo scuabtha le bogearraí frithviorais chun viorais ríomhaire a aimsiú.

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