



An Coimisiún
um Rialáil Fóntais
**Commission for
Regulation of Utilities**

An Coimisiún um Rialáil Fóntais
Commission for Regulation of Utilities

Uisce Éireann Capital Investment Plan 2020 to 2024 Monitoring Report No. 2

Information Paper

Reference:	CRU202339	Date Published:	23/06/2023	Closing Date:	N/A
------------	-----------	-----------------	------------	---------------	-----

CRU Strategic Plan 2022-24

Our Mission

- Protecting the public interest in water, energy and energy safety.

Our Vision

- Safe, secure and sustainable supplies of energy and water, for the benefit of customer now and in the future

Our Strategic Priorities

- Ensure Security of Supply
- Drive a Low Carbon Future
- Empower and Protect Customers
- Enable our People and Organisational Capacity

Executive Summary

The CRU is the regulator of Uisce Éireann as the national utility for the provision of public water and wastewater services. The CRU's role is to protect the interests of water and wastewater customers, ensure the delivery of water services in a safe, secure and sustainable manner and ensure that Uisce Éireann operates in an economic and efficient manner.

The CRU is responsible for setting the level of revenue that Uisce Éireann can receive, through various charges approved under the Water Charges Plan (new connections, non-domestic tariffs, etc) and also via the Government subvention. The CRU does this by reviewing Uisce Éireann's submissions, engaging with the utility, benchmarking its proposed costs against comparator companies, completing a public consultation process and setting appropriate revenue allowances for operational costs, capital costs and other items. This process is known as a revenue control. The current revenue control, Revenue Control 3 (RC3) runs from the period 2020 to 2024.

In August 2020, the Commission for Regulation of Utilities, (CRU) approved Uisce Éireann's Capital Investment Plan for the years 2020 – 2024 inclusive¹ under the CRU's Revenue Control 3 (RC3) process and decision. This decision set out the total revenue allowance approved by the CRU, to enable Uisce Éireann to efficiently meet and deliver its capital investment commitments and operational expenditure requirements across the five-year period. The RC3 decision followed a detailed assessment and engagement of submissions made by Uisce Éireann of its business plans for the five-year period.

The CRU RC3 decision allocated Uisce Éireann €4,523m (2017 monies) in revenue for capital expenditure (capex) over the period to deliver a defined set of Outputs and Outcomes. For 2021 there was an RC3 capital investment allowance of €844m (2017 monies). The CRU's monitoring report on Uisce Éireann's Capital Investment Plan, shows that Uisce Éireann actually invested €797m of this allowance into water and wastewater infrastructure in 2021. Given the significant level of public investment that Uisce Éireann is responsible for, it is vital that Uisce Éireann can demonstrate progress made in delivering against the agreed investment targets.

As part of the RC3 process, the CRU monitors and publishes Uisce Éireann's performance against its Capital Investment Plan, Performance Assessment Framework and Customer Handbook obligations.

Uisce Éireann develops its capital Investment Plan (IP), for water and wastewater asset

¹ [CRU20085 Update to Uisce Éireann's Revenue Control 3 \(RC3.5\) – Uisce Éireann's Updated Capital Investment Plan](#)

development and maintenance, across a five-year revenue control period. Following the review and decision by the CRU, Uisce Éireann is fully responsible for the subsequent implementation and delivery of its investment plan.

This information paper is the CRU's detailed report on Uisce Éireann's annual progress in delivering against its RC3 Investment Plan for 2021 (calendar year) and is the second Investment Plan monitoring report published by CRU under RC3.

The CRU's Investment Plan Monitoring reports reflect a review following receipt of comprehensive data submission provided by Uisce Éireann for 2021. In addition to this report, the CRU is also publishing two documents from Uisce Éireann that provide supplementary information (CRU202339a and CRU202339b). These additional documents provide Uisce Éireann's view of the key challenges driving changes to its IP over the first two years of RC3. While the CRU has noted these documents in its 2021 report they do not provide the basis for modification to the approved IP under RC3 against which Uisce Éireann will be assessed in RC3 lookback process.

Progress during 2021 (Year 2 of RC3)

Table 1 sets out Uisce Éireann's progress against the agreed RC3 Outputs and Outcomes in 2020 and 2021 and gives the cumulative progress to date. Overall Uisce Éireann has made some progress against the RC3 targets and had fully achieved three of the 14 outcomes by December 2021. Specifically, the utility has made progress in the following categories:

1. New Water Treatment Plant Capacity
2. Number of reservoirs upgraded
3. Rehabilitated or lined mains².
4. Reduction in the number of properties with risk of Microbiological non-compliance
5. Number of Lead Services Replaced
6. Additional Water Supply capacity
7. Wastewater treatment works compliant with Urban Wastewater Treatment Directive (Population Equivalent)
8. Number of Wastewater Treatment Plants compliant

² Additional funding amounting to €100m (2017 monies) was released to Uisce Éireann in 2023 to deliver an additional 220km of mains. As such this metric will be updated in the final lookback at the end of the revenue control period to reflect this.

Uisce Éireann has indicated to the CRU that, as of end 2021, it may not be able to meet nine of the RC3 Outputs & Outcomes (coloured in amber in Table 1) by end 2024 (see CRU202339b for further details). These are as follows:

1. Number of new Treatment plants (water and wastewater)
2. Number of Existing Treatment Plants Upgraded
3. Wastewater Treatment Plant Capacity (total population equivalent)
4. New watermains (km)
5. New sewers (km)
6. Rehabilitated sewer (km)
7. Number of agglomerations removed from EPA's Priority Urban Area Action List
8. Number of Agglomerations in the ECJ Urban Wastewater Treatment Directives
9. Additional Wastewater Treatment Capacity (Population Equivalent)

Table 1 Outputs and Outcomes – RC 3

Irish Water's Outputs & Outcomes - RC3						
Outputs	Unit	RC3 2024 Goal	2020 Achieved	2021 Achieved	Cumulative	% complete overall
Number of new Treatment Plants (water and wastewater)	No.	29	4	5	9	31%
Number of Existing Treatment Plants Upgraded	No.	89	8	16	24	27%
Water Treatment Plant Capacity (Total ML/day) (i.e. total capacity from new/existing plants which have added capacity during RC3)	ML/day	625	247	249	496	79%
Wastewater Treatment Plant Capacity (Total Population equivalent)	PE	3,070,158	25,020	528,506	553,526	18%
Number of Reservoirs Upgraded	No.	132	33	44	77	58%
New Watermains (km)	km	496	47	63	110	22%
Rehabilitated or lined mains (km)	km	511	131	178	309	60%
Meters installed	No.	50,815	7,144	17,903	25,047	49%
New Sewers (km)	km	241	32	8	40	17%
Rehabilitated Sewer (km)	km	342	10	18	28	8%
Outcomes						
Number of Water Treatment Plants with Ortho-phosphate Dosing	No.	27	6	2	8	30%
Number of Water Supplies removed from the EPA's RAL	No.	48	11	16	27	56%
Reduction in the number of properties with risk of Microbiological Non Compliance	No.	563,093	320,336	27,515	347,851	62%
Reduction in the Number of properties with risk of THM Non Compliance	No.	133,465	31,750	1,939	33,689	25%
Number of Lead Services replaced	No.	13,231	2,982	5,418	8,400	63%
Leakage Reduction (ML/day)	ML/day	176	38	41	79	45%
Additional Water Supply Capacity (ML/day) (i.e. additional capacity added during RC3)	ML/day	46	17	17	34	73%
Number of agglomerations removed from EPA's Priority Urban Area Action List	No.	75	11	19	30	40%
Wastewater treatment works compliant with Urban Waste Water Treatment Directive (Population Equivalent)	PE	314,656	2,016	312,640	314,656	100%
Number of Wastewater Treatment Plants overloaded serving >2000 population	No.	1	1	0	1	100%
Number of Wastewater Treatment Plants overloaded serving <2000 population	No.	1	0	1	1	100%
Number of Agglomerations in the ECJ Urban Waste Water Treatment Directives	No.	13	0	0	0	0%
Additional Wastewater Treatment Capacity (Population Equivalent)	PE	770,751	16,540	87,268	103,808	13%
Number of Wastewater Treatment Plants compliant - EPA discharge increase ELVs	No.	8	3	2	5	63%

Table 1 Uisce Éireann's progress up to end 2021

The CRU notes that RC3 is Uisce Éireann's first five-year revenue control, and by year two some projects and programmes have progressed at a faster rate than others, whilst other projects and programmes may be planned for the latter part of the RC3 period. While Uisce Éireann operates under an allowable revenue framework spread across a five-year period, it is important that as Uisce Éireann progresses through the RC3 reporting period, it can:

- demonstrate and explain its overall prioritisation process or,
- its approach and criteria for determining when and where investment decisions are rebalanced, where investments are delayed or deferred,

- and the rational for the selection of fast-tracking target delivery for certain investment decisions and how these will deliver value for customers.

The CRU is disappointed that the areas that have not progressed represent a sizable minority of the deliverables set for RC3 and it is noteworthy that these delays relate particularly to the treatment of wastewater. The CRU is concerned that Uisce Éireann does not anticipate it will be able to deliver against the RC3 targets by 2024 for nine key areas. In its submission to the CRU, Uisce Éireann stated that it expected these areas of under delivery to be *counterbalanced* by either meeting or outperforming in the remaining targets by the end of RC3.

The CRU notes that meeting an RC3 targets is the minimum expected of Uisce Éireann and that while any performance in excess of an RC3 target is to be welcomed, it must not come at the expense of other targets, providing asymmetric outcomes for customers. The issues called out regarding planning and statutory approvals are known challenges in the delivery of these capital projects and should be factored in by the utility at the outset. Furthermore, it is important that Uisce Éireann can demonstrate how it is continually improving its own internal processes based on lessons learnt across the first two years of RC3 as well as the learnings and subsequent changes brought about from the Scottish Water International³ review. The focus of the regulatory review is not just to assess economic efficiency in the utility's expenditure but to incentivise it in delivering tangible benefits to customers. The CRU will review Uisce Éireann's total capital spend at the end of RC3 and determine whether these funds were invested efficiently and whether any reprioritisation of the RC3 Outputs and Outcomes was warranted.

Data Quality and Reporting

In addition to the delivery issues outlined above, the CRU also notes significant issues with the timing and quality of the data submission with respect to the 2021 IP. Accurate and up to date information regarding RC3 programmes and projects is key to monitoring of Uisce Éireann's capital investment delivery and performance. The CRU had to engage with Uisce Éireann on its 2021 data submission to resolve errors that were identified by the CRU. This was also the case in 2020. The annual IP regulatory submission is an Uisce Éireann Board approved document and must be submitted with the appropriate level of quality assurance checks. The CRU understands that Uisce Éireann has now implemented a more stringent quality control process for the 2022 IP submission which is due for submission in June 2023 as per the CRU IP guidance issued to Uisce Éireann.

³ Uisce Éireann Revenue Control 3 (2020 – 2024) – Scottish Water International Review
<https://www.cru.ie/publications/26299/>

Next Steps

The CRU will continue to monitor investment delivery on a cumulative basis to the end of 2024, which will conclude the RC3 period. The CRU has issued a Request for Information to Uisce Éireann seeking outturn data for full year 2022 as per section 43 of Water Services (No. 2) Act 2013. As part of this Request for Information, Uisce Éireann will also be required to provide full-year actual spend figures for 2022 which will be updated as part of the Uisce Éireann Capital Investment Plan 2020 to 2024 Monitoring Report No. 3. Any supplementary information should not just reflect the outcome for 2022 but identify trends, including any particular challenges and drivers of change.

Overall, the CRU is concerned with the percentage level of expected underachievement for investments that are projected to not meet their targets within the RC3 period and has requested Uisce Éireann to provide an update on measures it will take to meet the agreed targets for those investments by 2024 – this should be provided with its 2022 IP report. In parallel, the CRU will consider the findings of the review of the implementation of the Scottish Water International recommendations and assess the impact on IP delivery.

In addition, the CRU requests sight of Uisce Éireann's new quality assurance process for reporting on the Investment Plan approval, prior to submission to the CRU in June 2023.

Subject to timely submission of the 2022 IP by Uisce Éireann, the CRU will publish its 2023 IP monitoring report in Q4 2023.

Public Impact Statement

This monitoring report provides an overview of some of the investments in water and wastewater infrastructure completed by Uisce Éireann in 2021. Ongoing monitoring and reporting help to ensure that Uisce Éireann performs in an open and transparent manner and keeps the public, and other key stakeholders, informed of Uisce Éireann's performance.

Investment in new and upgraded water and wastewater infrastructure is necessary to limit or prevent the occurrence of material incidents that directly impact end-users such as Boil Water Notices or interruptions to supplies. This report tracks Uisce Éireann's progress against the agreed targets under its RC3 Investment Plan and is published on an annual basis. Additionally, this monitoring report is designed to ensure that Uisce Éireann provides value for money given the significant sums of public funding that it receives.

This report is part of the CRU's water monitoring framework which helps to incentivise Uisce Éireann to deliver its expected outputs and outcomes on time and in budget. This monitoring also supports the CRU in making evidence-based decisions.

Table of Contents

Our Mission	i
Our Strategic Priorities	i
Our Vision	i
Executive Summary	ii
Public Impact Statement	viii
Table of Contents	ix
1. Introduction	1
1.1 RC3 Background.....	1
1.2 Monitoring Change	3
1.3 Related Documents	4
2. Capital Investment 2020 and 2021.....	5
2.1 Overview.....	5
2.2 Outputs and Outcomes	7
2.2.1 Uisce Éireann’s 2021 Nominated Outputs and Outcomes	7
2.2.2 Water Treatment Upgrades.....	9
2.2.3 The EPA’s Remedial Action List.....	10
2.2.4 Lead Mitigation Programme	11
2.2.5 Mains Replacement	12
2.2.6 Leakage	12
2.2.7 ECJ Urban Waste Water Treatment Directive Infringement Case.....	15
2.3 Major Projects	15
3. Summary	16
4. Next Steps.....	17
Appendix A	18

1. Introduction

The CRU is Ireland's independent energy and water services regulator. Established in 1999, the CRU has a wide range of statutory economic, customer protection, and safety responsibilities in energy and water.

The CRU is the regulator of Uisce Éireann as the national utility for the provision of public water and wastewater services. The CRU's role is to protect the interests of water and wastewater customers, ensure the delivery of water services in a safe, secure, and sustainable manner and ensure that Uisce Éireann operates in an economic and efficient manner.

1.1 RC3 Background

The CRU is responsible for setting the level of revenue that Uisce Éireann can receive, through Government subvention and various charges (new connections, non-domestic tariffs, etc.) to cover its efficiently incurred costs. The CRU does this by reviewing Uisce Éireann's submissions, engaging with the utility, benchmarking its proposed costs against comparator utilities, completing a public consultation process, and setting appropriate revenue allowances for operation costs (opex), capital costs (capex) and other items (e.g., uncontrollable expenditure). This process is known as a Revenue Control.

The current revenue control, Revenue Control 3 (RC3) runs from the period 2020 to 2024. Under RC3, CRU agrees a series of outcomes that Uisce Éireann are required to deliver over the five years. Tied to these outcomes are an extensive and detailed set of outputs, covering projects and programmes across water and wastewater, that the CRU will monitor and hold Uisce Éireann accountable for delivery.

- Outcomes are the things that serve customers and society values, e.g., clean drinking water.
- Outputs are specific things that the Uisce Éireann is required to deliver to (help to) achieve those outcomes, e.g., building new water treatment plants.
- Inputs are the resources that Uisce Éireann will require to deliver those outputs.

During each revenue control period, the CRU monitors Uisce Éireann's performance and delivery against the RC 3 requirements. This includes monitoring Uisce Éireann's compliance with the CRU's Customer Handbook, monitoring Uisce Éireann's delivery of its Investment Plan and assessing Uisce Éireann's performance against the metrics set out under the Performance Assessment Framework. The CRU reports on Uisce Éireann's delivery and performance based on

the findings of its monitoring activities.

In that context, Uisce Éireann makes submissions to the CRU outlining its view of what outputs and outcomes it intends to deliver and what revenues it requires to achieve this delivery during a revenue control period. The CRU reviews these submissions and determines the amount of money that Uisce Éireann can recover in each revenue control period. This allows Uisce Éireann to fund necessary costs and is the basis for setting the non-domestic and connection charges. This revenue allowance includes the money Uisce Éireann needs to deliver its Investment Plan (referred to as capital expenditure or capex).

Uisce Éireann's Investment Plan sets out the capital projects and programmes that it plans to progress and deliver during the period of each revenue control. The Investment Plan sets out the clearly defined outputs and outcomes to be delivered and are integral to maintaining and upgrading water and wastewater assets, improving quality and compliance, providing enhanced service levels to customers and facilitating economic and social growth.

Uisce Éireann's Investment Plans contain a mix of:

- Projects - These deliver new and upgraded assets at specific locations e.g., a new treatment plant.
- National programmes - These programmes address known issues across the entire asset base e.g., the Disinfection Programme.
- Capital maintenance programmes - These are planned and reactive e.g., like-for-like replacements of assets such as repairs on a burst main.

The nature of project and programme planning, and the time required to deliver projects from start to finish means that Investment Plans are a mix of:

1. projects and programmes that have already started, and
2. new projects that will start during the period of the Investment Plan (and which may run into future revenue control periods).

Some projects and programmes will finish during the period while others will carry over into the next Investment Plan cycle.

In August 2020, the CRU published its decision⁴ on the amount of money Uisce Éireann could

⁴ [CRU20085 Update to Uisce Éireann's Revenue Control 3 \(RC3.5\) – Uisce Éireann's Updated Capital Investment Plan](#)

invest in the years 2020 to 2024 inclusive and the outputs and outcomes that it must achieve for that expenditure. This included funds to progress and deliver the projects and programmes in Uisce Éireann's 2020 to 2024 Investment Plan (i.e., RC3). The total capital expenditure allocated to Uisce Éireann over the RC3 period amounts to €4,523m (in 2017 monies).

Uisce Éireann's delivery of its investment plans (as approved by the CRU) is monitored yearly during each revenue control period. The first report for RC3 (covering the year 2020) was published in March 2022 and can be found [here](#). Previously published monitoring reports, published as part of prior revenue control periods, can be found [here](#).

This report provides an overview of Uisce Éireann's progression and delivery of the second year of its RC3 Investment Plan up to the end of 2021, which follows on from the 2020 Monitoring Report⁵. As such, Investment Plans are rolling plans that continue into new periods. Projects that were completed in 2021 fall away and new projects that begin in 2021 or later are included. However, given the multi-year nature of many infrastructure projects, this plan contains many of the same projects and programmes.

1.2 Monitoring Change

In its RC3 decision made in August 2020 (CRU20085), the CRU published the findings of the Scottish Water International review of Uisce Éireann's capital planning and investment processes. This review followed on from issues identified with Irish Waters RC3 Investment Plan submissions for RC3. One of the recommendations in the report was for a change control process for the Investment Plan. The CRU wrote⁶ to Uisce Éireann in July 2021 setting out how the existing economic regulatory framework and RC3 decision could be leveraged to support the key aim of the change control process, i.e., to provide greater visibility of Uisce Éireann's changes to the Investment Plan and the drivers behind this reprioritisation. The CRU proposed an enhanced CRU Investment Plan monitoring regime which would note Uisce Éireann's (re)prioritisation process previously approved by the CRU in the RC3 decision. Uisce Éireann's 2020 and 2021 submissions regarding drivers for change in its investment plan are published alongside this report as CRU202339a and CRU202339b.

⁵ [CRU202231 Irish Water Capital Investment Plan 2020 to 2024 Monitoring Report No. 1](#)

⁶ [CRU202231a CRU Letter to Uisce Éireann Re RC3 Decision Implementation Investment Plan Change Control Process](#)

1.3 Related Documents

- [Update to Uisce Éireann's Revenue Control 3 \(RC3.5\) – Uisce Éireann's Updated Capital Investment Plan](#)
- [Uisce Éireann Capital Investment Plan 2020 to 2024 Monitoring Report No. 1](#)
- [Uisce Éireann Revenue Control 3 \(2020 – 2024\) – Scottish Water International Review](#)
- [Uisce Éireann Performance Assessment 2020 to 2024 Metric Review and Target Setting](#)

Information on the CRU's role and relevant legislation can be found on the CRU's website at www.cru.ie.

2. Capital Investment 2020 and 2021

2.1 Overview

In its Revenue Control 3 (RC3) decision, the CRU allowed Uisce Éireann a capital expenditure (capex) of €4,523m (2017 monies) across the five years of RC3. As the previous 2020 IP monitoring report contained six months of actual data, and six months of forecast data, this report presents updated data and graphs showing full-year outturn 2020 data as well as full-year outturn data for 2021. Consequently, some 2020 values that were previously presented in the 2020 Investment Plan Monitoring report have since been updated.

Figure 1 below includes the updated 2020 total capex actual spend (€811m in 2017 monies) which is broadly in line with what was reported previously. During 2021, Uisce Éireann invested €797m (2017 monies) in capital expansion and upgrade across the various asset classes. Note that in order to allow for comparison between the CRU's allowed spend (as set out in the CRU's RC3 decision paper⁷) and actual spend, the CRU monitors annual capital expenditure in a baseline of 2017 monies. **Figure 1** also shows the differences in where the funds were invested, separately across 2020 and 2021. It also shows the variation between what Uisce Éireann had planned to invest across the different asset categories versus actual out-turn investment. These differences can arise due to reprioritisation of the Investment Plan for various reasons. In 2021, the chart shows that Uisce Éireann deviated from its planned investment by spending more on 'Below Ground'⁸ infrastructure (both water and wastewater) and 'Other' categories while it underspent on 'Above Ground' infrastructure (both water and wastewater).

⁷ [CRU20085 Update to Uisce Éireann's Revenue Control 3 \(RC3.5\) – Uisce Éireann's Updated Capital Investment Plan](#)

⁸ Examples of Above Ground infrastructure include surface treatment plants (water and wastewater - either new or upgraded), reservoirs and pumping stations. Examples of Below Ground infrastructure include mains rehabilitation, installation of culverts, rising mains and trunk mains.

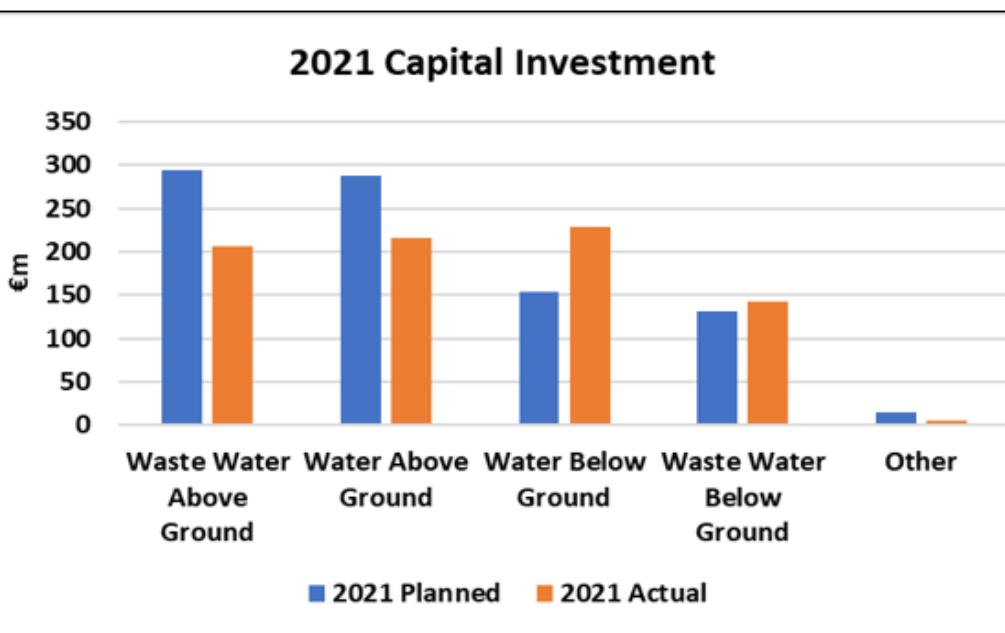
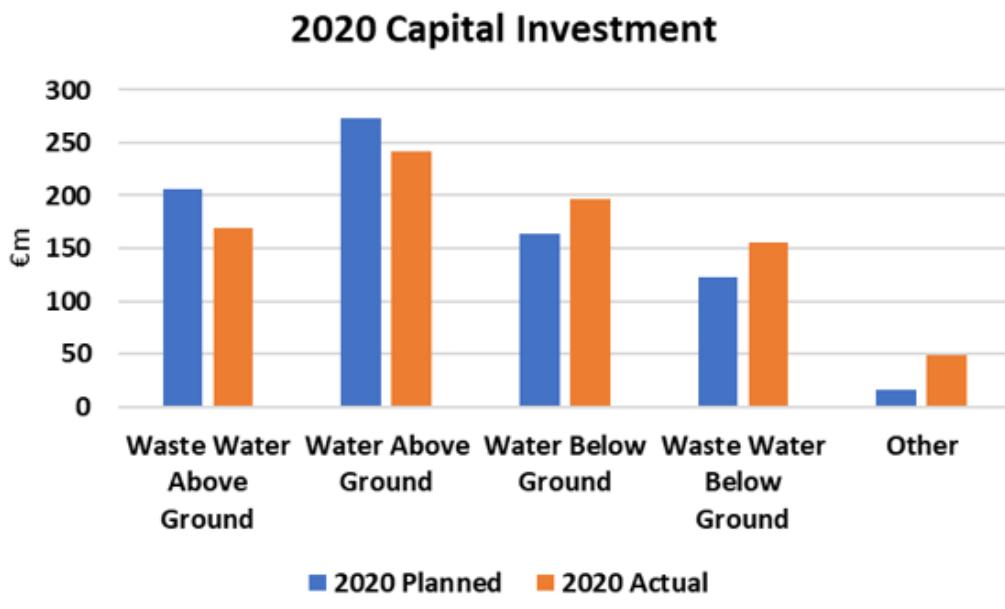


Figure 1 2020 and 2021 Capital Expenditure – planned vs actual.

2.2 Outputs and Outcomes

Most of the funds Uisce Éireann invested in 2021 went to progress projects and programmes that won't be completed until after 2021. Nonetheless, work continues at hundreds of sites across the country to deliver ongoing improvements in service, and compliance, to protect the environment and to facilitate population and economic growth. Some of the headline areas of delivery are elaborated further below.

2.2.1 Uisce Éireann's 2021 Nominated Outputs and Outcomes

As part of the RC3 Investment Planning process, Uisce Éireann provided a comprehensive list of capital projects and programmes that it intends to deliver across the RC3 period. These projects and programmes were selected to achieve a range of outputs and outcomes while some will deliver on more than one output and/or outcome. A summary of the outputs and outcomes that Uisce Éireann has committed to achieve over the RC3 period (and their progress as of December 2021) are shown below in Table 2.

Irish Water's Outputs & Outcomes - RC3						
Outputs	Unit	RC3 2024 Goal	2020 Achieved	2021 Achieved	Cumulative	% complete overall
Number of new Treatment Plants (water and wastewater)	No.	29	4	5	9	31%
Number of Existing Treatment Plants Upgraded	No.	89	8	16	24	27%
Water Treatment Plant Capacity (Total ML/day) (i.e. total capacity from new/existing plants which have added capacity during RC3)	ML/day	625	247	249	496	79%
Wastewater Treatment Plant Capacity (Total Population equivalent)	PE	3,070,158	25,020	528,506	553,526	18%
Number of Reservoirs Upgraded	No.	132	33	44	77	58%
New Watermains (km)	km	496	47	63	110	22%
Rehabilitated or lined mains (km)	km	511	131	178	309	60%
Meters installed	No.	50,815	7,144	17,903	25,047	49%
New Sewers (km)	km	241	32	8	40	17%
Rehabilitated Sewer (km)	km	342	10	18	28	8%
Outcomes						
Number of Water Treatment Plants with Ortho-phosphate Dosing	No.	27	6	2	8	30%
Number of Water Supplies removed from the EPA's RAL	No.	48	11	16	27	56%
Reduction in the number of properties with risk of Microbiological Non Compliance	No.	563,093	320,336	27,515	347,851	62%
Reduction in the Number of properties with risk of THM Non Compliance	No.	133,465	31,750	1,939	33,689	25%
Number of Lead Services replaced	No.	13,231	2,982	5,418	8,400	63%
Leakage Reduction (ML/day)	ML/day	176	38	41	79	45%
Additional Water Supply Capacity (ML/day) (i.e. additional capacity added during RC3)	ML/day	46	17	17	34	73%
Number of agglomerations removed from EPA's Priority Urban Area Action List	No.	75	11	19	30	40%
Wastewater treatment works compliant with Urban Waste Water Treatment Directive (Population Equivalent)	PE	314,656	2,016	312,640	314,656	100%
Number of Wastewater Treatment Plants overloaded serving >2000 population	No.	1	1	0	1	100%
Number of Wastewater Treatment Plants overloaded serving <2000 population	No.	1	0	1	1	100%
Number of Agglomerations in the ECJ Urban Waste Water Treatment Directives	No.	13	0	0	0	0%
Additional Wastewater Treatment Capacity (Population Equivalent)	PE	770,751	16,540	87,268	103,808	13%
Number of Wastewater Treatment Plants compliant - EPA discharge increase ELVs	No.	8	3	2	5	63%

Table 2 - Uisce Éireann's Nominated Outputs and Outcomes, including RC3 targets, progress up to 2021 and % completion.

Overall Uisce Éireann continues to make progress against its RC3 targets, of particular note is full compliance with three of the 14 outcomes by December 2021. Furthermore, Uisce Éireann has achieved progress towards completion in four outputs and seven outcomes. Specifically, the utility has made progress in the following areas:

- New Water Treatment Plant Capacity
- Number of Reservoirs Upgraded
- Rehabilitated or lined mains.

- Reduction in the number of properties with risk of Microbiological non-compliance
- Number of lead services replaced
- Additional water supply capacity
- Number of wastewater treatment plants compliant – EPA discharge increase ELVs

The CRU notes that as RC3 is due to conclude in December 2024, Uisce Éireann still has remaining time to progress, accelerate or prioritise areas of investment set out under RC3. However, in its 2021 supplementary submission (see CRU202339b), Uisce Éireann has indicated to the CRU that it may not be able to meet nine of the RC3 targets (coloured in amber in Table 2) as follows:

- Number of new Treatment Plants (water and wastewater)
- Number of Existing Treatment Plants Upgraded
- Wastewater Treatment Plant Capacity (total population equivalent)
- New watermains (km)
- New sewers (km)
- Rehabilitated sewer (km)
- Number of agglomerations removed from EPA's Priority Urban Area Action List
- Number of Agglomerations in the ECJ Urban Wastewater Treatment Directives
- Additional Wastewater Treatment Capacity (Population Equivalent)

The CRU is concerned at the large number of outputs and outcomes that Uisce Éireann believes it will not meet by 2024. Additionally, similar metrics in the 2021 Performance Assessment Framework (CRU202340) are also not on track to be delivered in RC3 and as such the CRU will prioritise these spend areas for further investigation as part of the RC3 lookback.

Some of these targets are examined in more detail below.

2.2.2 Water Treatment Upgrades

Uisce Éireann has been addressing known deficiencies across its water treatment sites to help ensure that the water it produces is safe to drink. This has included upgrading and standardising treatment processes at hundreds of sites across the country to remove contaminants and disinfect the water. During RC3, Uisce Éireann has committed to a total water treatment plant capacity

increase of 625 ML/D, both from new capacity and capacity added from existing plants, by the end of 2024. Uisce Éireann has made significant progress against this target, delivering 249ML/D in 2021. This brings the total to 496ML/D by the end of the second year of RC3.

During 2021 Uisce Éireann upgraded the CFC and Filtration process at 15 sites through its CFC and Filtration national programme, building on the work carried out across previous Interim Revenue Control phases 1 and 2⁹. These processes help to remove suspended solids, some heavy metals and organics and ultimately produce clearer water. Additionally, Uisce Éireann's disinfection programme addressed deficits at 40 separate sites throughout 2021.

2.2.3 The EPA's Remedial Action List

The EPA's Remedial Action List (RAL) includes public water supplies where water quality issues have arisen because of the performance of a water treatment plant. Supplies are added to the RAL when the EPA deems there to be a treatment deficiency, or operational/management issues that may result in persistent failures of key water quality parameters, for example, *E. coli*, trihalomethanes (THMs) and *Cryptosporidium*. Supplies may be added to the RAL because of EPA audits, notifications of exceedances, or information gathered from Uisce Éireann itself or the Health Service Executive (HSE). The RAL is a dynamic list of public water supplies requiring action to improve performance to ensure that water supplies continue to be safe to drink and are also secure in the future. For RC3, Uisce Éireann has a target to remove 48 supplies from the RAL.

During 2021, 22 supplies were added to the RAL while 16 supplies were removed¹⁰. At the end of 2021, there were 52 supplies remaining on the RAL which reversed a downward trend since 2017 (Figure 2). This is an increase of six supplies from the final 2020 figure of 46, although the overall population served has reduced. However, the EPA noted in their 2021 Drinking Water Quality report that these include significant supplies such as Cork City Water Supply (97,176) and Wexford Town (22,300)¹¹.

The CRU is concerned with the reversal of the trend and urge Uisce Éireann to undertake proactive measures to prevent deterioration of supplies such that they do not get added to the RAL. The CRU will continue to review these figures annually in the context of the overall number of supplies on the RAL.

⁹ The CRU previously carried out two Interim Revenue Controls (IRC) prior to RC3. IRC1 ran from Q4 2014 to end 2016, while IRC 2 covered beginning 2017 to end 2019. RC3 began in January 2020.

¹⁰ For more information, please see the EPAs website [here](#).

¹¹ [Drinking Water Quality in Public Supplies 2021](#)

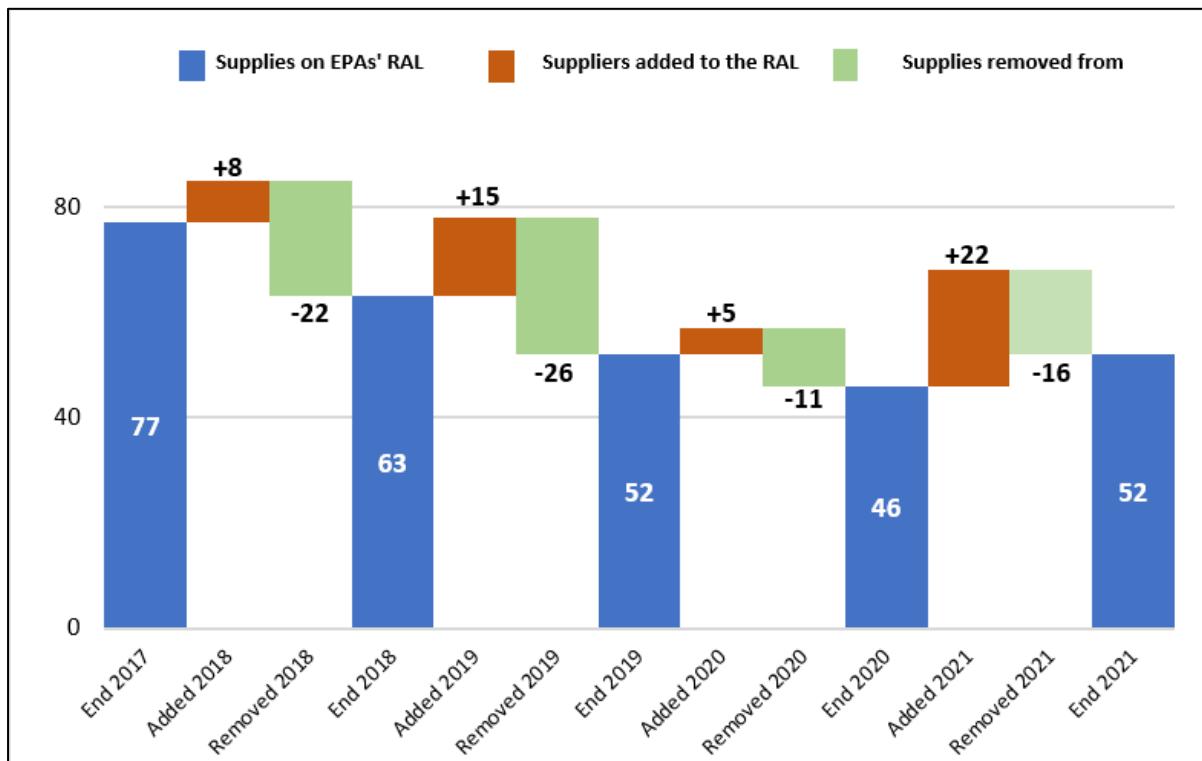


Figure 2 - Supplies on the EPA's RAL

2.2.4 Lead Mitigation Programme

In its RC3 Investment Plan, Uisce Éireann had targeted replacing 13,231 lead service connections (both individual and shared) by the end of 2024.

During 2021 Uisce Éireann replaced 1,452 backyard (shared) lead services compared to 1,597 in 2020. In 2021 Uisce Éireann replaced 3,966 individual lead services compared with a figure of 1,385 in the previous year.

Uisce Éireann has estimated that there are 140,000 individual lead service connections on the public network and 40,000 lead shared connections. While a significant amount of work remains to address the remaining lead connections, Uisce Éireann has already replaced 8,400 connections (both shared and individual) against an overall target of 13,231. Uisce Éireann has projected that they are likely to significantly outperform on this target, which the CRU welcomes (see CRU202339b).

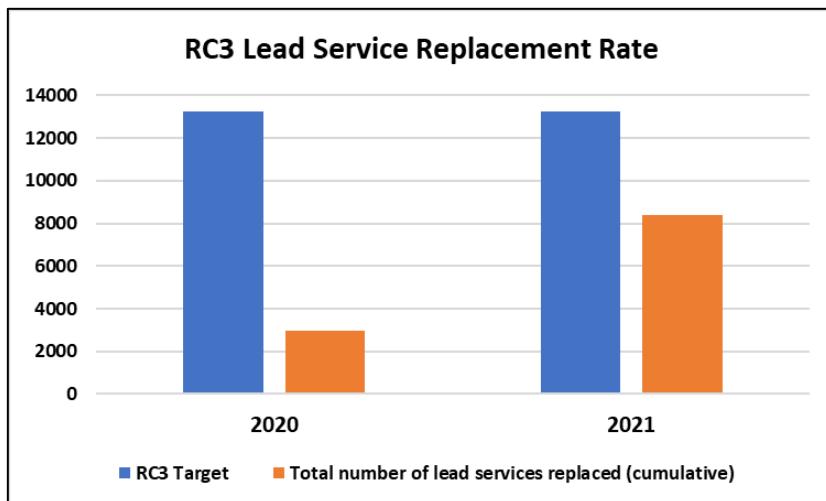


Figure 3 – Progress on replacing lead connections.

2.2.5 Mains Replacement

Uisce Éireann replaced or rehabilitated 178 km of watermains during 2021, bringing the total to 309km for the RC3 period. The RC3 2024 goal for mains replacement (either rehabilitated or lined) is 511 km and therefore Uisce Éireann has made good progress with this and appears on track to meet this target. Proactive and programmed replacement and rehabilitation of watermains is crucial in reducing and controlling leakage levels, along with investment in finding and fixing leaks, pressure management and quickly responding to bursts.

2.2.6 Leakage

This metric is designed to monitor the amount of water lost on the public network and the amount of water lost on customer supply pipes, separately. The CRU set Uisce Éireann a target to reduce leakage by 161 million litres per day on the public side and by 15 million litres per day on the customer supply pipe.

As per the Irish Water Performance Assessment 2020 to 2024 Metric Review and Target Setting¹² and Irish Water Revenue Control 3 – Financial Incentives (Non-Domestic Billing and Leakage)¹³ decision papers, Uisce Éireann is required to submit detailed information on leakage at both the public and private (customer supply pipe) side for the purposes of Investment Plan monitoring¹⁴, the Performance Assessment Framework monitoring and the calculation of the RC3 Financial

¹² [CRU21101](#) Irish Water Performance Assessment Framework 2020 to 2024 Metric Review and Target Setting

¹³ [CRU21108](#) Irish Water Revenue Control 3 – Financial Incentives (Non-Domestic Billing and Leakage)

¹⁴ Further information on the CRU's monitoring of Uisce Éireann's capital Investment Plan is available on the CRU's website [here](#).

Incentives allowance.

Despite extensive engagement on this issue Uisce Éireann had not provided the required information on public side and customer supply pipe leakage in the correct format or in sufficient detail to enable the CRU to report against it in the 2020 Annual Report. The CRU wrote to Uisce Éireann to request this data be provided under Section 43 of the Water Services (No. 2) Act 2013.¹⁵ On receipt and review of the data, the CRU is publishing, alongside this report, a leakage addendum¹⁶. This addendum outlines Uisce Éireann's public side leakage performance in 2019 and 2020, as well as outlining the reasons for the delay in receiving sufficient data from Uisce Éireann.

In order to assess and report on public side leakage in a clear and transparent manner, the CRU requests data be provided in the form of a Water Balance (Figure 4, see Appendix A for more detail). To complement the Water Balance, the CRU requests methodology statements also be submitted, which outline the assumptions and estimations made by Uisce Éireann when calculating the Water Balance. Methodology statements are key for understanding where Uisce Éireann has improved its data or assumptions, which can have an impact on the reported performance.

Highlighting adjustments to Uisce Éireann's data improvements ensures that changes in its leakage performance are correctly attributed to Uisce Éireann's efforts to reduce leakage rather than to any improvement in data. This also means that any updates made to the methodology statement may result in the updated year no longer being comparable to the preceding years that have not included the change.

¹⁵ [CRU202229](#) CRU Letter to Uisce Éireann Leakage Request for Information

¹⁶ CRU202339c CRU Leakage Addendum to 2020 Monitoring Reports

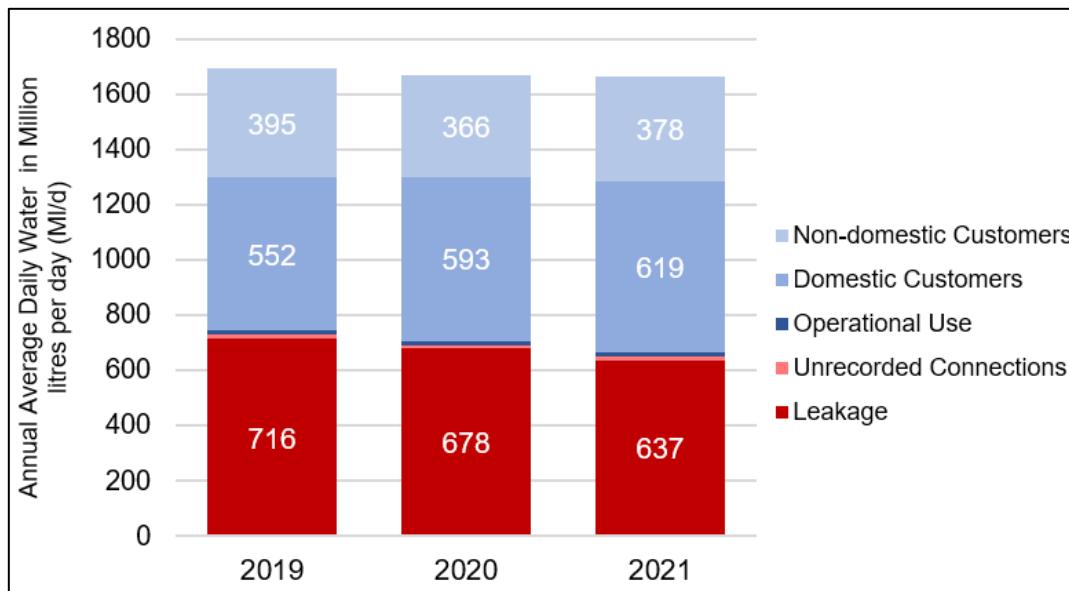


Figure 4 - Water Balance

In 2021, Uisce Éireann estimated that on average 637 million litres of water per day (Ml/d) were lost on the public network. As no changes were made to its methodology, this figure is directly comparable to the 2019 and 2020 reported years. Therefore, to date, Uisce Éireann has reduced leakage by 79 Ml/d since 2019 (see Figure 5). The CRU considers Uisce Éireann to currently be on track to meet the public side leakage reduction target of 161 Ml/d by the end of RC3.

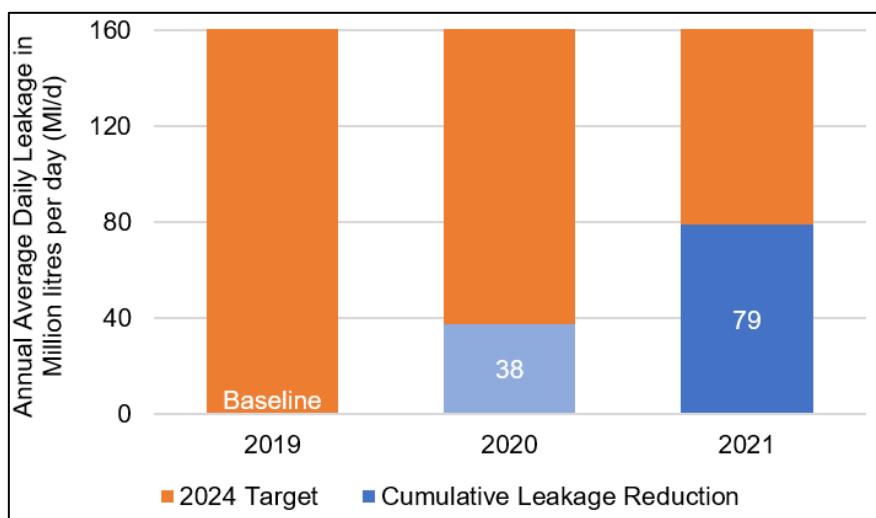


Figure 5 - Cumulative Annual Leakage Reduction

Uisce Éireann provided its first submissions regarding customer supply pipe leakage in December 2022. The CRU is currently reviewing this data and will provide an update in future reports. While

the CRU welcomes this submission it remains concerned with the one-year delay in providing a baseline estimate for customer supply pipe data (i.e., 2019 data) despite its inclusion as a targeted outcome in the CRU's RC3 decision paper¹⁷ and RC3 Financial Incentives (Non-domestic Billing and Leakage) decision paper¹⁸.

2.2.7 ECJ Urban Waste Water Treatment Directive Infringement Case

The Urban Wastewater Treatment Directive (UWWTD) sets requirements for the collection, treatment and discharge of wastewater from large urban areas. In 2019 the Court of Justice of the European Union found that Ireland was not in compliance with the Directive in respect of 28 agglomerations. Since the commencement of RC3, no further agglomerations have been removed and as of 2021, the number remains at 28; the target for RC3 is 13.

It must be noted however that UÉ is claiming completion of three of these works (one in 2020 and two in 2021), but these works are awaiting official sign off before being removed from the ECJ list, and therefore must be reported as zero completions. Uisce Éireann advised the CRU that they do not expect to meet the RC3 target of 13 by the end of the RC3 period which is concerning to the CRU as this means it will take the state of Ireland longer to be compliant with the UWWTD.

2.3 Major Projects

In the 2020 decision on RC3, there were two projects within Uisce Éireann's Investment Plan of significant spend and strategic importance that are delivered centrally, through Ervia's Major Projects function. These include the Water Supply Project – East and Midlands (WSP) and the Greater Dublin Drainage (GDD) scheme.

The CRU recognises that as the projects pass through various stages of project development, for example where planning decisions require refinements to the scope of a project, the cost forecasts may be refined accordingly. Consequently, these projects tend to be progressed and costed in phases.

The total forecast spend from 2020 to 2024 across both projects as set out in the RC3 decision was calculated to be €704m (specifically €410m was allocated for the GDD and €294m for the WSP). The GDD, providing a new regional wastewater treatment facility and the associated

¹⁷ [CRU19148](#) Irish Water Revenue Control 3 Decision Paper

¹⁸ [CRU21108](#) Irish Water Revenue Control 3 – Financial Incentives (Non-Domestic Billing and Leakage)

infrastructure to serve the growing population of the Dublin area, had a spend of €25.8m during 2021. The WSP had a spend of €10.0m associated with it in 2021.

In its RC3 Interim Review Decision, the CRU granted the release of €556m of ring-fenced RC3 capex funds that had been specifically ring-fenced for Major Projects. This decision was made to address broader capex funding deficits in 2023 and 2024. While this doesn't impact this report which covers 2021, the release of funds was enabled by the fact that Uisce Éireann was on track to spend a comparatively small fraction of its original €704m allocation in 2021. Consequently, the bulk of these ring-fenced funds were available for investment into other capital works.

3. Summary

During 2021, investment totalling €797m was made across water and wastewater infrastructure including ongoing reprioritisation of the Investment Plan. While Uisce Éireann, as the competent authority, is entitled to modify the Investment Plan during the lifetime of RC3, the CRU continues to hold the utility to its agreed RC3 outputs and outcomes.

Uisce Éireann expects that it will not meet all the agreed Outputs and Outcomes by the end of RC3. The CRU is concerned that Uisce Éireann is already forecasting under-achievement across nine targets at such an early stage in RC3 and Uisce Éireann is encouraged to explore all available avenues to reduce this gap. The end of 2021 marks only 40% of the RC3 timeline and, with the additional capex revenues now in place for 2023 and 2024, the CRU expects better performance than that forecasted by Uisce Éireann in its 2021 supplementary report (CRU202339b).

Whilst the CRU recognises that Uisce Éireann has encountered impediments to progress, failure to meet nine of its 24 outputs and outcomes by December 2024 is disappointing as the RC3 outputs and outcomes were agreed with Uisce Éireann following extensive engagement. Uisce Éireann is encouraged to proactively take steps to explore all available options to meet its agreed RC3 targets. The CRU requests that Uisce Éireann provides an update on measures it will take to close the gap for those targets it is predicting under-achievement by 2024. This update should be provided alongside the 2022 IP submission.

While Uisce Éireann operates under an allowable revenue framework over a 5-year period, it is important that as Uisce Éireann progresses through the RC3 reporting period, it can:

- demonstrate and explain its overall reprioritisation process or,
- its approach to (including influencing factors or criteria) rebalancing investment decisions, where investments are delayed or deferred,

- and the rational for the selection of fast-tracking percentage target delivery for certain investment decisions and how these will deliver value for customers.

Therefore, it is also important that Uisce Éireann can demonstrate how it is continually improving its internal processes based on experience gained in the years since RC3 began.

Finally, as with the 2020 Investment Plan data submission, the CRU had to engage with Uisce Éireann on its 2021 data submission to resolve errors that were identified by the CRU. The CRU is concerned at the level of errors discovered in the final Board approved submission. The CRU has sought assurance that more stringent quality control measures will be applied to the 2022 reports and will require an update on this assurance process, prior to the next submission in June 2023.

4. Next Steps

The CRU will continue to monitor investment delivery on a cumulative basis to the end of 2024, which will conclude the RC3 period. The CRU has issued a Request for Information to Uisce Éireann seeking outturn data for full year 2022 as per section 43 of Water Services (No. 2) Act 2013. As part of this Request for Information, Uisce Éireann will also be required to provide full-year actual spend figures for 2022 which will be updated as part of the Uisce Éireann Capital Investment Plan 2020 to 2024 Monitoring Report No. 3. Any supplementary information should not just reflect the outcome for 2022 but identify trends, including any particular challenges and drivers of change.

Overall, the CRU is concerned with the percentage level of expected underachievement for investments that are projected to not meet their targets within the RC3 period and has requested Uisce Éireann to provide an update on measures it will take to meet the agreed targets for those investments by 2024. This should be provided alongside its 2022 IP submission. In parallel, the CRU will review the findings of the review of the implementation of the Scottish Water International recommendations and assess the impact on IP delivery.

In addition, the CRU requests sight of Uisce Éireann's new quality assurance process for the Investment Plan approval, prior to submission to the CRU in June 2023.

Subject to accurate and timely submission of the 2022 IP by Uisce Éireann, the CRU will publish its assessment of the IP monitoring report and Performance assessment framework.

Appendix A

Real losses on Uisce Éireann's network, commonly referred to as leakage, includes leaks on trunk mains and distribution pipes, leaks on service connections and leaks and overflows at storage reservoirs. There are two approaches to determining leakage on the public network. The first looks at a top-down water balance where the water entering the network is assigned to water losses and water use based on metering information and well-reasoned estimates (see Figure 7 below).

Distribution Input	Authorised Use	Non-Domestic Customers	Non-Domestic Use
			Internal Plumbing Losses
			Supply Pipe Leakage
		Domestic Customers	Domestic Use
			Internal Plumbing Losses
			Supply Pipe Leakage
		Unbilled Water	Irish Water Use
			Other Authorised Unbilled Use
		Apparent Losses	Unrecorded Connections
			Metering and Data Errors
		Water Losses	Leaks on Service Connections
			Leaks on Trunk and Distribution Mains
			Leaks & Overflows at Storage Reservoirs
Real Losses on Irish Water's Network			

Figure 7 - Components of Water Balance

In addition to this, water losses should also be estimated using a bottom-up approach by monitoring demand at a time when customer use is low (typically overnight). During a period of low predictable customer use, flow into District Metered Areas (DMAs) is monitored for a continuous period of at least one hour. This flow is then allocated between public network losses, customer supply pipe losses and customer use and then converted from an hourly to daily rate with an

adjustment made for variations in pressure between day and night. Estimates of losses on trunk mains and service reservoirs are then added to the calculated DMA losses to provide an estimate of total losses on the public network.

A final leakage number can then be reported by reconciling differences in the top-down and bottom-up approach to leakage estimation and applying robust statistical analysis in line with best international practice.

The CRU has also requested that Uisce Éireann provides an estimate of how much of the water delivered to customer properties is lost to leaks on the private side. Leaks on the private side can occur on the customer supply pipe and in internal plumbing.

Leaks on domestic customer's external customer supply pipe (see Figure 8 below) may qualify for a free repair by Uisce Éireann under the First Fix Free Scheme. Under this scheme, Uisce Éireann notifies metered domestic customers when it suspects a leak is occurring within the boundary of their property. A leak alarm notifies Uisce Éireann that there is a constant flow of six or more litres of water per hour for a continuous period of 48 hours or more. Savings from the scheme results from a mix of repairs on the customer supply pipe carried out by Uisce Éireann and repairs carried out by customers after being informed by Uisce Éireann that the leak alarm on their meter had been triggered.

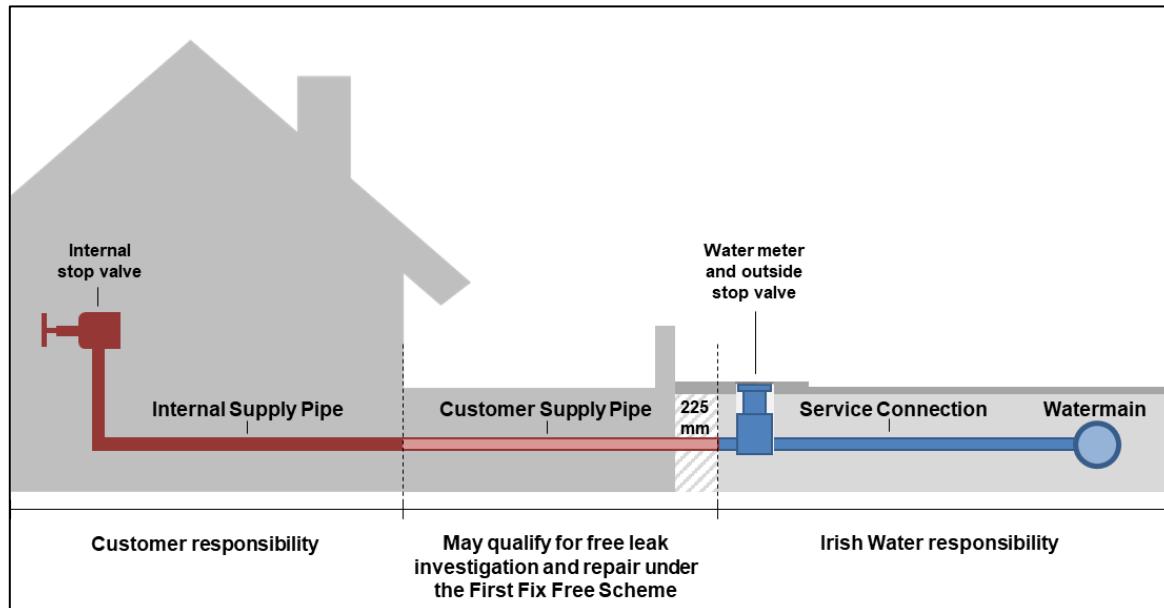


Figure 8 - Pipe Responsibility First Fix Free Scheme