Irish Water

Revenue Control 3 (2020-2024)

Executive Summary
Introduction
Introduction

Irish Water (IW) is a publicly owned, regulated, commercial State body with responsibility for the operation and maintenance of the national water and wastewater assets. It was established in 2014 to provide safe, clean, affordable and environmentally compliant water and wastewater services to households and businesses connected to the public networks.

IW supplies drinking water to approximately 80% of the general public (3.3m people), with the remainder supplied by group water schemes and private wells. This is delivered through some 1,000 separate water supply areas and involves the abstraction, treatment and delivery of c.1,700 million litres of drinking water each day. IW also collects wastewater from over 1,000 separate communities connected to the wastewater network (wastewater zones known as “agglomerations”). We treat c.1,200 million litres of wastewater daily, before we discharge it back into our rivers, harbours and coastal areas.

IW’s operations include several thousand water extraction points, treatment plants, pumping stations and wastewater discharge points, c.63,000kms of mapped water pipelines and an estimated c.25,000kms of wastewater pipelines.

The key rationale for the establishment of a national water utility in 2014 was to drive savings and efficiencies, while at the same time improving the quality of services provided to customers. Water services in Ireland, prior to the establishment of IW, suffered the consequences of severe underinvestment. Funding was constrained and variable year on year. In addition, water services were managed by 34 (now 31) separate Local Authorities (LAs), resulting in inefficiency through duplication and inconsistencies in the planning, construction, operation and maintenance of Ireland’s water and wastewater networks.

Another important development for the water services sector was the designation of the Commission for Regulation of Utilities (CRU) as economic regulator in 2013. One of the CRU’s key functions is to set the amount of revenue that IW can recover from its customers. This is carried out through a revenue control review.

The first revenue control, known as IRC1, ran from October 2014 to the end of 2016. During the full three years from 2014 to 2016, IW invested c.€1.7bn in Ireland’s water and wastewater asset base. This was followed by the CRU’s second revenue control (IRC2), which runs from the start of 2017 to the end of 2019 and involves a further c.€2.1bn in capital investment. Investment over the first five years since IW’s establishment has already delivered substantial benefits to our customers, including:

- Removal of long term1 Boil Water Notices for over 20,000 people that had been in place in 2014;
- Removal of over 60,000 population from a Boil Water Notice that had been in place for over 30 days;
- Completion of work at 144 supplies on the EPA’s remedial action list (RAL) by end of September 2018;
- Commissioning of 8 new water treatment plants and upgrading of another 31;

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1 In place for over 200 days
• Provision of wastewater treatment at 12 agglomerations previously discharging raw sewage;
• Commissioning of 35 new wastewater treatment plants and upgrading of another 55;
• Delivery of over 1,400 kms of new or rehabilitated watermains;
• Completion of over half a million work orders following deployment of the Work and Asset Management system (Maximo) to all 31 LAs, including roll-out of c.1,100 hand held devices providing real time information;
• Closing out over 1,400 Health & Safety corrective actions in 2017, ensuring a safer work environment for IW and our LA partner staff;
• Development of a new National Telemetry Strategy (NTS) which will enable remote monitoring and data collection;
• Rapid, effective response to multiple severe weather events;
• Procurement, design and initial build of a new national Leakage Management System;
• The migration of all non-domestic customers from the LA billing systems to one single IW billing system; and
• Delivery of significant operational efficiencies – c. €70m in IRC1 and c.€90m in IRC2.

The CRU has decided to implement a five year revenue control (RC3) to cover the period 2020-2024. RC3 will be the first long-term revenue control in the water services sector since the establishment of IW in 2014. As such, RC3 is an important milestone in the water services regulatory framework.

The CRU’s revenue control works within the legislative and funding framework of the water services sector. IW’s funding model is set in the context of the EU Water Framework Directive (WFD). The WFD is the overarching Directive in relation to water policy in the EU.

Under the Water Services Act 2017, the Water Services Policy Statement (WSPS) provides the framework within which Irish Water funding and investment plans will be agreed. The first WSPS, covering the period 2018 to 2025, was published by the Department of Housing, Planning and Local Government (Department) in May 2018.² It set out the Government’s expectations for the delivery and development of water and wastewater services in the years ahead. It also set out a series of objectives across three themes; (i) Quality; (ii) Conservation; and (iii) Future Proofing.

IW is required to submit a Strategic Funding Plan (SFP) to the Minister within three months of the publication of the WSPS. IW met this requirement in August 2018 when it submitted its first SFP to the Minister. Following subsequent IW updates, including to reflect the CRU’s decision on IW allowed revenue for 2019, the SFP was approved by the Minister on 7th November 2018.

The expenditure outlined in the SFP reflects the principles, themes and policy objectives identified in the WSPS, as well as the strategic objectives outlined in our 25 year Water Services Strategic Plan (WSSP) published in 2015. IW’s RC3 submission to the CRU aligns to the SFP. In the context of the new funding model for water services, the

² Please refer to the following link here.
flexibility which is intrinsic to the regulatory model is an important enabler of efficient expenditure planning.

Since establishment, IW has focused on the delivery of three key goals in parallel:

1. Establishing the new national utility, building out the resources, systems and processes required to deliver infrastructure and services to an acceptable standard for our customers - and ultimately to best practice, over time.

2. Assessing the scale of asset and service deficits, prioritising investment and remedial actions, and delivering on agreed plans.

3. Transforming how services are delivered, moving away from the 31 LA model to a leaner, more efficient national utility model. The transformed model will deliver economies of scale, standard operating practices, standard maintenance practices, and will reduce costs significantly while meeting best practice performance metrics over time.

We have made clear progress across all three goals: IW’s national utility structure has enabled processes to be streamlined and customer service to be improved across the country; we have transitioned capital investment planning from the 31 LAs into a centralised, prioritised national programme; and we have designed a new single public utility model which can deliver much needed industry transformation.

However, the scale of the challenge remaining is onerous. The deficiencies in our water and wastewater infrastructure have accumulated over decades and rectifying these will require investment over several revenue control periods. The operational vulnerability of our existing infrastructure is evidenced by significant mains bursts on ageing pipes, such as the July 2017 Staleen incident, and the service restrictions in place across the country during the 2018 drought.

Such weaknesses in our assets result in serious consequences for our customers and must be addressed as quickly as possible within the constraints of available funding. IW is proposing RC3 capital investment of c.€5.2bn which will move us significantly closer to international peer performance by 2024. Our submission includes an ambitious target of a further €130m in operational cost savings, subject to full and timely implementation of the single public utility. This is a very complex transformation programme and is dependent on agreement with multiple external stakeholders.

Our submission also clearly sets out those key areas where we must incur essential additional expenditure to meet growth needs and close critical service and compliance gaps. If the single public utility programme does not proceed at the pace required to deliver the RC3 targets, IW will engage with the CRU to set out the expected impact on both expenditure profiling and efficiency delivery.

This document provides a summary overview of our submission to the CRU across capital investment, operating expenditure, weighted average cost of capital, and depreciation policy in the RC3 period 2020-2024.
A long term investment perspective is required in order to strategically address the many deficiencies in IW’s asset base.

The repair and upgrading of our water treatment plants, wastewater treatment plants, and water and sewerage networks requires a multi-billion euro investment programme over several investment cycles.

IW has delivered two investment cycles to date. The first Investment Plan for the period 2014-2016 largely involved the completion of projects which the LAs had committed to under the Water Services Investment Programme\(^3\). The second Investment Plan for the period 2017-2021 involved closing out legacy LA committed projects, together with a transition to the development of IW’s own projects and programmes at a national strategic level. This second Investment Plan set targets for both 2018 and 2021.

Given the constraints on funding limits and supply chain capacity, we have made steady progress to date by consistently prioritising investment to deliver the most urgently needed improvements in drinking water quality, water availability, wastewater compliance, efficiency, leakage reduction and customer service. At the same time, we have reacted effectively to high impact national events, such as Storms Ophelia and Emma, and national water supply issues due to the recent drought.

We are still on track to deliver certain critical investment targets by the end of 2018, including the removal of the last remaining legacy long-term boil water notices. However, the timeline for some other targets has been extended, primarily to take account of emerging needs, portfolio rebalancing and revised scope, schedules and costings as each programme and project moves from conceptual design to detailed planning and construction. Refinements of this nature over time are expected across all utility investment programmes.

IW is now moving into a new investment cycle for the RC3 period 2020-2024 and has prepared an Investment Plan in accordance with section 34 of the Water Services (No.2) Act 2013. This Investment Plan represents the first five-year portfolio that contains projects and programmes wholly developed by IW. The Investment Plan is being submitted to the CRU as part of its wider RC3 review and will be updated to reflect the CRU determination.

In developing this Investment Plan, we have reflected national policy objectives. We have also conducted a two stage consultation approach to hear the views of our stakeholders and inform our RC3 submission.

Two of the key documents that influence the RC3 Investment Plan are the Government’s Water Services Policy Statement (WSPS) published in May 2018, and IW’s Water Services Strategic Plan (WSSP) published in 2015. These provide the overall framework to allow for efficient investment planning.

\(^3\) WSIP – governed by the Department
IW has increased its knowledge and understanding of asset risk and performance, year-on-year, through data capture and analysis. While we still do not have a complete picture of asset condition across the country, we can now assess investment options based on cost, risk reduction or benefits, and contribution to specific targets and objectives. We have aligned with the three key WSPS themes of Quality, Conservation and Future Proofing and we have linked the performance of our water and wastewater assets to our WSSP strategic objectives. These linkages are clearly set out in the Plan.

We have worked with, and listened to, our stakeholders in developing this Investment Plan. Our first stage of stakeholder engagement asked for input on the methodology for the preparation of the Plan. We consulted with the Environmental Protection Agency (EPA), the three Regional Assemblies, and 31 LAs in their role as planning authorities. The Stage 1 consultation was carried out with these statutory consultees in March 2018. The Stage 2 consultation on the Draft Plan was carried out in July with a broader group of stakeholders through our National Stakeholder Forum.

The overall RC3 portfolio has also been considered from a funding, operability and deliverability perspective. This assessment provides confidence that we can fund the investment, maintain existing service during implementation, and that IW and our supply chain have the capacity to deliver such a portfolio.

IW is confident that our RC3 investment portfolio is fully optimised, that it will provide important service improvements for customers, and that it aligns to the WSPS and WSSP framework.

**IW has set very challenging targets for the Investment Plan to 2024.**

There are a number of key challenges facing the water services sector in the years ahead:

- 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; and
- Develop the resilience required to cater for greater frequency of extreme weather events.

IW's service level targets to the end of 2024 have been set within our policy and legislative framework, our funding constraints, and feedback from our two-stage stakeholder engagement process. The full set of RC3 targets is set out within the Investment Plan 2020-2024 and includes the following:

- Reducing the number of properties at risk from microbiological non-compliance by c.687,500;
- Replacing c.41,600 lead service connections to homes⁴;

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⁴ cumulative
• Reducing the number of public wastewater agglomerations with no-treatment from a known list of 50 to zero;

• Reducing the number of public wastewater agglomerations on the current ECJ case from 31 to zero;

• Saving a cumulative net 176 million litres of drinking water per day;

• Providing additional wastewater treatment capacity of an additional c.1.3m population equivalent (p.e.); and

• Reducing our energy consumption by 39 GWh per annum.

While the strategic intent of the Plan will not change, it is inevitable that some of the detail of submitted projects and programmes will be subject to review over the course of 2020-2024. For example, unexpected asset failures, new or changing policies, and severe weather events will impact on service and investment priorities.

Projected schedules and costs will continue to be refined over the course of the five year period as the various projects and programmes move through design and into construction. Based on recent evidence, we also anticipate that construction inflation will exceed HICP over the course of RC3. The Society of Chartered Surveyors Ireland (SCSI) indicated that construction tender prices increased by 6.2% in 2017, with a further rise of 7% projected for 2018. This level of inflation is being driven by a significant uplift in construction activity and constraints on the availability of construction labour.

Similar to any other entity managing a significant investment programme, IW is subject to these market pressures. The elevated rate of inflation represents a risk to the delivery of Irish Water’s investment programme and related outcomes. IW would like to engage with the CRU on this matter during RC3 discussion.

While IW’s investment planning process provides flexibility to adjust the overall portfolio and adapt to necessary change, such factors will need to be taken account of in the review of RC3 investment targets and forecasted outcomes by all stakeholders.

The expenditure required to meet all our target outcomes is significant.

During IRC1, IW invested c.€1.7bn in Ireland’s water and wastewater asset base. In IRC2, we will invest a further c.€2bn. The next investment period 2020-2024 requires increased levels of expenditure to improve service delivery to our customers and meet our 2024 targets. We are forecasting capital investment of c.€5.2bn over the RC3 period 2020-2024. This represents investment in our network portfolio of c.€4.8bn and non-network portfolio of c.€0.4bn.

The following tables and charts set out the c.€4.8bn forecast Network Investment into the WSPS themes and WSSP strategic objectives.\(^5\)

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\(^5\) All monies in this paper are in 2017 prices, unless otherwise stated.
IW’s Investment Plan for the RC3 period covers the network asset portfolio (i.e. the pipes, treatment plants, pumping stations etc.) for water and wastewater services. It will allow us to utilise scarce capital by making investments that deliver the best possible service improvements, while maximising value-for-money.

IW maintains a clear focus on achieving all available efficiencies in capital expenditure. In delivering the RC3 investment portfolio we will pursue innovation, standardisation, procurement economies, value engineering and the optimisation of existing assets. The identification, validation and reporting of capital efficiency in RC3 will be supported by a documented IW policy and methodology.
Investment in Non-Network Capex (NNC) and industry transformation is critical to the drive for efficiency.

IW must continue to invest in critical Non-Network assets, such as a national Leakage Management System, in order to ensure the efficient operation of our business. We must also provide a fit-for-purpose working environment for staff, LA partners, and third party contractors. Effective NNC investment enables the delivery of services across the country in a safe, efficient manner. NNC investment will also be crucial in the RC3 period to deliver the single public utility and supporting industry transformation initiatives.

Key NNC deliverables within the RC3 period include:

- The completion of the national fleet strategy that will reduce both opex and carbon emissions;
- The establishment of a national laboratory in Limerick to meet compliance and operational performance requirements;
- The integration of the Environmental Information Management System (EIMS) with the IW Maximo and Customer Care & Billing (CC&B) systems;
- Delivery of a new solution for Connections and Developer Services to help streamline the process for customer enquiry to connection;
- The establishment of a National Telemetry System that will enable monitoring of water service assets and District Metered Areas across the country; and
- Full implementation of the single public utility change programme.

The table below sets out the proposed capital investment across each area. Detailed breakdowns of all projects are included in our RC3 Non-Network Capital Investment submission.

<table>
<thead>
<tr>
<th>Non-Network Capex</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>Total</th>
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<tr>
<td>Facilities &amp; Fleet</td>
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<td>40</td>
<td>46</td>
<td>25</td>
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<td>WIOF&lt;sup&gt;6&lt;/sup&gt;</td>
<td>40</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>51</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>107</strong></td>
<td><strong>93</strong></td>
<td><strong>86</strong></td>
<td><strong>62</strong></td>
<td><strong>38</strong></td>
<td><strong>385</strong></td>
</tr>
</tbody>
</table>

Table E.3 – Non-Network Capital Investment submission for RC3 – €ms (2017 monies rounded)

Adequate funding of capital investment is essential

IW’s capital investment in the water services network has already delivered substantial benefits to our customers, improved protection of the environment, and facilitated growth in the wider economy. However, the work to deliver important service,

<sup>6</sup> Water Industry Operating Framework – the programme to deliver a single public utility and industry transformation.
compliance and capacity requirements must continue in both RC3 and subsequent investment cycles.

IW has now established a robust, national investment planning process which takes into account policy requirements; funding and deliverability constraints; and service, compliance, and growth needs. In balancing these different, sometimes competing, requirements we have set out an RC3 investment programme to 2024 which will deliver the performance levels demanded of us by our customers, regulators and other stakeholders.

Funding certainty is crucial to the delivery of multi-year capital programmes. It provides investment confidence to the full supply chain, enabling competitive tendering and efficient delivery. IW requests the CRU to provide the necessary allowances so that we can progress to implement the RC3 investment programme in full.
3

RC3 Operating Expenditure 2020-2024
IW manages and operates a very large, complex and disperse set of national assets.

IW’s portfolio of operational assets is extensive. It includes approximately:

- 63,000kms of mapped water pipelines;
- 25,000kms of wastewater pipelines;
- Over 2,000 water and wastewater treatment plants;
- Over 2,300 water pumping stations;
- Over 2,000 wastewater pumping stations; and
- Over 4,400 District Metered Areas.

IW is responsible for the provision of public drinking water supplies from source to consumption. This includes the operation and management of abstraction, treatment, storage and distribution of drinking water. IW is also responsible for the collection, treatment and disposal of wastewater. These activities are delivered in partnership with third parties (including LAs through Service Level Agreements and Annual Service Plans).

Our Opex projection for RC3 is necessary in order to deliver these critical water and wastewater services on a national scale.

IW has delivered against very challenging efficiency targets while making real improvements in service provision and environmental standards.

The establishment of IW as a national utility has delivered real progress on the most critical operational requirements. During IRC1 we delivered c.€70m savings in Opex through procurement optimisation, spend rationalisation and process improvement.

We have continued to drive efficiencies in the system over the IRC2 period. Between 2017 and 2019 we expect to achieve a further c.€90m in Opex savings, effectively meeting our regulatory allowance\(^7\). These savings will be delivered through initiatives such as:

- The consolidation and rationalisation of the Non-Domestic Billing process across the 31 LAs;
- The roll out of a national fleet strategy that will help to reduce fuel costs, fuel consumption and carbon emissions;
- A reduction in the cost of goods and services needed to operate the system through National Multi-Supplier frameworks and mini tendering competitions;
- Reducing contractor costs through optimising processes such as sludge disposal and collection and rationalisation of maintenance programmes;

\(^7\) Based on €680m controllable opex allowance for 2019 (subject to further CRU review)
• Competitive procurement of energy, including optimisation of tariffs in our water and wastewater treatment plants e.g. MIC, day/night rates; and

• Driving enhanced performance on DBO contracts through setting challenging targets and closely monitoring contractor delivery.

In parallel to the above, we delivered substantial customer and environmental benefits such as the elimination of legacy long term boil water notices. By the end of 2019, we expect to have removed another 85 public water supplies from the EPA’s Remedial Action List and, to date, we have reduced the number of untreated agglomerations by 12. Following deployment of the Maximo system to all LAs, we have nearly doubled work order activity since the start of 2017. We have also developed a new application to track and manage the high volume of information associated with incident management and reporting to the EPA.

While we have maximised efficiency, we had to incur additional expenditure in meeting mandatory compliance, growth and external cost pressures in IRC2. These will continue into RC3.

IW has effectively met the regulatory allowances for both IRC1 and IRC2 while delivering meaningful service improvements for customers. However, there remains a significant gap to the performance levels of mature, international peers. IW’s asset base still suffers from serious deficiencies and there is a clear compliance deficit across water and wastewater. In addition to service consequences for customers, this has resulted in EPA sanction and European Court of Justice action against Ireland.

Even with the significant capital investment to date, we remain far behind our European peers on compliance standards and meeting the requirements of the Water Framework Directive (WFD) and the Urban Wastewater Treatment Directive (UWWTD). Investment to address these issues drives an increase in our operational cost base, known as ‘delta opex’.

Our cost base has also increased over the IRC2 period as a result of Government policies. This includes the ‘Taking in Charge’ (TIC) programmes of residential estates and Group Water Schemes (GWS). The combined effect of policy directions in relation to residential estates and GWS will be to increase our asset base by c. 1,400kms by the end of 2019, with resultant increases in operation and maintenance costs.

In addition, we face the unavoidable consequences of increasingly frequent severe weather events. The impact of Storm Ophelia in October 2017 and Storm Emma in March 2018, and the recent drought, have severely tested asset condition and service delivery and led to increased operational costs.

Ireland’s economic and population growth has continued to gather momentum, leading to increasing pressure on water production and wastewater treatment to keep pace with demand. This has had a direct impact on our costs due to an increasing requirement for key variable inputs, such as energy and chemicals.

The implementation of crucial Cybersecurity measures, General Data Protection Regulation (GDPR), and National Wage Agreements have all imposed additional, and unavoidable, cost pressures on IW in IRC2.
To address these obligations during IRC2, IW incurred essential additional expenditure relating to environmental and regulatory compliance, growth in our asset base, growth in the economy, and externally driven costs. It is clear that these cost pressures will continue into the RC3 period.

**RC3 efficiency targets are ambitious and critically dependent on industry transformation**

IW maximised all available efficiencies during IRC2. Year-on-year savings peaked in 2017 at c.7%, reducing to c.4% in 2018 and 2019 (projected). The declining trend is explained by the reducing scope for efficiency in core operations as the economies of scale and procurement benefits on a national level are realised. For example, as noted above, in 2017 we consolidated all non-domestic billing within IW and we negotiated a new national energy contract. Such savings, once harvested, cannot be repeated.

Work delivered through LA partnership accounts for the large majority of IW’s operational costs. As a result, deeper, sustainable efficiency levels can only be generated through successful implementation of industry transformation. A single public utility will deliver substantial payroll and related savings over and above what can be achieved through the SLA. Beyond cost savings, it will enable important process and service improvements. It will enable national planning to be linked to best practice local delivery of water services, and centres of excellence to ensure optimum service from the available assets. It will also mitigate service risks which exist today within our current water and wastewater networks.

IW has set out its plans in this regard within our RC3 submission. The single public utility model has been designed, and work is underway to gain agreement with the various stakeholders. While we are pursuing rollout as quickly as possible, the programme is of enormous scale and complexity and must be carefully managed in close co-operation and engagement with all stakeholders. One of the key principles of implementation is effective management of the pace of transformation. We must ensure that the risk of major service failure is minimised to the greatest extent possible.

Our efficiency estimates are based on the assumption of full single public utility implementation by the end of 2021, with savings ramping up significantly in 2023 and 2024. Together with further efficiencies in the areas of energy, procurement, contractor management and fleet, IW is projecting additional gross savings of €130m in RC3, recurring on an annual basis from 2024. This projection aligns to the Strategic Funding Plan submitted to the Minister. It represents a very ambitious target and one which is dependent on agreement with external stakeholders and a timely completion of industry transformation.

Without the transition to a single public utility, savings of the scale proposed in IW’s submission would simply be unachievable without damaging core operational performance and imposing an unacceptable level of service risk. If the single public utility programme does not proceed at the pace required to deliver the RC3 targets, IW will engage with the CRU to set out the expected impact on both expenditure profiling and efficiency delivery.
Opex requirement for the RC3 period

IW's total Opex requirement for 2020-2024 is c. €3.7bn, after taking account of compliance needs, growth pressures, external costs and the delivery of efficiency savings. The table below sets out our RC3 Opex requirement into the headline numbers.

- Our base controllable costs are the core expenditures needed to operate the business in a steady state on an annual basis i.e. prior to any additional efficiency or cost drivers.
- Compliance, growth and external costs combine all of the cost pressures we expect to face over the RC3 period. These are detailed in full within our Opex submission.
- Efficiencies combine the savings across all of our efficiency initiatives over the RC3 period. These ramp up significantly from 2023 as the benefits of the single public utility implementation are delivered, rising to €40m (5.8%) in 2024.
- Non-controllable costs are rates, licence and levy fees which are considered pass-through under the regulatory model.

On a net basis, taking into account both growth and efficiencies, total Controllable Opex falls over the RC3 period from €690m in 2020, to €672m in 2024. This is set in the context of significant growth momentum in the economy, with water demand projected to increase by c. 20% from 2018, in line with GDP forecasts.

In summary, over the RC3 period IW will reduce its operational costs while delivering a fit-for-purpose single public utility; meeting the demands of a growing economy; and significantly improving both compliance standards and customer service through a capital expenditure programme of c.€5.2bn.

<table>
<thead>
<tr>
<th>Opex Headline</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>Total</th>
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<tr>
<td>Base Controllable Costs</td>
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<td>690</td>
<td>694</td>
<td>696</td>
<td>688</td>
<td>3,449</td>
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<tr>
<td>Compliance, Growth &amp; External Costs</td>
<td>21</td>
<td>27</td>
<td>23</td>
<td>27</td>
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<tr>
<td>Efficiencies</td>
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<td>(22)</td>
<td>(22)</td>
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<td>Total Controllable</td>
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<td>694</td>
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<td>Non-Controllable Opex</td>
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<td>278</td>
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<tr>
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<td>751</td>
<td>743</td>
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<td>3,719</td>
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</table>

Table E.4 – RC3 opex by headline - €ms (2017 monies rounded)

Detailed breakdowns of all costs at category level are provided separately in our RC3 Opex submission.

To support our Opex submission, we will provide a detailed benchmarking analysis. Benchmarking analysis is a common source of debate during revenue control reviews. It relies on accurate models, reliable data, and appropriately justified adjustments to take account of special differentiating factors between comparator companies.
Historical context is another important consideration, particularly in comparing trends over time.

Since IRC2, we have collated additional cost driver data which indicates that we are now much closer to the cost performance of international comparators than estimated by the CRU for IRC1 and IRC2. However, the results of different models vary widely which suggests that a narrow benchmarking approach is not a reliable basis for the determination of efficiency targets for IW.

In the context of our cost drivers and level of maturity, we are confident that our RC3 submission sets very challenging performance goals. We would welcome engagement with the CRU at an early stage in the process in order to review our analysis and the basis for setting RC3 efficiency targets.
RC3 Weighted Average Cost of Capital (WACC)
RC3 Weighted Average Cost of Capital (WACC)

IW commissioned Frontier Economics to carry out an independent study to estimate the WACC of IW’s business for RC3. In line with regulatory precedent, the approach is based on the Capital Asset Pricing Model. Frontier has maintained consistency with regulatory best practice and recent regulatory precedent in Ireland and the UK. Frontier has given particular weight to the CRU’s recent decisions in relation to ESBN and GNI, given limited movement in key WACC parameters since the ESBN decision. The table below outlines the proposed range and recommended point estimate for the components of the WACC.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Low Range</th>
<th>High range</th>
<th>Point Estimate</th>
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<tbody>
<tr>
<td>Gearing</td>
<td>45%</td>
<td>62.5%</td>
<td>55%</td>
</tr>
<tr>
<td>Reference bond rate</td>
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<tr>
<td>Debt premium</td>
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<td>Risk free rate</td>
<td>1.75%</td>
<td>2.00%</td>
<td>1.90%</td>
</tr>
<tr>
<td>Equity risk premium</td>
<td>4.75%</td>
<td>4.75%</td>
<td>4.75%</td>
</tr>
<tr>
<td>Asset beta</td>
<td>0.33</td>
<td>0.39</td>
<td>0.39</td>
</tr>
<tr>
<td>Equity beta</td>
<td>0.60</td>
<td>1.04</td>
<td>0.87</td>
</tr>
<tr>
<td>Cost of equity (post-tax)</td>
<td>4.60%</td>
<td>6.94%</td>
<td>6.02%</td>
</tr>
<tr>
<td>Corporate tax</td>
<td>12.5%</td>
<td>12.5%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Cost of equity (pre-tax)</td>
<td>5.26%</td>
<td>7.93%</td>
<td>6.88%</td>
</tr>
<tr>
<td>WACC pre-tax</td>
<td>4.02%</td>
<td>4.74%</td>
<td>4.65%</td>
</tr>
</tbody>
</table>

Table E.5 – Overview of WACC parameters – Frontier Economics estimates

Note: These numbers are subject to change with market rates.

While the Point Estimate, from a headline perspective, may appear higher than recent UK determinations, it should be noted that these rates are not comparable to the UK in that UK real returns are linked to RPI\(^8\) (which is structurally higher than HICP) and are published on a Vanilla rather than Pre-Tax basis.

Further justification for higher real rates in Ireland can be warranted on the basis of lower Irish inflation. IW’s cost of debt will be impacted by European nominal rates, based on European inflation. IW’s debt allowance is derived from a real cost of debt indexed for Irish inflation. Where Irish inflation remains at subdued levels, IW carries

\(^8\) The office of National Statistics in the UK views RPI to be an imperfect inflation metric in that it is viewed to overstate UK inflation due to formula effects and the inclusion of house prices. To allow for this overstatement, the UK Regulators have looked to adjust downward real WACCs.
the risk of being inadequately remunerated for its nominal cost of debt which is guided by European inflation.

While IW does not intend to seek a credit rating in the immediate term, the proposed WACC would support an investment grade rating.

The full Frontier Economics report is attached as part of our detailed submission.
5 Depreciation Policy
Depreciation Policy

The current asset life and depreciation policy for IW was developed by the CRU in 2014 and allocates capital expenditure to specified asset categories and lives based on predefined proportions. IW understood that the CRU policy was a temporary solution to the lack of available data on IW’s asset portfolio at that time.

Detailed analysis of IW’s Investment Plan is now possible, which suggests that the current approach is out of line with the actual useful economic lives of the assets in IW’s regulated asset base (RAB).

Following engagement on this matter with the CRU, Irish Water has undertaken a review with the aim of identifying a more appropriate solution based on the actual asset mix and the necessary cash inflow to fund the investment.

We have identified two high level options:

- an amendment of the current approach - we are proposing that this be applied to the continued depreciation of the opening RAB and RAB additions over IRC1 and IRC2; and
- a new approach related to the nature of the assets, and similar to that applied in the Irish energy sector - we are proposing that this be applied to future RAB additions from RC3.

Our proposals are in line with precedent in other jurisdictions and are set out in full in an accompanying submission document.
Conclusion
Conclusion

IW was established in 2014 to take on the challenge of reforming how Ireland's water and wastewater services are delivered. Over the course of IRC1 and IRC2 much progress has been made. Our investment to date has delivered real benefits to our customers, including the removal of long-term Boil Water Notices for over 20,000 people and the completion of work at 144 supplies on the EPA's remedial action list.

We are now moving into the first full five year regulatory cycle. In developing the RC3 Investment Plan we have refined our approach, building on lessons learned in IRC1 and IRC2. We have conducted a two stage consultation approach to hear the views of our stakeholders and inform our RC3 submission. Investment decisions are now optimised across our entire portfolio to ensure that we deliver the best possible service improvements, while maximising value-for-money. The RC3 programme of c.€5.2bn capital investment, across network and non-network assets, is guided by the overall framework provided by the WSPS and WSSP. Its delivery will be a key enabler of national policy objectives for water and wastewater services across the three key themes of Quality, Conservation, and Future Proofing.

IW's portfolio of operational assets is extensive, spanning thousands of treatment plants and a combined c.88,000kms of underground pipe network across water and wastewater. During IRC2 we have delivered c. €90m in Opex savings, peaking at 7% (year-on-year) in 2017 and slowing to 4% in 2018 and 2019 as the scope for efficiency in core operations reduced. As work delivered through LA partnership accounts for the large majority of IW's operational costs, deeper, sustainable efficiency levels can only be generated through successful implementation of industry transformation.

IW has designed the framework for this transformation through a single public utility model. This will deliver both substantial savings and, importantly, enable better delivery of water services countrywide through a standardised approach. The timeline for implementation of the single public utility is the single most important dependency underpinning IW's delivery of efficiency in RC3 and is reliant on agreement with external stakeholders. If the single public utility programme does not proceed at the pace required to deliver the RC3 targets, IW will engage with the CRU to set out the expected impact on both expenditure profiling and efficiency delivery.

While IW maintains a rigorous focus on cost efficiency, there are some areas where additional expenditure must be incurred. These primarily relate to the additional operation and maintenance costs of new assets; policy and legislative drivers; external market drivers; wider economic growth; and severe weather events such as those experienced in IRC2. Despite these pressures, IW is projecting a net reduction in Controllable Opex over the RC3 period from €690m in 2020, to €672m in 2024.

IW's RC3 submission represents our best view of efficient costs from 2020 to 2024. Future events may emerge that may have a material impact on our cost base, capital requirements or investment priorities, such as Government or EU policy changes. IW will work within the regulatory framework to manage such issues on a case by case basis. For example, while the organisational structure of the utility will be continuously reviewed and optimised for the delivery of services into the future, cost estimates have not yet been included for the implementation of Government policy in relation to the
separation of IW from Ervia. IW will engage with the CRU and the DHPLG to address the impacts of this change as planning progresses.

As the first full revenue control, and the period during which we will transition to a single public utility, RC3 is an important milestone for IW. We are confident that our submission sets challenging cost and performance targets, will meet the national policy objectives set out in the WSPS, and will deliver clear, quantifiable service improvements for our customers nationwide.
Irish Water Revenue Control 3 (2020-2024) Executive Summary