

# Strategic Funding Plan 2019–2024





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**01.**

# **Strategic Framework**

# Executive Summary

*The Strategic Funding Plan lays out the arrangements that Irish Water proposes to make and the measures that are proposed between 2019 and 2024 to implement the objectives of the Water Services Strategic Plan.*

Irish Water is a fully publicly owned, regulated, commercial State body with responsibility for the operation and maintenance of water and wastewater assets. It was established to provide safe, clean, affordable and environmentally compliant water and wastewater services to households and businesses connected to the public networks. This involves treating 1.7 billion litres of drinking water and 1.2 billion litres of wastewater each day.

The funding model for Irish Water is set in context of the EU Water Framework Directive (WFD). The WFD is the overarching Directive in relation to water policy in the EU. The Water Services Policy Statement (WSPS) provides the framework within which Irish Water funding and investment plans will be agreed. The first Water Services Policy Statement 2018–2025 was published in May 2018.

Under the Water Services Act 2017, Irish Water is required to submit a Strategic Funding Plan (SFP) to the Minister within three months of the publication of the Water Services Policy Statement. This Strategic Funding Plan (2019–2024) reflects the principles, themes and policy objectives identified in the Water Services Policy Statement and the strategic objectives outlined in the Water Services Strategic Plan. It outlines the costs, both operational and capital, associated with the arrangements that Irish Water proposes to make and measures that it intends to take to implement the objectives of the Water Services Strategic Plan (WSSP).

Despite the best efforts of Local Authorities (LAs), under-investment over many decades, paired with a highly fragmented water services operating model, have resulted in ageing and disjointed infrastructure and a number of legacy issues in our treatment plants and networks.

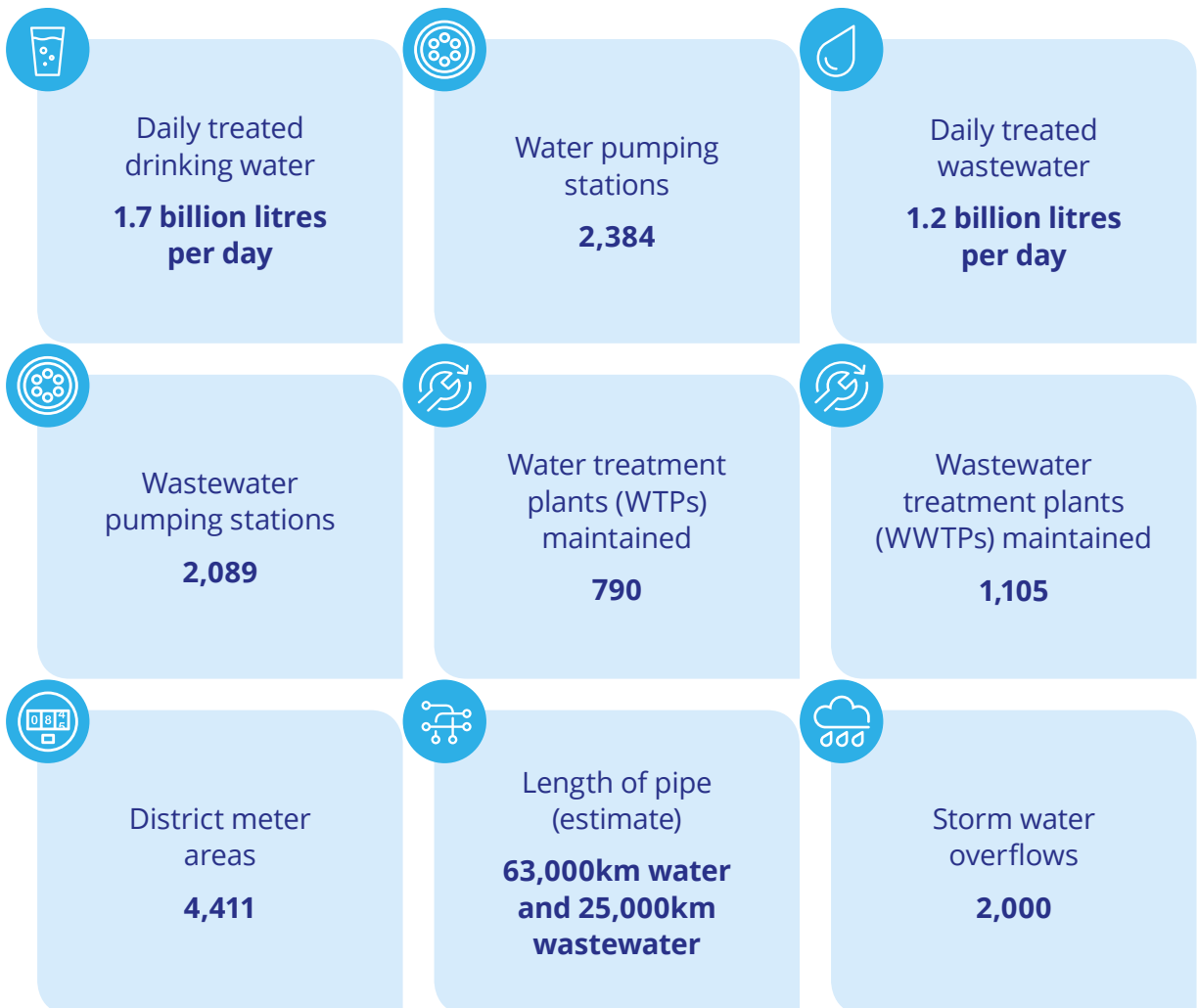
As a result, the repair and upgrading of the country's water and wastewater treatment plants, and water and sewer networks will require a multi-billion euro investment programme that will extend beyond the lifetime of this plan.

As the investment programmes are rolled out, there will inevitably be challenges and opportunities that may warrant consideration of additional investment during the period of the plan. For example, the national leakage programme will enhance Irish Water's understanding of the networks and may highlight the opportunity to increase investment over and above the level provided to achieve additional water savings. Irish Water will monitor all of the programmes in terms of achievement of performance metrics against investment levels and this may identify the opportunity to seek additional funding (if available) during the period of the programme. Apart from potential benefits, any such proposal would take also account of project management and supply chain capacity.

The total estimated funding requirement is €11bn to 2024, comprised of a €6.1bn investment in infrastructure and assets and €4.9bn in operating costs. This will be met through a combination of non-domestic revenue, excess usage charges, government subvention, non-domestic borrowings and capital contributions.

# Introduction

*Irish Water was established to provide safe, clean, affordable and environmentally compliant water and wastewater services to households and businesses across the country.*



The task assigned to Irish Water by the Government is to build a new national water utility to provide safe, efficient and environmentally compliant water services to all customers connected to the public water or wastewater networks.



## Challenges

The key challenges for the Irish water industry are to:

- ▶ Enhance compliance with regulatory standards (both drinking water and wastewater),
- ▶ Address the network loss rate and reduce leakage,
- ▶ Increase network and treatment capacity to support growth, both social and economic,
- ▶ Develop the resilience required to cater for greater frequency of extreme weather events.

A core element of our business model is the implementation of the single public utility. This will allow Irish Water to deliver enhanced services regionally, with shared cross boundary working, centres of excellence and increased specialisation. It will also deliver significant efficiencies and economies of scale. The plan outlines how Irish Water will operate a sustainable and efficient business delivering €310m in operational efficiencies by 2024. This is a complex nationwide transformational change programme and it is envisaged that it will be delivered over multiple phases. Irish Water will continue to work with key stakeholders to progress the next stage of the transformation of the Irish water industry.

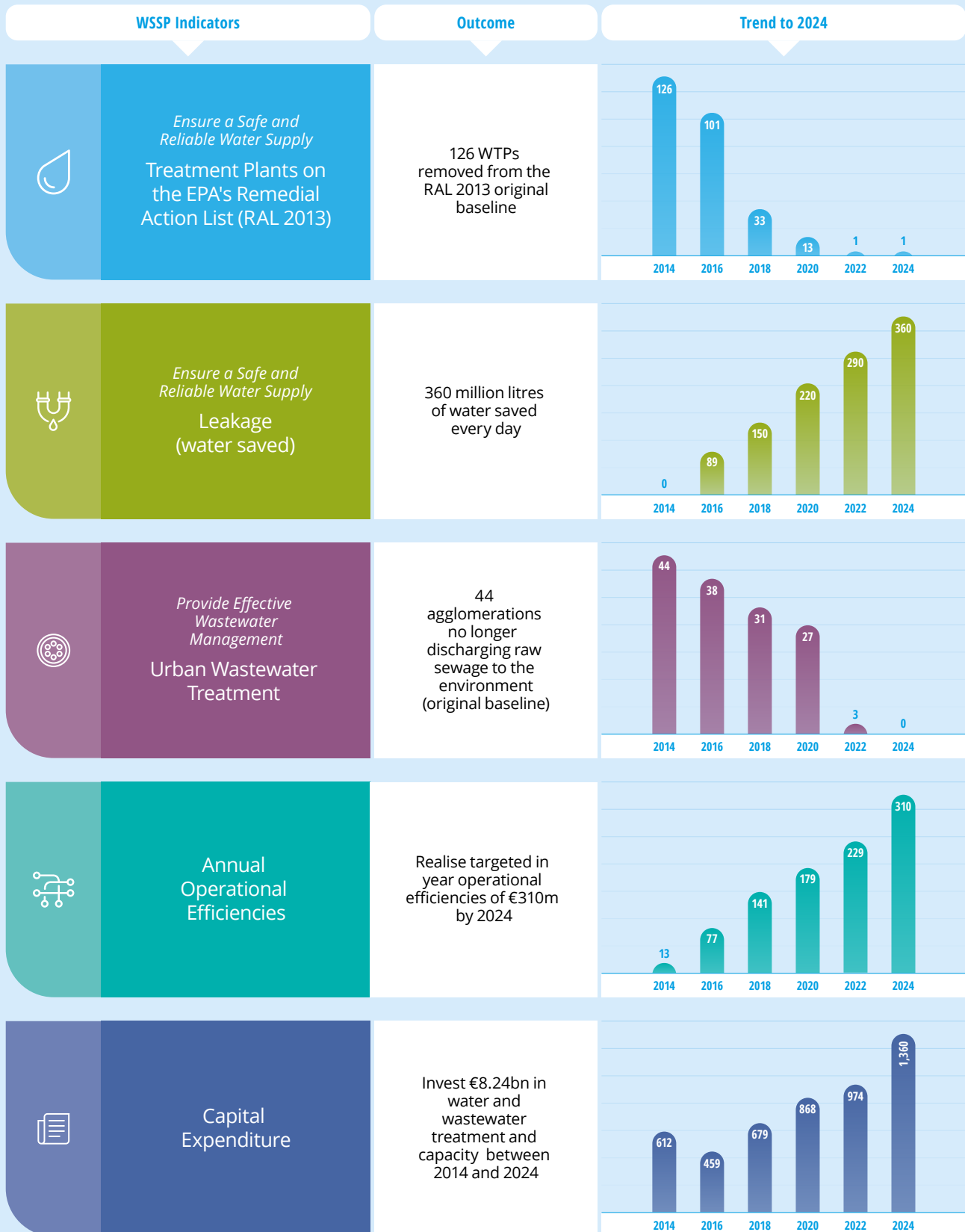
## Addressing the Challenges

Between 2014 and 2017 Irish Water invested €2.269bn in water services infrastructure. This has improved both the surrounding environment and service levels to customers. Between 2019 and 2024 there is an estimated capital spend of €6.1bn, targeting the following outputs:

Outputs	2014 – 2017	By 2024	Total
Commissioning new/upgraded wastewater treatment plants	119	134	253
Commissioning new/upgraded water treatment plants	33	42	75
Provision of wastewater treatment at agglomerations previously discharging raw sewage	6	44	50
Delivery of new rehabilitated water mains (km)	1,100	600	1,700
Millions of litres of water saved per day	115	245	360



# Trending Key Performance Indicators to 2024

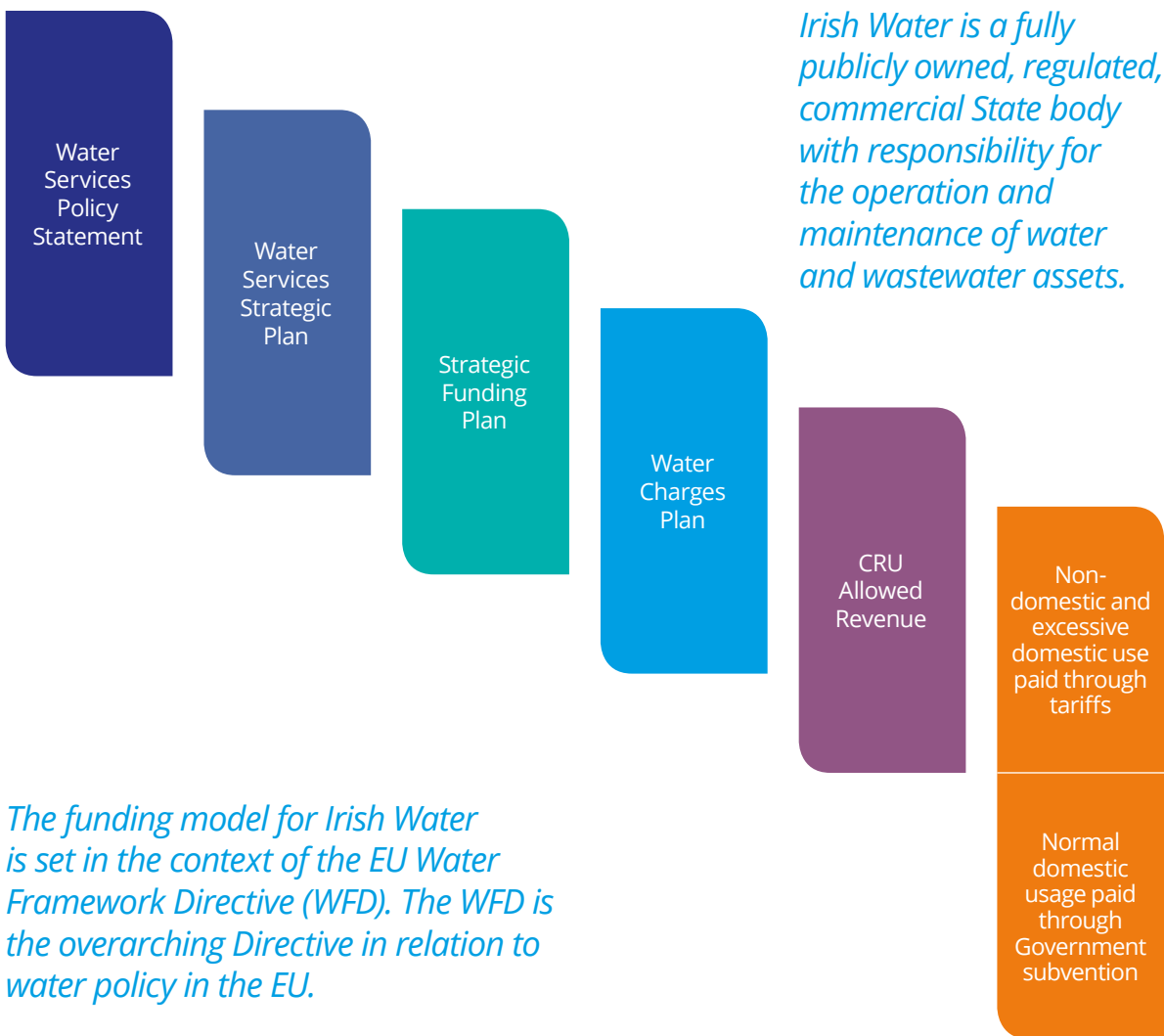


2014 capex does not include the €128m in respect of assets transferred from Local Authorities

**02.**

## **National Policy Framework**

## Water Framework Directive



The Water Services Policy Statement (WSPS) sets out the priorities of Government regarding the provision of water services during the period of the Strategic Funding Plan (SFP). The SFP sets out the measures that Irish Water will take to implement the objectives of the WSPS. Irish Water will also provide information on its likely costs and estimated income over the period.

# Water Services Policy Statement

Section 18 of the Water Services Act 2017 requires the Minister to prepare a 'Water Services Policy Statement' detailing the Government's policy objectives and priorities for the provision of water services. It consolidates elements of water policy set out in the Water Services Acts 2007 – 2017, the River Basin Management Plan for Ireland 2018 – 2021, Project Ireland 2040: National Planning Framework and the National Development Plan 2018 – 2027 and the Water Sector Reform Implementation Plan. It is also informed by the Environmental Protection Agency's reports on drinking water and wastewater

treatment and, in particular, the priority issues identified.

The Water Services Policy Statement provides the context within which Irish Water funding and investment plans will be agreed. The first Water Services Policy Statement 2018 – 2025 was published in May 2018. It is underpinned by four high level policy principles that reflect the importance of structuring water and wastewater services in a manner appropriate to Ireland's needs.

## High Level Principles



Building on these principles, the policy objectives are set across three overarching thematic areas to guide the development and delivery of water services. These

objectives must be pursued when Irish Water produces plans for infrastructural investment or day-to-day expenditure on water services. They are:



WSPS Themes	Priority Objectives
Quality	Investing to improve compliance with public health and environmental standards, with particular reference to the River Basin Management Plan for Ireland 2018 – 2021 (RBMP).
	Bringing and maintaining public water and wastewater services to acceptable international benchmarks, verified by independent monitoring and reporting.
	Achieving improved outcomes in quality in respect of drinking water and in wastewater in relation to rural and private water services.
	Adopting forward planning and risk management approaches to minimise the impact of non-compliances with all relevant EU Directives and to safeguard against future compliance risks.
Conservation	Embedding conservation at the heart of water policy including prioritising resource management, abstraction control, source protection, tackling leakage and encouraging behavioural change.
	The promotion of water conservation and water resource management is to be reflected in strategic investment planning by Irish Water, including the prioritisation of work programmes around leak detection and repair, network improvements, cost effective metering, public awareness campaigns and funding to fix customer side leaks.
	Water conservation will inform the Working Group on the review of rural water services, and investment decisions in this area.
Future Proofing	Ensuring that public and private water services investment decisions are aligned with the broad strategic aims of Project Ireland 2040: National Planning Framework.
	Adapting water services to withstand the impact of climate change and of extreme weather-related events, consistent with the National Adaption Framework – Planning for a Climate Resilient Ireland, published in January 2018.
	Improving the resilience of rural and private water supplies as part of the review of rural water services currently underway.

Strategic Framework

National Policy Framework

Development and Delivery of Water Services

Funding Requirements

# Water Services Strategic Plan

With a single national water body taking responsibility for water services in 2014, it was possible, for the first time, to take a national view on the way that water services are and will be delivered in Ireland. The Water Services Strategic Plan (2015) is a 25 year plan to 2040, which will be reviewed at least every five years, towards the vision that:

*“Through responsible stewardship, efficient management and strong partnerships, Ireland has a world-class water infrastructure that ensures secure and sustainable water services, essential for our health, our communities, the economy and the environment”.*

The Water Services (No. 2) Act, 2013 provides for Ministerial Direction on the form and content of this Water Services Strategic Plan and sets out the requirement for the plan to address the delivery of six strategic objectives as follows:

- ▶ Meet Customer Expectations,
- ▶ Ensure a Safe and Reliable Water Supply,
- ▶ Provide Effective Management of Wastewater,
- ▶ Protect and Enhance the Environment,
- ▶ Support Social and Economic Growth,
- ▶ Invest in our Future.

The WSPS is the new enduring and consistent platform that all stakeholders will benchmark progress towards the objectives, and which will inform the Water Services Strategic Plan (WSSP) review, in due course. Therefore the SFP is not constricted by the existing WSSP which will itself evolve to align with the WSPS (and which will also have to be reflected in the Capital Investment Plan and indeed the Output Monitoring Group’s (OMG) Terms of Reference).

## Strategic Funding Plan

Under the Water Services Act 2017, Irish Water is required to submit a Strategic Funding Plan to the Minister within three months of the publication of the Water Services Policy Statement. The objectives of the Water Services Strategic Plan and the Water Services Policy Statement themes reinforce and complement each other. This Strategic Funding Plan (2019–2024) reflects the principles, themes and policy objectives identified in the Water Services Policy Statement and the strategic objectives outlined in the Water Services Strategic Plan. It outlines the costs, both operational and capital, associated with the arrangements that Irish Water proposes to make and measures that it intends to take to implement the objectives of the Water Services Strategic Plan.



# Water Charges Plan

The Strategic Funding Plan, once approved by the Minister, will frame the funding requirement over the period. It will inform the development of the Water Charges Plan, which Irish Water will submit to the CRU along with a Capital Investment Plan. This will enable the CRU to determine the allowed revenue for the period 2020 to 2024.

Non-domestic revenue and domestic excessive usage will be paid for by the user through tariffs while normal domestic usage will be funded through Government subvention.

To date, Irish Water has developed two investment plans covering two interim revenue control periods by the CRU:

- ▶ The first of these covered the period October 2014 to December 2016 under Interim Revenue Control 1 (IRC1), determined by the CRU decision (CER/14/746). The first investment plan represented the transition to Irish Water from the Local Authorities who delivered capital programmes that were overseen and largely funded by the DHPLG\*.

- ▶ The second covered the period January 2017 to December 2018 under Interim Revenue Control 2 (IRC2), determined by the CRU decision (CER/16/342). This was published in December 2016 and represented the transition from projects initiated by Local Authorities to projects and programmes initiated by Irish Water to achieve the objectives and targets under the WSSP. The Irish Water Capital Investment Plan 2017 to 2021, which was part of the IRC2 submission to CRU, was a five year plan and set outcomes and targets to be achieved by both 2018 and 2021 to meet the strategic objectives set out in the WSSP.

The CRU has now extended the current revenue control (IRC2) by one year, so that it covers the period from January 2017 to December 2019. During 2018, Irish Water will develop the capital investment plan (2020–2024), which aligns with the next revenue control (RC3) period.



\* The Department of Environment, Community and Local Government was renamed as the Department of Housing, Planning, Community and Local Government with effect from 23rd of July 2016 and subsequently renamed as the Department of Housing, Planning and Local Government (DHPLG) with effect from 1st of August 2017.

**03.**

## **Development and Delivery of Water Services**

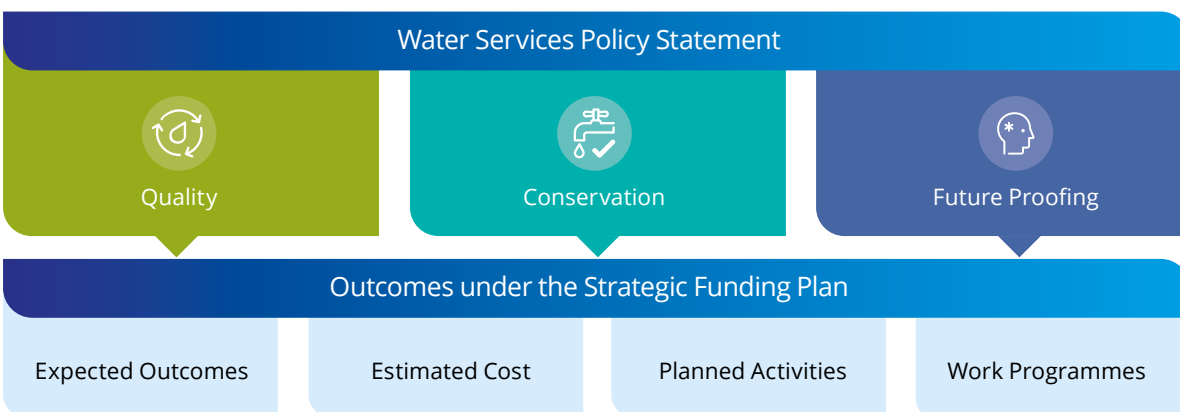


# Deliverables

*In this section the initiatives to develop and deliver water services, along with the targeted outcomes and estimated capital expenditure, are set across the three thematic areas of Quality, Conservation and Future Proofing.*

It is important to stress that with regard to the broad apportionment of funding between Quality, Conservation and Future Proofing there may have to be choices at work programmes level recognising key priorities (i.e. compliance with WFD etc.) and that funding will not resolve all legacy challenges in the period up to the end of 2024.

Driven by the WSPS, this document details the expected outcomes, the work programmes to deliver them and the associated cost estimates for each of the three themes of Quality, Conservation and Future Proofing outlined in the Water Services Policy Statement 2018–2025.



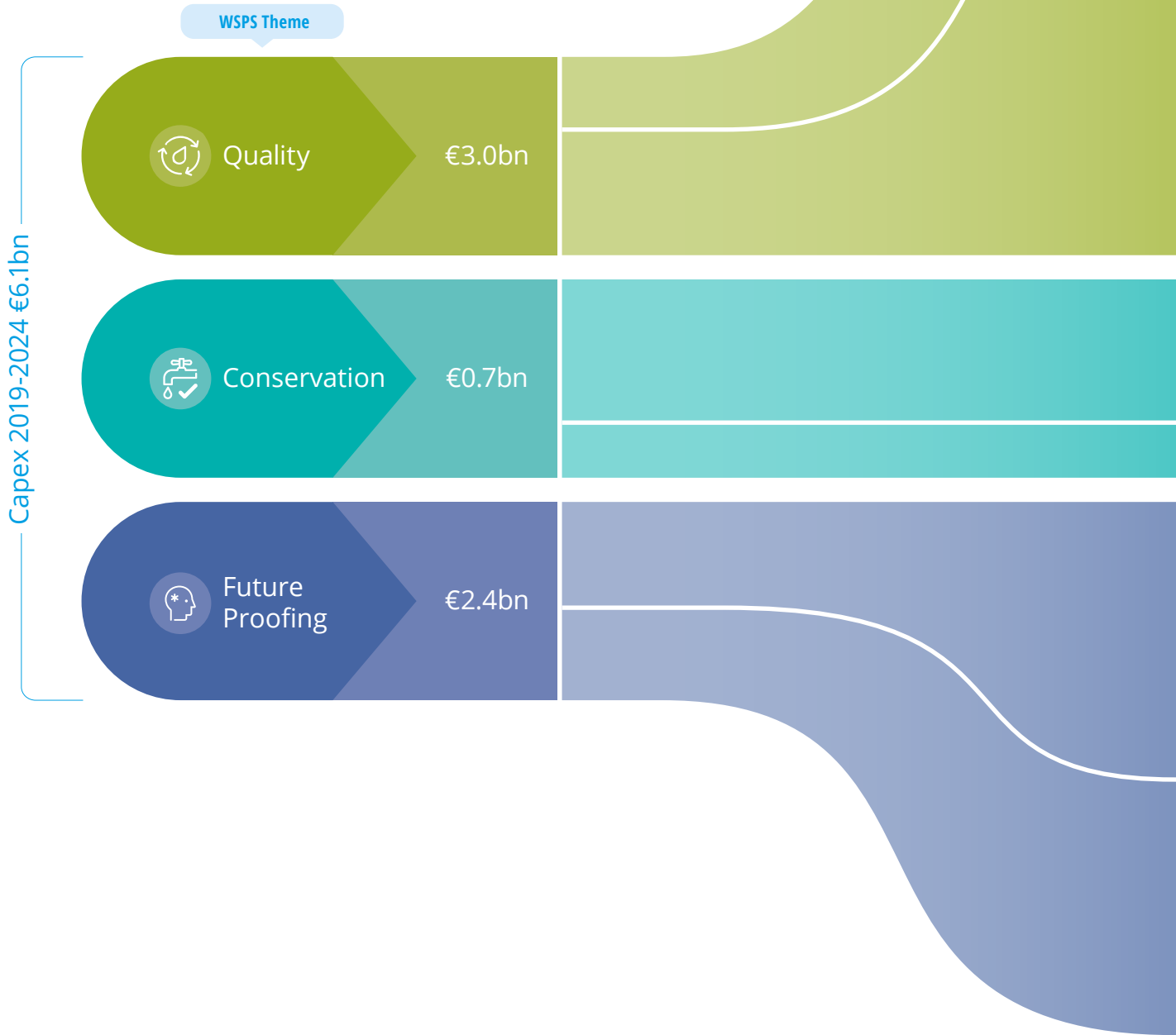
It should be noted that a number of outcomes crossover between strategic objectives. For example, strategies for achieving effective wastewater management (Quality) will also result in future proofing their delivery.

Detailed metrics will be necessary for the CRU to track the delivery of the SFP over the lifetime of RC3. However, it needs to be acknowledged that a new set of metrics will need to be jointly agreed by the key stakeholders (CRU, EPA, and DHPLG) in line with the WSPS. The high level metrics presented here are in draft format only and are intended to indicate the 2024 position but are subject to the on-going work of the OMG, and the CRU's recommendations on RC3.

The investment in water services outlined in this plan is presented at a summary level. The full detailed list of work programmes and outcomes are included in the Capital Investment Plan for RC3. They will benefit a wide range of stakeholders including Irish Water customers, the Government and governmental departments, the Water Advisory Board, An Forám Uisce, CRU, EPA, and not least the European Commission in the context of the implementation of the EU environmental/water acquis.

# Funding and Outcomes 2019–2024

Meeting the policy objectives of the Water Services Policy Statement will require significant capital investment in water services assets, particularly treatment plants and networks. Over the term of this Strategic Funding Plan (2019–2024), capital investment will be targeted in the following areas:



% spend		Outcomes
17%	Water	<ul style="list-style-type: none"> <li>▶ Complete risk assessments</li> <li>▶ Remove plants from EPA's RAL</li> <li>▶ Implement lead strategy</li> </ul>
32%	Wastewater	<ul style="list-style-type: none"> <li>▶ UWWTD Compliance</li> <li>▶ Protect high status waters</li> <li>▶ Deliver RBMP improvements</li> </ul>
9%	Reduce Leakage	<ul style="list-style-type: none"> <li>▶ Increase awareness of need to conserve</li> <li>▶ Meet leakage targets</li> <li>▶ Complete the Water Resource Plan</li> </ul>
2%	Protect the Environment	<ul style="list-style-type: none"> <li>▶ Sludge management ▶ Energy Efficiency</li> </ul>
21%	Capacity & Resilience	<ul style="list-style-type: none"> <li>▶ Improve resilience in areas most vulnerable to a shortfall in water supply and wastewater services</li> </ul>
19%	Support Economic Growth	<ul style="list-style-type: none"> <li>▶ Support National Planning framework and Regional and Spatial Economic Strategies</li> </ul>

Strategic Framework

National Policy Framework

Development and Delivery of Water Services

Funding Requirements



## Quality

*Safe drinking water is essential to the day-to-day activities of households, communities, social services and the economy. Unsafe water supplies risk public health, inconvenience daily life and inhibit economic activity. Significant capital investment, together with operational and management improvements, are required to optimise the performance of our water and wastewater systems.*

*(Water Services Policy Statement 2018–2025)*

## Water Quality

### Context

Irish Water operates 790 water treatment plants, many of which take water from small sources that are vulnerable to contamination and the impacts of climate change. A significant number of water supplies remain where the performance of the disinfection process does not meet targets under all operating conditions. The European Commission has commenced infringement proceedings against Ireland for alleged non-compliance of trihalomethanes (THM) parametric limits. Furthermore, some service pipes are made from lead which can in itself contribute to contamination of water by dissolving into the water. In addition the World Health Organisation (WHO) has promoted a risk based approach, based on Drinking Water Safety Plans, to providing an integrated framework for operating and managing water supply systems. This approach involves an assessment of how particular risks can be managed by addressing the whole process of water supply from source to tap.

### Expected Outcomes:

- ▶ Promotion of drinking water source protection for public drinking water supplies and initiation of 350 source risk assessments by the end of 2021 as set out in RBMP 2018–2021,
- ▶ Delivery of the necessary corrective action to ensure appropriately treated, safe and reliable drinking water and eliminate any risk to a drinking water supply on the EPA RAL, and
- ▶ Ongoing implementation of the National Lead Strategy to mitigate the health effects of lead in drinking water.

Estimated Capital Expenditure  
2019–2024:

**€1.1bn**

### In the period to 2024 Irish Water plans to:

- ▶ Upgrade coagulation and disinfection processes (chlorine and UV) and, where possible, rationalise supplies,
- ▶ Improve the performance of chemical treatment through the installation of enhanced controls, pH adjustment, coagulation and filtration systems on a prioritised basis,
- ▶ Implement the Lead in Drinking Water Mitigation Plan to address the risk due to lead pipework serving properties connected to the public water network and communicate the dangers of lead piping and exposure,
- ▶ Develop Drinking Water Safety Plans for all Water Supply Zones, and
- ▶ Progress the Vartry water supply upgrade.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Studies / Plans / Strategies – Drinking Water Quality,
- ▶ Drinking Water Quality (Microbiological) – Infrastructure Programme,
- ▶ Drinking Water Quality (Microbiological) – Capital Programmes,
  - ▷ Major Projects Programme,
  - ▷ Vartry Upgrade,
- ▶ Drinking Water Quality (Chemical – THM) – Infrastructure Programme, and
- ▶ Drinking Water Quality (Chemical – Lead) – Capital Programmes.

### 2024 Target

		2024
Reduction in risk of microbiological non-compliance	Reduction in the number of properties at risk	687,500
Reduction in risk of THM non-compliance	Reduction in the number of properties at risk	140,700
Compliance with lead standards	Number of lead services replaced (cumulative)	41,600
Water Supply Zones (WSZ) on RAL	Number of WSZs remaining on RAL	1

## Wastewater Quality

### Context

Irish Water is responsible for the provision and development of water services including the collection, treatment and discharge of wastewater. It operates 1,105 Wastewater Treatment Plants, 2,089 Wastewater Pumping Stations, 25,000km of foul/combined sewer network and 2,000 Storm Water Overflows nationally.

The standards to which the infrastructure must operate are set out in various national regulations, primarily the Urban Waste Water Treatment Regulations (which implement the Urban Waste Water Treatment Directive (UWWTD)) and the Wastewater Discharge Authorisation (WWDA) Regulations, under which the EPA set controls on Irish Water discharges. Compliance with the UWWTD is significantly lower in Ireland than in similar European countries. As of 2017 only 78% of agglomerations were compliant with the UWWTD quality requirements and 38 agglomerations were still discharging untreated wastewater. Compliance with the discharge quality requirements of the Waste Water Discharge Licenses is estimated to be circa 44%.

At the end of 2017, there were 148 agglomerations on the EPA's Priority Areas List (PAL) for a range of issues including failures to meet UWWTD requirements.

### Expected Outcomes:

- ▶ Compliance with the requirements of UWWTD for urban areas,
- ▶ Protection of high status waters, designated shellfish and bathing waters and support improvements in water quality as set out in River Basin Management Plan (RBMP) 2018 – 2021, and
- ▶ Prioritisation of improvements in urban wastewater collection systems to address growth and economic development, ensure continued environmental compliance and deliver water quality improvements identified in RBMP 2018 – 2021.

### In the period to 2024 Irish Water plans to:

- ▶ Invest in wastewater treatment and networks on a prioritised basis to gain maximum benefit from available funding and taking account of commitments made in the RBMP 2018 – 2021 to increase compliance with UWWTD and Wastewater Discharge Authorisation (WWDA),
- ▶ Progress two strategic investment projects; Cork Lower Harbour and Ringsend WWTP Upgrade.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Urban Wastewater Treatment Directive Programme (UWWTD) – Infrastructure Programme,
- ▶ Urban Wastewater Treatment Directive Programme (UWWTD) – Capital Programmes,
- ▶ Urban Wastewater Treatment Directive Programme (UWWTD) – Major Projects Programme,
  - ▷ Cork Lower Harbour,
  - ▷ Ringsend WWTP,
- ▶ Wastewater Discharge Authorisation Programme – Infrastructure Programme,
- ▶ Wastewater Discharge Authorisation Programme – Capital Programmes,
- ▶ Wastewater Collection Systems – Infrastructure Programmes.

Estimated Capital Expenditure  
2019–2024:

**€1.9bn**



**2024 Target**

		2024
Agglomerations with no wastewater treatment	Number of agglomerations (outstanding)	0 (of 50*)
UWWTD Compliance (ECJ)	Number of agglomerations (outstanding)	0 (of 31)
RBMP	Number of projects (completed)	255 (of 255)

\* The original Irish Water Business Plan had a target reduction in agglomerations with no waste water treatment from 44 in 2014 to zero by 2021. Six agglomerations have been added in the interim period and are also targeted to be addressed by the end of 2024.



## Conservation

*Responsible environmental, social and economic policy means that conservation must be firmly embedded at the heart of water services policy. The abstraction and treatment of water is costly and impacts on the natural environment.*

*(Water Services Policy Statement 2018–2025)*

### Reduce Leakage

#### Context

In Ireland, the water supply distribution networks are not interconnected. It is estimated that, nationally, approximately 45% of treated water is lost due to leakage. Historically Irish Water and the Local Authorities had to rely on telemetry systems that were inhibited by underinvestment, the lack of a single set of standards, varying data communications systems and individual county based control centres (apart from the Greater Dublin Area). Effective telemetry will provide technology which enables remote monitoring and management, and data collection and analysis for 6,368 water and wastewater assets and the 4,411 District Metering Areas (DMA).

The new National Telemetry System (NTS) will link to the National Operations Management Centre and will support critical asset oversight, incident and emergency management, and trouble-shooting, as well as strategic planning. The national Leakage Management System (LMS) will collect and collate all DMA data, provide daily leakage estimates and trends. This will allow Irish Water to prioritise leakage management activity.

#### Expected Outcomes:

- ▶ Increased awareness of the importance of treated water conservation in Ireland,
- ▶ Implementation of the necessary programmes and interventions to promote the efficient and sustainable use of water in order to achieve, as a first step, the leakage reduction targets identified in RBMP 2018–2021 with the ultimate aim of reducing leakage to sustainable economic levels,
- ▶ Completion of the Water Resources Plan to ensure water resource sustainability.

Estimated Capital Expenditure  
2019–2024:

**€0.6bn**



**In the period to 2024 Irish Water plans to:**

- ▶ Promote awareness of the importance of conserving water, reducing usage and eliminating leakage,
- ▶ Implement the Leakage Management System upgrades to support accurate monitoring and measurement of leakage,
- ▶ Continue to develop the First Fix Scheme and the Find and Fix programme to reduce water loss by identifying and repairing leaks in an efficient manner,
- ▶ Continue to develop the Network Rehabilitation programme to replace the worst performing pipes, reduce bursts and supply interruptions as well as contribute to leakage reduction and pressure improvements,
- ▶ Implement charging for excessive water usage.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Leakage Reduction Programme – Infrastructure Programmes,
- ▶ Leakage (Water Network Management) – Capital Programmes,
- ▶ Studies / Plans / Strategies – Drinking Water Availability.

**2024 Target**

		2024
Leakage in water supply network	Cumulative gross water savings (mld saved)	360



## Protect the Environment

### Context

Irish Water interacts with the water environment by abstracting and treating drinking water, and collecting and treating wastewater and discharging effluent. The collection and treatment of wastewater protects public health and improves the quality of natural water environment, including bathing waters. Adequate treatment makes it easier to treat abstracted water and bring it to drinking water standards.

The water and wastewater treatment process generates sludge, which requires further treatment prior to its reuse or disposal. Irish Water estimates that the quantity of wastewater sludge generated will increase by more than 80% by 2040 as new and upgraded plants are completed to meet our wastewater treatment objectives. The National Wastewater Sludge Management Plan (NWSMP) outlines Irish Water's 25 year strategy to ensure a nationwide standardised approach for managing wastewater sludge. Meeting the obligations under the National Energy Efficiency Plan (2009 to 2020) whilst managing an increased base demand for energy due to compliance with higher treatment standards will be challenging.

### Expected Outcomes:

- ▶ Plan for adapting to future climate change challenges,
- ▶ Contribution to the development of the National Adaptation Framework under the Climate Action and Low Carbon Development Act 2015 and Sectoral Adaptation Plans by September 2019.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Capital Programmes – Energy Efficiency,
- ▶ Sludge Management Programme – Wastewater,
- ▶ Sludge Management Programme – Water.

Estimated Capital Expenditure  
2019–2024:

**€0.1bn**

### 2024 Target

		2024
Energy Efficiency	Reduction in energy consumption (GWh pa)	39





## Future Proofing

*Ireland's future economic and social progress is critically dependent on upscaling our capacity to deliver reliable, high quality water and wastewater services. Long term pressures on service delivery include increasing demand due to anticipated population and economic growth; the impacts of climate change; and changing precipitation patterns.*

*(Water Services Policy Statement 2018–2025)*

It should be noted that a number of outcomes cross over between policy objectives. The capital expenditure is largely included under the theme of Quality, both water and wastewater.

## Social and Economic Growth

### Context

The National Planning Framework (NPF) and the National Development Plan (NDP), collectively known as Project Ireland 2040, were published in February 2018. Anticipating that one million extra people will be living in the State 25 years from now, the NPF commits to achieving more balanced growth between the regions and to improving the State's infrastructure.

The NDP commits to investment of some €8.5bn over the next 10 years (from 2018–2027) in public water infrastructure. €95m has been identified for investment in the Rural Water Programme over the period 2018 to 2021. A further €41m has been allocated during the period to 2021 on legacy issues related to lead pipe remediation and developer provided infrastructure.

To support Ireland's national competitiveness, water services will need to be delivered in an efficient, sustainable and cost-reflective manner. This will require quality installation, efficient timeframes, customer engagement and applicable charges where relevant. The prompt and smooth delivery of necessary infrastructure to support economic growth will continue to be a priority for Irish Water.

It is anticipated that the Regional Spatial and Economic Strategies (RSES) will further identify regionally important settlements and population targets. It is anticipated that the RSES will be available by the end of 2018 and that core strategies at settlement level will be revised in line with the RSES. Irish Water will review the investments in this Strategic Funding Plan when the updated core strategies are available.

The objectives of the Government's strategic approach to housing, identified in the Rebuilding Ireland Action Plan for Housing and Homelessness and the National Planning Framework, will need to be provided for in terms of both treatment and network capacity. Related initiatives such as the Local Infrastructure Housing Activation Fund (LIHAF) and the Major Urban Housing Delivery (MUHD) sites are also supported in Irish Water's Capital Investment Plan and associated work programmes.

Estimated Capital Expenditure:

**€1.1bn**

### Expected Outcomes:

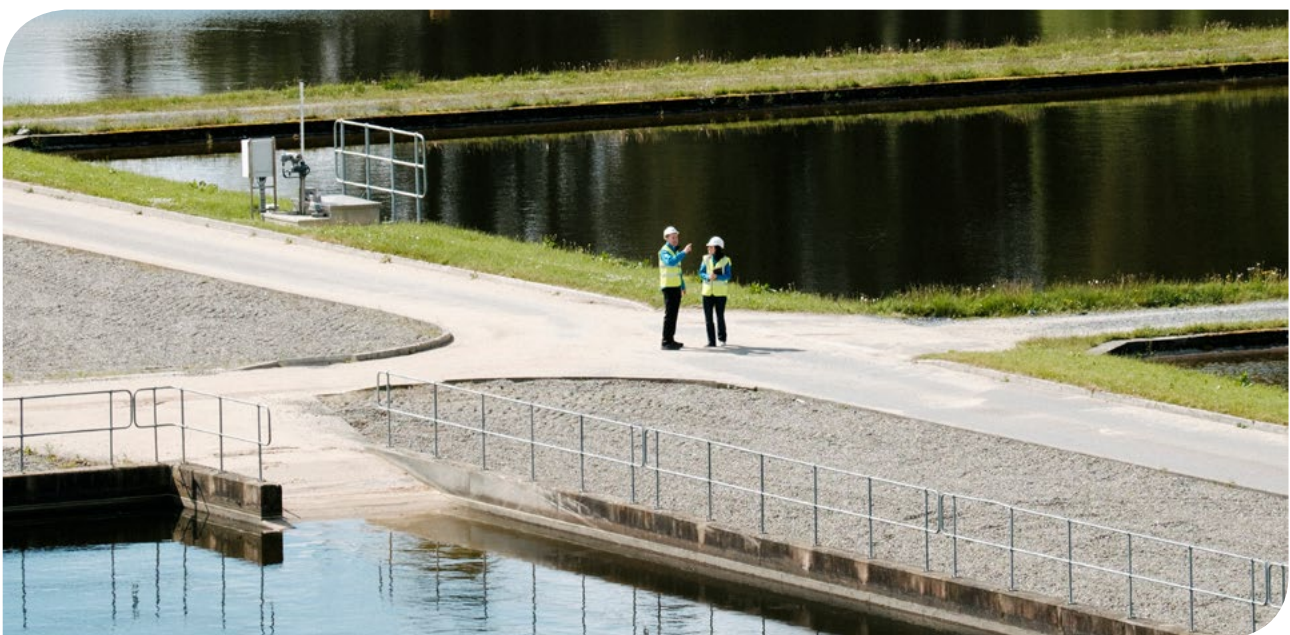
- ▶ Provision of water services investment to support growth in the five cities of Dublin, Cork, Galway, Limerick and Waterford together with the regional centres identified in the NPF,
- ▶ Detailed network and capacity assessments to support the provision of water services infrastructure to facilitate housing and economic development in priority towns and urban areas identified in Regional Spatial and Economic Strategies (RSES),
- ▶ Provision of water services investment to support the growth of identified settlements where these are prioritised in development plan core strategies at a county/city level,
- ▶ Progression of Government initiatives relating to the Rebuilding Ireland Action Plan for Housing and Homelessness, the NPF and other government initiatives and priorities outlined in the NDP.

### In the period to 2024 Irish Water plans to:

- ▶ Progress the delivery of strategic water supply investment projects including strategic water supply projects at Vartry and the Water Supply Project,
- ▶ Progress the delivery of strategic wastewater projects, including strategic wastewater projects at Ringsend, the Greater Dublin Drainage Project and in Cork Lower Harbour,
- ▶ Progress the network reinforcement and extension programmes,
- ▶ Upsize connection assets where necessary to service to cater for future development.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Wastewater Growth Programmes – Infrastructure Programmes,
- ▶ Water Growth Programmes – Infrastructure Programmes,
- ▶ Water and Wastewater Growth Programmes – Capital Programmes,
- ▶ Major Project Programme Wastewater Growth – Greater Dublin Drainage Project.





## Capacity and Resilience

### Context

Many of the public water supplies in Ireland have limited yields which are unsustainable in the long term.

It is estimated that over 130 water supplies (implying a population of circa 1.5m) have a limited yield resulting in water restrictions during drought and/or winter events. Irish Water’s National Water Resources Plan will outline how we move towards a sustainable, secure and reliable drinking water supply for all customers connected to the public network over the next 25 years, whilst safeguarding the environment.

Irish Water has put national contingency plans in place, including wastewater and drinking water incident response plans, and this work is ongoing. Contingency plans include scenarios for severe weather, drought and disruption to water supplies for major urban areas. The National Telemetry System and National Operations Management Centre will form an important part of this contingency planning capability in future.

### Expected Outcomes:

- ▶ Delivery of the strategic capital investment programme set out under the NDP over the period 2018–2027 to improve resilience in areas most vulnerable to a shortfall in water supply and wastewater services, such as the Greater Dublin Area.

### In the period to 2024 Irish Water plans to:

- ▶ Develop initiatives targeting safe yield and 24 hour production capacity at WTPs to provide for projected demand needs including a factor of safety to allow for periods of high demand,
- ▶ Invest in upgrading the national sewer networks to relieve flooding events,
- ▶ Prepare Drainage Area Plans (DAPs) on a prioritised basis,
- ▶ Progress two strategic investment projects; The Water Supply Project – Eastern & Midlands Region & The Greater Dublin Drainage Project.

These activities will be delivered through the following RC3 Work Programmes:

- ▶ Network and Treatment Capacity Assessments Programme,
  - ▷ Drainage Area Plans Programme,
  - ▷ Water Network Modelling Programme,
- ▶ Water Resilience Programmes,
- ▶ Wastewater Resilience Programmes,
- ▶ Major Project Programme,
  - ▷ The Water Supply Project Eastern & Midlands Region,
  - ▷ The Greater Dublin Drainage Project.

### 2024 Target

		2024
Drinking water treatment capacity	Additional capacity provided (mld)	71
Wastewater treatment capacity	Additional capacity provided (PE)	1,288,348

Estimated Capital Expenditure:  
**€1.3bn**

## Capability

### Context

#### *Health and Safety*

Health and safety are at the heart of everything Irish Water does. As a national infrastructure utility, Irish Water manages complex assets and risks, and delivers large-scale maintenance and construction projects. This involves inherent risks in the construction, operation and maintenance of our assets, particularly taking account of variability in age and condition, and the isolated nature of many of the assets. Irish Water is focused on ensuring that the safety, health and wellbeing of our staff, customers, business partners and the wider public is protected. Irish Water is committed to evolving and transforming safety standards in the water industry and will strive to become a leader in safety and wellbeing.

#### *Transformation*

The Water Services Strategic Plan 2015 outlines the benefits of a single public utility in changing the way services are delivered. Irish Water is focused on developing this model and transforming the way services are provided.

The single public utility will allow the delivery of a national water service utility with enhanced asset management capability, and optimised local delivery, providing leading customer service on par with other high performing utilities at a significantly reduced cost. The targeted operational efficiencies can only be realised by transforming the way services are delivered by transitioning to a single public utility model.

The detailed plan for the implementation of the transformation of the water industry is currently subject to a process of dialogue with the key stakeholders.

### *Customer Service*

Meeting customers' expectations through the provision of high quality, reliable water services, while meeting the customer service levels expected in a modern economy, continues to remain a critical priority for Irish Water.

In 2017, Irish Water, rather than the 31 LAs, became the direct point of contact for all connections enquiries. A national approach to connection agreements was introduced, supported by a new online connection interface on the Irish Water website. In 2018, an enduring Connection Charging Policy was developed, replacing the previous circa 57 charging regimes, with a standard set of charges for the majority of connections. This process provides information on where connection demand is likely to be highest in the short-term, while also providing an efficient and effective, centralised service.

To ensure a uniform standard of water and wastewater infrastructure in new housing developments, a quality assurance programme for all new housing developments is being established.

### **Expected Outcomes**

- ▶ Enhanced asset management capability to ensure that the performance of assets is maintained and enhanced to the requisite standard and to achieve optimum balance of service risk and whole life cost,
- ▶ Improved quality and efficiency of services to customers in line with the performance standards for continuous improvement agreed with the CRU.



**In the period to 2024 Irish Water plans to:**

- ▶ Enhance Asset Management Capability,
- ▶ Implement the Work Safe Home Safe programme, a comprehensive Health, Safety and Wellbeing Strategy that extends across Ervia’s group of companies, and focuses on five key pillars,
- ▶ Work in partnership with LAs to implement the single public utility,
- ▶ Develop and apply an asset management approach and manage our assets and investments in accordance with best practice Asset Management principles,
- ▶ Improve the quality and efficiency of services to customers,
- ▶ Comply with Freedom of Information legislation, AIE regulations and the Aarhus Convention, (the United Nations Economic Commission for Europe convention on access to information),
- ▶ Introduce a standardised, national and consistent pricing structure for all non-domestic customers,
- ▶ Provide equity, transparency and clarity for customers by harmonising the historic fragmented non-domestic pricing structure into one national standardised framework.

**2024 Target**

		2024
Health and Safety	% completion of <i>Work Safe Home Safe</i> programme	100%
Organisational efficiency	€m in-year efficiencies	310
Customer Service	% response to major new connections within ten weeks	75%
	Operations Fieldwork satisfaction (%)	90%



**04.**

## **Funding Requirements**

# Financial Plan

*The Water Services Act 2017 requires Irish Water to specify for the duration of the Water Charges Plan:*

Estimated operating and capital expenditure\*

Estimated income over the period

Costs likely to be incurred in the provision of water services to domestic customers and the recovery of those costs

Costs likely to be incurred in the provision of water services to non-domestic customers and the recovery of those costs

\* The Commission for Regulation of Utilities (CRU) have now determined the operating and capital expenditure allowances for 2019. These allowances have been reflected in this financial plan.

Revenue and expenditure for 2020–2024 is draft and subject to change following the Price Control determination for 2020–2024.

# Estimated Operating and Capital Expenditure

## Operating Expenditure

Irish Water's operational costs are expected to total €4.9bn from 2019–2024. Due to increased demand for water supply over the next six years and the continued roll-out of capital investment, operational

costs will be subject to growth pressures but it is estimated that these increases will be offset by Irish Water's efficiency programmes.

	2019	2020	2021	2022	2023	2024	Total (19–24)
Operating Expenditure	€m	€m	€m	€m	€m	€m	€m
Domestic Opex	588	631	652	655	653	653	<b>3,832</b>
Non-Domestic Opex	158	179	182	192	191	192	<b>1,094</b>
Excess Charging Opex	-	3	3	3	3	3	<b>15</b>
<b>Total Opex Costs (IFRS)</b>	<b>746</b>	<b>813</b>	<b>837</b>	<b>850</b>	<b>847</b>	<b>848</b>	<b>4,941</b>

In addition to delivering an extensive Capital Investment Plan, Irish Water is responsible for the day-to-day operation and maintenance of the national water and wastewater networks and infrastructure. These services are delivered in partnership with 31 Local Authorities, acting as agents of Irish Water,

under the terms of 12 year Service Level Agreements (SLAs) which came into effect in 2014 and will remain in place until the detailed plan for the next stage of transformation of the water industry is agreed.

## Overview of Irish Water's core operational costs (€4.9bn) over 2019–2024

Expenditure	Description	Opex
Operations and Maintenance	These costs include chemicals to treat water/wastewater, goods and services and other direct costs relating to the operation of plants and infrastructure.	€1.5bn
Payroll and labour related costs	Circa 75% of people costs currently relate to those directly involved in asset operations.	€1.2bn
Support costs	The cost of administration services provided by Local Authority partners and Ervia including administration of HR, finance, transactional services, procurement, facilities and IT.	€0.8bn
Energy	These costs relate to the energy used by plants to pump and treat water and wastewater.	€0.4bn
Customer Service	Irish Water is continuing to operate a lean and effective customer operation while developing communication channels with existing and new customers.	€0.2bn
Rates	Commercial rates paid by Irish Water, expected to re-commence in 2020	€0.2bn
Other	Other costs to support the Irish Water business including IT & Telecoms, marketing, rent, insurance and regulatory adjustments.	€0.6bn
<b>Total estimated operating expenditure 2019–2024</b>		<b>€4.9bn</b>

## Operational Cost Trend

Core operational costs will fall from €696m to €682m (2018 monies), a reduction of 2% over 2018-2024.

The 2% reduction in core operational costs will be achieved despite water demand increasing by 20% over the 2018–2024 period, in line with GDP forecasts.

As part of the transformation of the water and wastewater industry, Irish Water is committed to delivering circa €310m in operational efficiencies over 2014–2024. By the end of 2017 Irish Water delivered €116m in operational expenditure savings with a further €25m planned for 2018.

By 2024 this translates to a cumulative operational efficiency saving of €1.74bn. Although challenging, Irish Water is on target to achieve this.

The most critical dependency for the delivery of these benefits and savings is that Irish Water will adopt the single public utility model within the term of this plan. The single public utility will allow for national planning, regional delivery, single system of working and standards, along with centres of excellence to ensure optimum service from the available assets. Failure to implement the single public utility model will impact significantly on the operational expenditure of Irish Water.



## Capital Expenditure

Meeting the policy objectives of the Water Services Policy Statement and the Water Services Strategic Plan will require significant capital investment in water services assets, particularly treatment plants and networks. Given the size and scale of the investment and the increasing understanding of the performance and capital needs of our water and wastewater assets, there will inevitably be changes to delivery priorities over the plan period. As part of the work carried out to produce a prioritised investment plan, additional needs have been identified which can be moved forward within the lifetime of this plan. This means that if some projects or programmes within the portfolio were

delayed, expenditure can be reassigned to additional outcomes; for example an increase in spend on drinking and wastewater compliance and on leakage. The ability to re-assign expenditure will be dependent on the timing of the availability of capital, as well as the ability of the supply chain to absorb the additional work. Irish Water is on track to deliver the €5.5bn capex target set out in the 2015 Business Plan and is also on track to deliver the €8.5bn target outlined in the National Development Plan. Over the term of this Strategic Funding Plan (2019–2024), capital investment will be incurred as follows and targeted in the areas outlined below:

	2019 €m	2020 €m	2021 €m	2022 €m	2023 €m	2024 €m	Total (19–24) €m
Domestic Capex	636	636	610	709	903	1,012	<b>4,506</b>
Non-Domestic Capex	220	232	230	265	318	348	<b>1,613</b>
Core	153	164	157	191	244	273	<b>1,182</b>
New Connections*	67	68	73	74	74	75	<b>431</b>
<b>Capex</b>	<b>856</b>	<b>868</b>	<b>840</b>	<b>974</b>	<b>1,221</b>	<b>1,360</b>	<b>6,119</b>

\* New Connections capex is shown separately as New Connections revenue is not included in the CRU's allowed revenue calculation. However, New Connections revenue and capex is fully allocated to the Non-Domestic division before the debt funding requirement is calculated. It is expected that a revised New Connections charge will apply from 2019 onwards.

Water Services Policy Statement Themes	Water Services Strategic Plan Objectives	Key Outcomes	Capex
Quality	<ul style="list-style-type: none"> <li>▶ Ensure a Safe and Reliable Water Supply,</li> <li>▶ Provide Effective Management of Wastewater.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Improved delivery of safe and reliable water to all connected to the public networks,</li> <li>▶ Increased compliance with the DWD, UWWTD and WFD,</li> <li>▶ Commenced the rehabilitation of water and wastewater network.</li> </ul>	€3.0bn
Conservation	<ul style="list-style-type: none"> <li>▶ Ensure a Safe and Reliable Water Supply,</li> <li>▶ Protect and Enhance the Environment.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Reduced leakage,</li> <li>▶ Increased awareness of the need for water conservation,</li> <li>▶ Developed and implemented a National Water Resource Plan.</li> </ul>	€0.7bn
Future Proofing	<ul style="list-style-type: none"> <li>▶ Meet Customer Expectations,</li> <li>▶ Protect and Enhance the Environment,</li> <li>▶ Support Social and Economic Growth,</li> <li>▶ Invest in our Future.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Improved quality and efficiency of services,</li> <li>▶ Reduced energy consumption,</li> <li>▶ Increased water and wastewater capacity,</li> <li>▶ Transformed operating model,</li> <li>▶ Delivered targeted operational and capital efficiencies,</li> <li>▶ Started to address climate risk and resilience.</li> </ul>	€2.4bn
<b>Total Capital Investment 2019–2024</b>			<b>€6.1bn</b>

In the period to 2024 Irish Water will progress the delivery of five major strategic projects; three strategic wastewater schemes in Cork and Dublin to meet medium and long term needs and two water

supply projects for the Greater Dublin and Midlands Area including a new major water supply from the River Shannon.

## Estimated Income

The principal income streams are:

- ▶ Non-Domestic Revenue,
- ▶ Government Subvention and
- ▶ New Connections Revenue.

A small allowance has been included in this plan to reflect domestic water charges for excess usage

(Domestic Revenue). The charge is designed to promote conservation and the revenue will be partially offset by the cost of administering the charges.

Subvention and non-domestic charges are forecasted so that the revenue split reflects the costs of providing domestic and non-domestic services respectively.

Income	2019	2020	2021	2022	2023	2024	Total (19–24)
	€m	€m	€m	€m	€m	€m	€m
Non Domestic Revenue	206	218	235	251	268	286	<b>1,464</b>
Domestic Government Subvention	855	835	910	921	985	1,051	<b>5,557</b>
New Connections Revenue	70	71	71	70	71	72	<b>425</b>
Domestic Excess Charges	-	7	7	8	8	9	<b>39</b>
<b>Total Income</b>	<b>1,131</b>	<b>1,131</b>	<b>1,223</b>	<b>1,250</b>	<b>1,332</b>	<b>1,418</b>	<b>7,485</b>

## Provision of Services to Domestic Customers

### Costs likely to be incurred and recovery of those costs

The cost profile of services related to domestic customers is outlined below. These costs will be recovered through government subvention payments and excess charges.

The subvention revenue for 2018 has already been determined following prior regulatory determinations and government budgetary decisions.

The excess of subvention payments over domestic opex relates to a non-current allowance for depreciation and return on capital. The upfront cost of capital investment will be funded by a combination of free cash flow and capital contributions. The total exchequer funding requirement for the provision of services to domestic customers is outlined in the table at the bottom of this page.

	2019	2020	2021	2022	2023	2024	Total (19–24)
	€m	€m	€m	€m	€m	€m	€m
Domestic Opex	588	631	652	655	653	653	<b>3,832</b>
Domestic Capex	636	636	610	709	903	1,012	<b>4,506</b>
Working Capital & Other	(16)	(1)	1	(9)	(16)	(9)	<b>(50)</b>
Excess Charging Opex	-	3	3	3	3	3	<b>15</b>
<b>Total Outflows</b>	<b>1,208</b>	<b>1,269</b>	<b>1,266</b>	<b>1,358</b>	<b>1,543</b>	<b>1,659</b>	<b>8,303</b>
Funded By:							
Subvention	855	835	910	921	985	1,051	<b>5,557</b>
Domestic Excess Charges	-	7	7	8	8	9	<b>39</b>
Capital Contribution	353	427	349	429	550	599	<b>2,707</b>
<b>Total Sources</b>	<b>1,208</b>	<b>1,269</b>	<b>1,266</b>	<b>1,358</b>	<b>1,543</b>	<b>1,659</b>	<b>8,303</b>
	2019	2020	2021	2022	2023	2024	Total (19–24)
	€m	€m	€m	€m	€m	€m	€m
Subvention – Current	562	606	626	630	637	636	<b>3,697</b>
Subvention – Non Current	293	229	284	291	348	415	<b>1,860</b>
Capital Contribution	353	427	349	429	550	599	<b>2,707</b>
<b>Total Exchequer Funding Requirement</b>	<b>1,208</b>	<b>1,262</b>	<b>1,259</b>	<b>1,350</b>	<b>1,535</b>	<b>1,650</b>	<b>8,264</b>



# Provision of Services to Non-Domestic Customers

## Costs likely to be incurred and recovery of those costs

The cost profile of services related to non-domestic customers is outlined below. These costs will be recovered through non-domestic charges.

The non-domestic revenue for 2018 has already been determined following prior regulatory determinations.

The excess of non-domestic revenue over non-domestic opex relates to an allowance for depreciation and return on capital. The upfront cost of capital investment will be funded by a combination of free cash flow and non-domestic borrowings.

	2019	2020	2021	2022	2023	2024	Total (19–24)
	€m	€m	€m	€m	€m	€m	€m
Non-Domestic Opex	158	179	182	192	191	192	<b>1,094</b>
Non-Domestic Capex	220	232	230	265	318	348	<b>1,613</b>
Working Capital & Other	(1)	3	(2)	(6)	(8)	(5)	<b>(19)</b>
Cash Interest	10	8	12	16	22	27	<b>95</b>
<b>Total Outflows</b>	<b>387</b>	<b>422</b>	<b>422</b>	<b>467</b>	<b>523</b>	<b>562</b>	<b>2,783</b>
Funded By:							
Non-Domestic Revenue	206	218	235	251	268	286	<b>1,464</b>
New Connections Revenue	70	71	71	70	71	72	<b>425</b>
Non-Domestic Borrowings	111	133	116	146	184	204	<b>894</b>
<b>Total Sources</b>	<b>387</b>	<b>422</b>	<b>422</b>	<b>467</b>	<b>523</b>	<b>562</b>	<b>2,783</b>

## Total Funding Requirement

In addition to Irish Water's regulated revenue allowance as determined by the CRU, it is anticipated that Government as shareholder in Irish Water will also continue to provide capital contributions (in respect of domestic capex) and non-domestic

borrowings (in respect of non-domestic capex) to fund the Capital Investment Plan.

An overview of total outflows and total sources over the lifetime of the plan is shown in the table below.

	2019 €m	2020 €m	2021 €m	2022 €m	2023 €m	2024 €m	Total (19-24) €m
Opex	746	813	837	850	847	848	<b>4,941</b>
Capex	856	868	840	974	1,221	1,360	<b>6,119</b>
Other	(7)	10	11	1	(2)	13	<b>26</b>
<b>Total Outflows</b>	<b>1,595</b>	<b>1,691</b>	<b>1,688</b>	<b>1,825</b>	<b>2,066</b>	<b>2,221</b>	<b>11,086</b>
Revenue	1,131	1,131	1,223	1,250	1,332	1,418	<b>7,485</b>
Non Domestic Revenue	206	218	235	251	268	286	<b>1,464</b>
Domestic Government Subvention	855	835	910	921	985	1,051	<b>5,557</b>
New Connections Revenue	70	71	71	70	71	72	<b>425</b>
Domestic Excess Charges	-	7	7	8	8	9	<b>39</b>
Non-Domestic Borrowings	111	133	116	146	184	204	<b>894</b>
Capital Contribution	353	427	349	429	550	599	<b>2,707</b>
<b>Total Sources</b>	<b>1,595</b>	<b>1,691</b>	<b>1,688</b>	<b>1,825</b>	<b>2,066</b>	<b>2,221</b>	<b>11,086</b>

# Managing Risks to the Plan

Understanding risk allows Irish Water to make informed and better decisions, in pursuit of strategic and operational objectives, creating added value for stakeholders. Irish Water is committed to taking

appropriate actions to manage and mitigate risks, and guiding these activities is the Ervia Enterprise Risk Management (ERM) Policy which is reviewed annually to verify that it follows leading practice.

Risk Category	Key Risk Description	Key Mitigating Controls & Actions
<b>Health and Safety</b>	Employee, Contractor or Public Safety incidents which could result in injury or loss of life, prosecutions and reputational damage.	<ul style="list-style-type: none"> <li>▶ Work Safe Home Safe programme,</li> <li>▶ Quarterly Central Safety Committee reporting to the Irish Water Board and a Water Industry Health and Safety Committee,</li> <li>▶ Comprehensive Safety Management Systems.</li> </ul>
	An environmental issue for Irish Water could result in contamination, compromise public safety or limit supply.	<ul style="list-style-type: none"> <li>▶ Crisis management response plans in place,</li> <li>▶ Risk assessment, inspection and maintenance processes,</li> <li>▶ Control measures in sites using gas/chemicals (e.g. monitors, alarms, chemical storage restrictions).</li> </ul>
<b>Security of Supply</b>	A major incident or event (e.g. weather) impacting on the network or a failure to deliver major projects such as the new source of water supply for the Eastern and Midlands Region.	<ul style="list-style-type: none"> <li>▶ Investment Strategy and Capital Investment Plans in place,</li> <li>▶ Ongoing investment in strategic infrastructure</li> <li>▶ Water network management programme,</li> <li>▶ Delivering the new supply of water required for the Eastern and Midlands Regions,</li> <li>▶ National leakage reduction programme,</li> <li>▶ National water conservation campaigns,</li> <li>▶ Robust business continuity and crisis management procedures including Severe Weather Management Plans.</li> </ul>
<b>Sustaining Ireland’s Economic Growth</b>	Risk that asset capacity acts as a significant constraint to housing development/ economic growth at national/strategic level.	<ul style="list-style-type: none"> <li>▶ Commitment to support Local Infrastructure Housing Activation Fund projects and all Major Urban Housing Development Sites,</li> <li>▶ Deliver Network Extensions initiative,</li> <li>▶ Develop capacity registers,</li> <li>▶ Regular engagement between Irish Water and planning authorities,</li> <li>▶ Introduce Network Development Plans and DAPs.</li> </ul>
<b>Reputation and Stakeholder</b>	Failure to gain trust and support from our customers and stakeholders.	<ul style="list-style-type: none"> <li>▶ Customer Service focus through our Customer First programme,</li> <li>▶ Stakeholder engagement strategy,</li> <li>▶ Public engagement on key projects,</li> <li>▶ Brand strategy in place.</li> </ul>

Risk Category	Key Risk Description	Key Mitigating Controls & Actions
<b>Transformation</b>	Not delivering the transformation of Irish Water's service delivery model to a single public utility, due to potential delays in reaching full stakeholder agreement, would impact on our financial and non-financial business plan objectives.	<ul style="list-style-type: none"> <li>▶ Programme team in place that includes dedicated experts from Irish Water and Local Authorities,</li> <li>▶ Ongoing engagement with all key stakeholders,</li> <li>▶ Implementation programme developed.</li> </ul>
<b>Resources</b>	Failure to have an appropriate resource plan, or failure to implement recruitment, retention and people development strategies, will result in a failure to achieve our objectives.	<ul style="list-style-type: none"> <li>▶ Talent acquisition and development strategies,</li> <li>▶ Resource planning linked to talent management and career planning,</li> <li>▶ Mentoring and coaching programmes,</li> <li>▶ Graduate programmes.</li> </ul>
<b>Investment Plan Delivery</b>	Not aligning our Capital Investment Plan to realise the greatest benefits in addressing the biggest asset and customer service risks or delivering the plan on time or within budget, due to construction industry inflation and limited capacity issues within the sector.	<ul style="list-style-type: none"> <li>▶ Dedicated Asset Delivery function in operation,</li> <li>▶ Integrated delivery plan for 2017–2021 Approval and oversight governance fora,</li> <li>▶ Controls in place to monitor our Capital Investment Plan spend against budget.</li> </ul>
<b>Cyber Threats</b>	Failing to protect Irish Water from external IT security threats and to manage our critical IT infrastructure	<ul style="list-style-type: none"> <li>▶ IT and Cyber Security Strategies</li> <li>▶ Detailed security protocols in place,</li> <li>▶ Ongoing risk assessments.</li> </ul>
<b>Financial</b>	Irish Water has a high reliance on State funding and its activities also expose it to a number of financial risks including credit risk, liquidity risk, currency and interest rate risk.	<ul style="list-style-type: none"> <li>▶ Defined risk limits and delegations of authority and exposure monitoring in place,</li> <li>▶ Ongoing dialogue and strong relationships with government,</li> <li>▶ Established financial risk policies in place.</li> </ul>
	Failure to deliver operating and capital efficiency cost savings and to deliver against original timelines as outlined in the business plan (achieving full efficiency targets are heavily dependent on the successful delivery of the SPU).	<ul style="list-style-type: none"> <li>▶ Efficiency targets are set and monitored for each key business activity,</li> <li>▶ Delivering the transformation of the service delivery model to a single public utility,</li> <li>▶ Repairs and maintenance savings driven through key initiatives (e.g. leakage reduction and investment in upgrades).</li> </ul>
<b>Regulatory</b>	The impact of adverse regulatory changes or a failure to adhere to a broad range of water and wastewater regulations and legislation could have a financial, reputational and operational impact on our business activities.	<ul style="list-style-type: none"> <li>▶ Proactive engagement with key stakeholders including regulatory authorities,</li> <li>▶ Regulatory price control process in place,</li> <li>▶ Annual reporting to the EPA,</li> <li>▶ Operational investment plans in place,</li> <li>▶ Capital investment approval process in place to address regulatory risks.</li> </ul>
<b>Climate Change &amp; Energy Efficiency</b>	Climate change events impacting Irish Water's service delivery performance or infrastructure assets and risks associated with meeting challenging long-term EU greenhouse gas reduction targets	<ul style="list-style-type: none"> <li>▶ Assessment of potential impacts of climate change scenarios on Irish Water's infrastructure,</li> <li>▶ Implementation of Irish Water's Climate Change Policy,</li> <li>▶ National Water Resources Plan,</li> <li>▶ Implementation of Irish Water's Climate Change Policy,</li> <li>▶ Climate Change Adaptation and Mitigation strategy currently in development.</li> </ul>

# Appendix



## Definition of Key Metrics

Current Key Metric	Key Metric	Definition
<b>Reduction in risk of microbiological non-compliance</b>	Improvement in asset performance to reduce current and future microbiological non-compliance	Investment in the provision of required assets to reduce the risk of microbiological non compliance (achieved by 2020–2024 programmes and infrastructure carryover)
<b>Reduction in risk of THM non-compliance</b>	Improvement in asset performance to reduce current and future THM non-compliance	Investment in the provision of required assets to reduce the risk of THM non compliance (achieved by 2020–2024 programmes and infrastructure carryover)
<b>Removal of a scheme from EPA RAL</b>	Removal of Water Supply Zones from EPA RAL (based on Q4 2014)	Removal of Water Supply Zones (WSZs) from EPA Remedial Action List (RAL). List of WSZs is based on the list included in the Q4 2014 RAL register.
<b>Reduction in leakage water supply network</b>	Reduction in leakage the water supply network	Reduction in gross leakage; quantified in mega-litres per day at District Meter Area level including both public side and private side leakage. Private side leakage reductions will be quantified via the First Fix programme.
<b>Reduction in risk of lead non-compliance (cumulative)</b>	Reduction in risk of lead non-compliance	Replacement of lead services
<b>Agglomerations with no wastewater treatment</b>	Reduction in agglomerations with no wastewater treatment	Provision of appropriate treatment to an agglomeration which previously had no treatment or preliminary treatment only.
<b>UWWTD Compliance (ECJ)</b>	Urban Wastewater Treatment Directive (UWWTD) Compliance (ECJ)	Facilitating achievement of UWWTD compliance by means of completing works at an agglomeration listed on the ECJ case against Ireland in relation to non-compliance with UWWTD
<b>RBMP 2018–2021</b>	River Basin Management Plan (RBMP) 2018–2021;	Completion of a Wastewater Treatment Upgrade included in RBMP 2018 –2021 under the headings of: <ul style="list-style-type: none"> <li>▶ Upgrades Being Undertaken to Support Compliance with the Requirements of the Urban Waste Water Treatment Directive</li> <li>▶ Upgrades Being Undertaken to Support Compliance with the Requirements of Protected Areas</li> <li>▶ Upgrades Being Undertaken to Support the Protection of High-Status Waters</li> <li>▶ Other Scheduled Waste-Water Treatment Plant Upgrades</li> </ul>
<b>Energy Efficiency Improvement</b>	Energy Efficiency Improvement	Improved energy efficiency via the upgrading, replacement and optimisation of inefficient plant and processes achieved by energy efficiency 2020–2024 programme
<b>Additional wastewater treatment capacity</b>	Additional wastewater treatment capacity	Provide additional wastewater treatment capacity in line with national, regional and local economic and spatial planning policy.
<b>Additional water supply capacity</b>	Additional water supply capacity	Provide additional water supply capacity in line with national, regional and local economic and spatial planning policy.

# Projects included in the National Development Plan

Name of Project	Description of Project	Completion Date
<b>Arklow Sewerage Scheme Wastewater Treatment Plant</b>	The Arklow Sewerage Scheme project will include the development of a new WWTP and associated network to stop the discharge of untreated wastewater to the Avoca River.	2022
<b>Athlone Sewerage Scheme</b>	The overriding purpose of the Westmeath Athlone Sewerage Scheme Project is to address requirements of EPA WWDL – Specific Improvement Programme, ECJ/Article 17/UWWTD Infringement Notices, National Planning Framework requirements and internal property sewer flooding.	2022
<b>Ballyshannon Regional Water Supply Scheme – Water Treatment Plant and Network</b>	The Ballyshannon Regional Water Supply has been developed to address drinking water issues in Ballyshannon, Rossnowlagh, Ballintra and areas currently supplied by Cashelard WSS and Ballymagroarty WSS.	2021
<b>Blanchardstown Sewerage Scheme</b>	The Blanchardstown Sewerage Scheme will provide for future development in the catchment inclusive of parts of Meath and Kildare and prevent uncontrolled overflows to the Tolka.	2022
<b>Capital Programmes</b>	Programmes of Investment targeted at equipment and process level improvements across multiple sites.	
<b>Central Kerry Regional Water Supply Scheme</b>	The project involves the development of a new water treatment plant including monitoring & scada systems, network modelling & pipeline rehabilitation, existing reservoir assessments & refurbishment and construction of new reservoirs as required to enable optimum management of water supply & quality throughout the entire network.	2018
<b>Cork City Wastewater Network</b>	Irish Water is progressing the drainage area planning phase of the Cork City Wastewater Network. The objective of this project is to upgrade the wastewater network	*TBC
<b>Cork City Water Supply Scheme – Upgrade of Water Treatment Plant</b>	Irish Water is progressing the upgrade existing WTP to replace and extend the water treatment facility at the Lee Road to provide a more secure water supply in Cork City.	2021
<b>Cork Lower Harbour Main Drainage Project</b>	The Cork Lower Harbour Main Drainage Project is required to significantly enhance the water quality in Cork Harbour. The project is important in terms of protecting the environment, facilitating economic development and providing for a growing population. In addition to this, the need for a wastewater treatment plant for Cork Lower Harbour is a requirement under both European and National legislation in order to improve health, integrity of the environment and improve water quality in compliance with the European Union’s Urban Wastewater Treatment Directive.	2021
<b>Drogheda and Dundalk Water Supply Schemes</b>	The upgrade of the 2 water sources for Louth namely the Drogheda and Dundalk Water Supply Schemes	2019
<b>Galway City Wastewater Network</b>	Irish Water is progressing the drainage area planning phase of the Galway City Wastewater Network. The objective of this project is to upgrade the wastewater network	*TBC

Name of Project	Description of Project	Completion Date
<b>Greater Dublin Drainage</b>	Greater Dublin Drainage (GDD) is a project to develop a new regional wastewater treatment facility and associated infrastructure to serve the growing population of Dublin and parts of the surrounding counties of Kildare and Meath.	2025
<b>Infrastructure</b>	Individual Water and Wastewater capital projects < 20m (Treatment and Network)	
<b>Irish Water Business Plan 2014-2021</b>	Transforming water services including the service delivery model to deliver efficiencies and cost savings, implementing best utility practices in operations, maintenance and capital investment of €5.5bn to bring water infrastructure and services to communities and businesses that meet the needs of a modern economy and facilitate future economic and social development over the long-term.	2021 Ongoing
<b>Kilkenny Regional Water Supply Scheme – Water Treatment Plant</b>	The Kilkenny City Regional Water Supply Scheme project will address water quality and capacity issues with the existing water supply for Kilkenny City.	2021
<b>Non Network – Incl WIOF</b>	Investment in facilities, industry transformation, IT, telemetry, laboratories and other non asset specific needs.	
<b>Peamount to Saggart Pump Station and Rising Main</b>	This project will enable Leixlip WTP to supply an additional treated water to Saggart Reservoir and thereby provide additional treated water to Dublin City and South Dublin County.	2020
<b>Regional Biosolids</b>	Biosolids Storage Facility to serve Dublin Region.	2024
<b>Ringsend – Rathmines and Pembroke – Wastewater Network</b>	Irish Water is progressing the drainage area planning phase of the Ringsend – Rathmines and Pembroke Wastewater Network. The objective of this project is to upgrade the wastewater network	*TBC
<b>Ringsend Wastewater Treatment Plant Project</b>	The Ringsend Wastewater Treatment Plant project provides over 40% of Ireland’s wastewater treatment capacity. The plant is currently overloaded and further capacity is required to support development in the Greater Dublin Region. The project will increase the capacity of the plant to 2.4m population equivalent which will bring benefits to Dublin city and surrounding areas in terms of health, environmental protection and improved water quality for all and provide for future growth.	2025
<b>Saggart Reservoir</b>	The scope of the project involves the provision of storage reservoir at Saggart which will address storage deficits in downstream reservoirs (Ballyboden, Cookstown, Peamount and Belgard) and takes cognisance of the proposed East & Midlands Water Supply project.	2022
<b>Skibbereen Regional Water Supply Scheme – Water Treatment Plant &amp; Network</b>	The proposed Skibbereen Regional Water Supply Project addresses the water quality deficiencies in Schull, Leap, Baltimore, Drimoleague and Skibbereen.	2021
<b>Tralee Wastewater Network</b>	Irish Water is progressing the drainage area planning phase of the Tralee Wastewater Network. The objective of this project is to upgrade the wastewater network	*TBC



Name of Project	Description of Project	Completion Date
<b>Upper Liffey Valley Sewerage Scheme – 2B</b>	The aim of this project is to provide an upgrade of the existing waste water collection networks within the catchments in the Osberstown agglomeration through the development of existing pumping stations and construction of new rising mains and gravity sewers. This is required to facilitate the effective collection and transfer of the waste water generated within the collection network to the WWTP at Osberstown. It is also to provide a scheme which is in line with modern practices and compliant with current environmental legislation and sustainability principles.	2020
<b>Upper Liffey Valley Sewerage Scheme Phase 3 Contract 2A</b>	Irish Water is progressing the Upper Liffey Valley Sewerage 2A which includes the construction of a new interceptor sewer to connect Newbridge to the Osberstown Wastewater Treatment Plant	2021
<b>Vartry Water Supply Scheme</b>	Irish Water is making a significant investment in the Vartry Water Supply Scheme to ensure a safe and sustainable water supply for the north Wicklow and south Dublin areas. This investment will ensure that water provided complies with water quality standards set out in the European Union Drinking Water Directive and the current, national Drinking Water Regulations. The project will also ensure that this critical water supply network can operate safely through any intense rainfall events.	2021
<b>Water Networks Programmes</b>	Programmes of investment targeting reduction in leakage, water main rehabilitation and leakage monitoring and control.	
<b>Water Supply Project – Eastern and Midlands Region</b>	The Water Supply Project – Eastern and Midlands Region will represent the first major comprehensive upgrade of ‘new source’ infrastructure in over 60 years and will meet the domestic and commercial needs of over 40% of Ireland’s population into the medium to long term future.	Mid-2020s

# Glossary

<b>AIE</b>	Access to Information on the Environment
<b>CRU</b>	Commission for Regulation of Utilities
<b>DMA</b>	District Metering Area
<b>ECJ</b>	European Court of Justice
<b>EPA</b>	Environmental Protection Agency
<b>LMS</b>	Leakage Management System
<b>NOMC</b>	National Operations Management Centre
<b>NPF</b>	National Planning Framework
<b>NTS</b>	National Telemetry System
<b>OMG</b>	Output Monitoring Group
<b>PAL</b>	Priority Areas List
<b>RAL</b>	Remedial Action List
<b>RBMP</b>	River Basin Management Plan
<b>RSES</b>	Regional Spatial and Economic Strategies
<b>SFP</b>	Strategic Funding Plan
<b>UWWTD</b>	Urban Waste Water Treatment Directive
<b>WFD</b>	Water Framework Directive
<b>WHO</b>	World Health Organisation
<b>WSPS</b>	Water Services Policy Statement
<b>WSSP</b>	Water Services Strategic Plan
<b>WSZ</b>	Water Supply Zone
<b>WWDA</b>	Waste Water Discharge Authorisations





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