Engineers Ireland

Submission on 'Irish Water Investment Plan 2020 to 2024'

For the attention of Irish Water

20th July 2018

Highlights

- Engineers Ireland welcomes Irish Water's five-year approach to investment planning
- *The State of Ireland 2018* expert assessment focused on water / wastewater infrastructure
- Particular challenges identified in the distribution network and small-scale treatment plants
- Our recommendations are aligned with the Strategic Objectives of the Investment Plan

1. Introduction

Engineers Ireland welcomes the opportunity to comment on Irish Water's Investment Plan 2020 to 2024. We believe that Irish Water's five-year and national approach to investment planning, supporting the 25-year Water Services Strategic Plan and submitted to the Commission for Regulation of Utilities, is a very welcome departure from the short-term and fragmented approach which bedevilled our water services for many decades. Indeed, the progress made by Irish Water against the current Business Plan demonstrates the benefits of the single national utility model which Engineers Ireland advocated for many years.

Safe and reliable water supplies are essential to public health, the natural environment and to social and economic progress. The National Planning Framework demonstrates the need for a resilient water supply to meet the needs of an additional one million people by 2040. One of the NPF's National Policy Objectives is to: "Ensure the efficient and sustainable use and development of water resources and water services infrastructure in order to manage and conserve water resources in a manner that supports a healthy society, economic development requirements and a cleaner environment."

Investment in water and wastewater infrastructure must be coordinated as part of the planning process to ensure the efficient provision of services and to support future development. In line with international trends, we must prepare for the majority of this population and jobs growth to be

focused in urban centres. This will mean putting in place strategic systems of sustainable infrastructure to support growth, particularly housing construction, including water and wastewater services.

However, Engineers Ireland's assessments show that water supply and wastewater infrastructure in Ireland is currently unable to meet peak demand and is at risk of failing to protect public health and the natural environment. We have particular concerns for the discharging of untreated effluent, levels of leakage from the mains supply network, compliance in the private water and wastewater sector and the capacity to meet future demand.

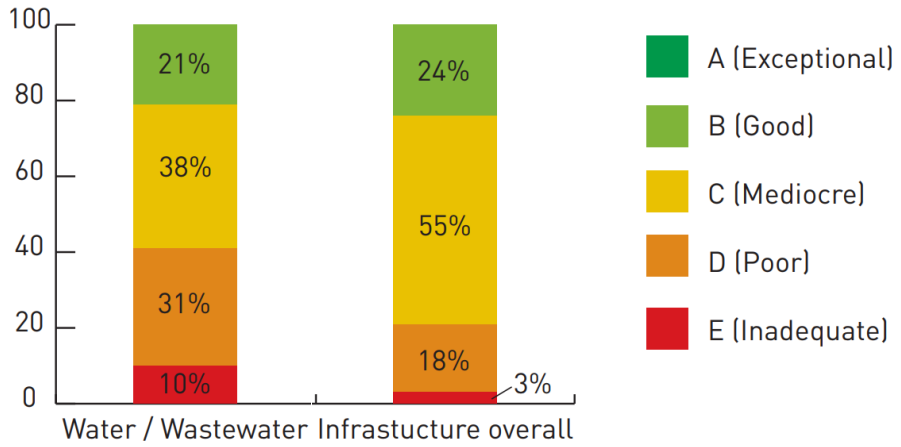
Sustained investment in our country's water services is therefore critical to move towards our vision for this sector of infrastructure (below). Upgrading water and wastewater networks will require long-term planning, over many investment cycles, to meet the needs of this and future generations.

2. The State of Ireland 2018

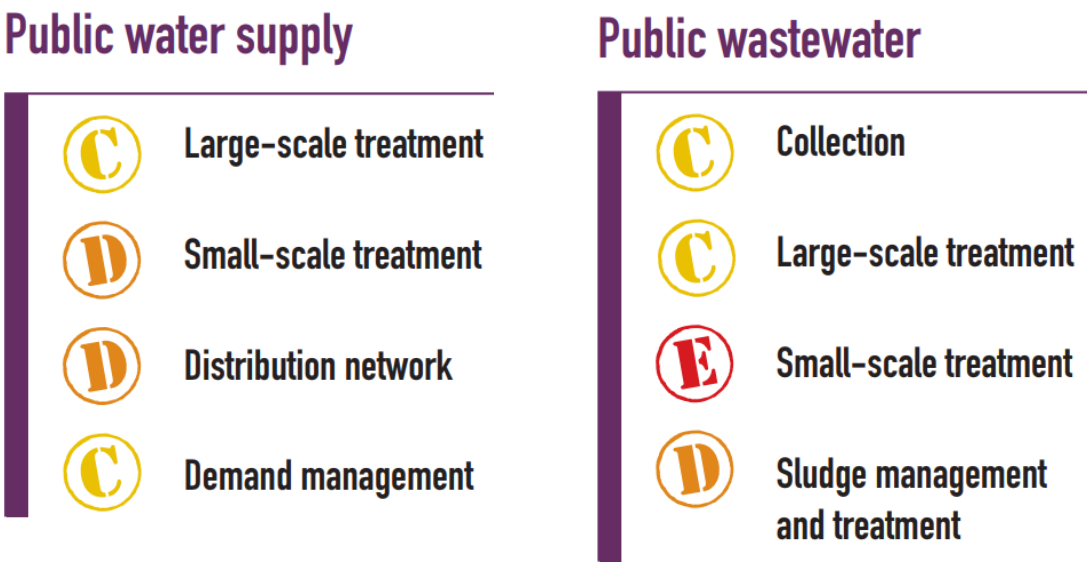
The State of Ireland 2018 is an independent assessment of Ireland's infrastructure. Now in its eighth year, the series of reports provides expert-led insights on six critical sectors of infrastructure. *The State of Ireland 2018* focused on water / wastewater infrastructure and is available here: http://www.engineersireland.ie/communications/state-of-ireland-2018.aspx

Engineers Ireland convened expert advisory groups to help us to develop recommendations for the improvement of Ireland's infrastructure. The membership of the group spanned the public and private sectors and the various engineering disciplines and scientific fields. These experts awarded water / wastewater infrastructure a 'C' grade, meaning inadequately maintained, unable to meet peak demand, and requiring significant investment.

In a separate survey, we asked 1,000 of our Chartered Engineers to grade six sectors of infrastructure as well as infrastructure overall. While both water/wastewater and infrastructure overall received a 'C' grade, the Chartered Engineers were particularly concerned about water/wastewater infrastructure (41% considering this sector to be poor or inadequate).



The expert advisory group's deliberations focused on achieving water services that reliably protect public health, safeguard the environment and support future development. Over the course of six months, their assessment spanned water resources, public water supply, public wastewater, and private water supply and wastewater. The experts highlighted particular challenges for the distribution network (including levels of leakage), small-scale wastewater treatment (including condition and capacity) and untreated discharges.



The following section presents the key recommendations arising from *The State of Ireland 2018* report, aligned with the strategic objectives of the Irish Water Investment Plan 2020 to 2024. More information on each of these recommendations is provided in *The State of Ireland 2018* report.

3. Key recommendations

Strategic Objective WS - Ensure a Safe and Reliable Water Supply

- Undertake Drinking Water Safety Plan risk assessments and achieve significant milestones in working towards a safe and secure drinking water supply for the entire country through the implementation of mitigation measures identified in Source Protection and Drinking Water Safety Plans.
- Within five years, reduce network leakage to 35% (saving the equivalent of 22,000 Olympic-sized swimming pools of water per year) – by scaling up investment in active leakage control, supported by water mains rehabilitation and replacement – as part of a roadmap to resource efficiency.
- Complete upgrades of existing key strategic infrastructure such as the Vartry Water Supply Scheme and the Lee Road Water Treatment Plant.
- Start construction on the Eastern & Midlands Water Supply Project and other projects to ensure water capacity in all major towns and cities.

Strategic Objective WW - Provide Effective Management of Wastewater

- Target investment at the elimination of all untreated wastewater discharges and achieving compliance with the EU Urban Wastewater Treatment Directive.
- Complete upgrades of existing key strategic infrastructure such as the Ringsend Wastewater Treatment Plant and Cork Lower Harbour Main Drainage Project.
- Start construction on the Greater Dublin Drainage Project and other projects to ensure wastewater capacity in all major towns and cities.

Strategic Objective EN - Protect and Enhance the Environment

- Achieve and maintain compliance with the EU Urban Wastewater Treatment Directive and EU Drinking Water Directive.
- Improve the protection of human and environmental health by providing Source Protection Plans for all viable supplies and support the upgrading of well heads and abstraction points where deficiencies are immediately apparent.
- Fully assess the environmental sustainability of existing abstractions in the context of likely future water demand and adopt a sustainable approach to water abstraction by, for example, amalgamating inefficient water supply schemes into more appropriately located and efficient schemes.
- Launch a Sustainability Education Programme on the water cycle, water quality and the value of water, targeting in particular domestic water and wastewater systems.
- Support effective land use management plans within catchment areas to mitigate the risks of contamination occurring, which should dovetail and be in conjunction with the work to achieve EU Water Framework Directive compliance.

Strategic Objective SG - Support Social and Economic Growth

- Plan for sustainable growth in accordance with the National Planning Framework and Regional Spatial & Economic Strategies. Progress projects such as the Eastern & Midlands Water Supply and the Greater Dublin Drainage Project.
- Improve cross-sectoral communication on the implementation of existing water management with a longer-term vision of implementing innovative solutions to challenges such as leakage control, hydraulic performance and water quality.
- Support research and application of sustainable water resource management.

ENDS

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Background to Engineers Ireland

With over 25,000 members, Engineers Ireland is the voice of the engineering profession in Ireland. Engineers Ireland was established in 1835 making us one of the oldest and largest professional bodies in the country. Members come from every discipline of engineering, and range from engineering students to fellows of the profession.

Our responsibility is to

- Promote knowledge of engineering
- Establish and maintain standards of professional engineering and engineering education
- Provide opportunities for Continuing Professional Development (CPD)
- Maintain standards of professional ethics and conduct
- Ensure that professional titles are granted to qualified candidates
- Act as the authoritative voice of the engineering profession in Ireland

Our Vision Statement

Engineers Ireland: a community of creative professionals delivering solutions for society.

Our Mission Statement

Engineers Ireland is an organisation that enables the engineering community to progress their professional development, make an impact on society and encourage and educate the future generations of engineers.