



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

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Irish Water Capital Investments Monitoring Report

January to June 2017

Information Paper

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Summary

As part of the process to approve Irish Water's revenue the CRU periodically receives proposed capital Investment Plans from Irish Water. The CRU reviews these Plans and allows Irish Water to recover revenue to support necessary and efficient investment in maintaining and improving water and wastewater services for its customers.

Irish Water submitted its proposed Investment Plan to the CRU in August 2016 as part of the 2017 to 2018 revenue review process. This sets out the projects and programmes Irish Water planned to progress and deliver in the period 2017 to 2021.

This monitoring report is based on Irish Water's actual and forecasted delivery of capital investments at 30 June 2017. Irish Water will continue to report to the CRU throughout the period of this and future Investment Plans with updated actual and forecast information regarding progression and delivery of capital investments.

While it is acknowledged that the actual and forecast figures in this report are based on information at the end of June 2017 and that these may have been updated, the CRU is publishing this report now in the interest of transparency.

Irish Water's submission shows that at the end of June 2017 it is forecasting increased spend and extended timelines to deliver some of the projects in the Investment Plan. The CRU will continue to monitor this and provide updates in future monitoring reports.

As is the case with other utilities, the CRU will engage with Irish Water on this and will examine the efficiency of this expenditure during the next revenue review which begins in Q2 2018.

The focus of this report is progress by Irish Water, in the first six months of 2017, in delivering and progressing its Investment Plan. Further monitoring reports will be published during 2018.

In the first six months of 2017:

- Irish Water reduced the number of water supplies on the EPA's Remedial Action List from 99 to 87.
- Irish Water provided wastewater treatment at Kinvvara, Galway which was previously discharging raw sewage.
- The First Fix Free Scheme resulted in 9.8 million litres of water being saved every day.
- 87 km of new or rehabilitated watermains were laid by Irish Water.

- Irish Water removed 261 individual lead service connections and 125 shared backyard lead service connections under the Lead in Drinking Water Mitigation Plan published in May 2017.
- The number of people identified as being served by a supply with a boil water notice that had been in place for over 200 days at the end of 2013 was reduced to five.
- The average daily volume of ‘unaccounted for water’ – which includes leakage – increased compared with 2016.
- Irish Water continued to progress work on significant projects of strategic importance to the country, namely: the Water Supply Project – Eastern and Midlands Region; the Greater Dublin Drainage Project; the Vartry Water Supply Scheme; the Cork Lower Harbour Project, and; the Ringsend Wastewater Treatment Plant Upgrade Project.
- Irish Water progressed work at sites over which the European Commission is taking Ireland to court for inadequate collection and treatment of wastewater. Irish Water targeted completing work at four of these sites by the end of 2017.

Public Impact Statement

The CRU requests and receives monitoring submissions from Irish Water on its delivery of capital investments. The CRU uses these submissions to report on Irish Water’s performance in delivering its Investment Plans to provide greater transparency and oversight of Irish Water’s delivery.

This paper provides an overview of Irish Water’s performance in delivering its Investment Plan as at June 30th 2017 and its forecasted delivery of the Investment Plan. It also highlights some of the key outputs and outcomes delivered in the first half of 2017 for customers.

Table of Contents

Summary	1
Public Impact Statement	2
Table of Contents	3
1. Introduction	4
1.1 Background	4
1.1.1 CRU Revenue Reviews	4
1.1.2 Monitoring Irish Water’s Investment	5
1.1.3 Related Documents	6
1.1.4 Structure of Paper	6
2. Investment Plan Overview	7
2.1 Expenditure Overview	7
2.2 Project Delivery Overview	10
3. Major Projects	11
4. Outputs and Outcomes	13
4.1 Irish Water’s Nominated Outcomes	13
4.2 Water Supply	15
4.2.1 Supply-Demand	15
4.2.2 DMA Infrastructure	15
4.2.3 First Fix Free Scheme	16
4.2.4 Mains Replacement.....	16
4.3 Drinking Water Quality	16
4.3.1 The EPA’s RAL	16
4.3.2 Boil Water Notices.....	18
4.4 Wastewater	19
4.4.1 ECJ Urban Waste Water Treatment Directive Infringement Case	19
4.4.2 Agglomerations with no Treatment	20
4.4.3 Wastewater Planning	20
5. Next Steps	21
Glossary of Terms and Abbreviations	22

1. Introduction

1.1 Background

1.1.1 CRU Revenue Reviews

During a revenue review the CRU determines the amount of money that Irish Water can recover to deliver water and wastewater services to its customers. This revenue is used to fund Irish Water's operating costs and its capital investments during a revenue control period. To date the CRU has carried out two interim revenue reviews covering the periods 2014 to 2016 and 2017 to 2018.

In August 2016, as part of the revenue review for the second Interim Revenue Control (IRC2) period 2017 to 2018, Irish Water submitted its proposed Investment Plan for the period 2017 to 2021 to the CRU. The Investment Plan contains a list of projects and programmes with forecast expenditure, timelines to completion and outputs and outcomes to be delivered for customers. The Investment Plan extends beyond the 2017 to 2018 revenue control period given the lead in times for capital works. The five year Investment Plan gives the CRU sight of Irish Water's proposed investment to deliver projects and programmes with delivery dates in 2019 and beyond.

The CRU reviewed Irish Water's approach to developing its Investment Plan including the governance processes and approach to prioritising projects and programmes, which was based on industry best practice. The CRU also reviewed Irish Water's approach to costing the Investment Plan. The CRU audited a sample of projects and programmes to assess if and how the above were applied to individual projects and programmes.

In December 2016 the CRU published its IRC2 decision on the revenue Irish Water can recover to fund both its operating costs and capital investments for the period 2017 to 2018.¹ The CRU allowed Irish Water capital expenditure of €1,047m to progress and deliver the projects and programmes in the Investment Plan to the stated timelines.

As part of the standard regulatory revenue review process, the CRU will look back at Irish Water's delivery of its Investment Plan to assess if it has been delivered in an efficient manner.

¹ [CER16342 CER Decision on Irish Water Revenue for 2017-2018](#)

Like other regulated utilities, including ESB Networks and Gas Networks Ireland, Irish Water is afforded appropriate flexibility to manage the delivery of its portfolio of projects and programmes in its Investment Plan. This is in recognition of the fact that Irish Water may need to re-prioritise delivery of aspects of the plan in certain circumstances. For example, in the case of extreme weather events that require the diversion of resources or the emergence of new policy priorities from the Government from time to time.

The CRU is cognisant of this in monitoring Irish Water's delivery of its Investment Plan at this juncture. The assumption of the CRU, during a revenue control period, is that Irish Water applies the appropriate governance to any re-prioritisation and that Irish Water delivers prioritised projects efficiently.

1.1.2 Monitoring Irish Water's Capital Investment

Monitoring and reporting on Irish Water's delivery of its Investment Plan supports transparency and helps provide the CRU with appropriate oversight of Irish Water's performance.

Monitoring delivery of capital projects and programmes supports the CRU in reviewing Irish Water's performance in this area including when the CRU, as part of the revenue review process, assesses the efficiency of Irish Water's delivery of its Investment Plans. It also aims to reduce the reporting burden on Irish Water at each revenue review. The publication of reports setting out Irish Water's delivery against its Investment Plans allows customers and other stakeholders to see what it is delivering.

Monitoring and reporting of delivery by water utilities by economic regulators is standard practice, for example, in Northern Ireland, Scotland and England and Wales. The CRU will finalise an enduring framework in 2018 to monitor and report on Irish Water's delivery of capital investments.

In advance of establishing the enduring framework, the CRU has commenced monitoring and reporting on Irish Water's delivery of its Investment Plans. In 2017, the CRU published its first report on Irish Water's delivery of capital investments to the end of 2016.

The CRU issued a request to Irish Water for a submission on the progression of its capital investments during the first half of 2017. Having reviewed Irish Water's response, the CRU now publishes this report which focuses on Irish Water's delivery of its Investment Plan.

The CRU also monitors Irish Water's implementation of service requirements under the Customer Handbook and is implementing a reporting regime under the CRU's Irish Water Performance Assessment. The performance assessment looks at five themes, namely Customer

Service, Environmental Performance, Water Supply – Quality of Service, Security of Water Supply and Sewerage Service. Currently, Irish Water is gathering the necessary data regarding its performance under some of these metrics. The CRU has published two reports to date on the Irish Water Performance Assessment.²

The receipt and review of monitoring submissions from Irish Water regarding capital investments complements the above and in particular the assessment of Irish Water's overall performance as it provides valuable information to the CRU regarding project and programme delivery.

The Environmental Protection Agency (EPA) is the environmental and drinking water regulator of Irish Water. The EPA issues and enforces authorisations for wastewater discharges and enforces the Drinking Water Regulations.

In addition, the Water Services Act 2017 has established a Water Advisory Body to advise the Minister on the measures needed to improve the transparency and accountability of Irish Water for the purpose of increasing the confidence of members of the public in Irish Water and to provide a quarterly report to the Oireachtas on the performance by Irish Water in the implementation of its business plan. The CRU is a member of the Water Advisory Body.

1.1.3 Related Documents

- [CER14076 Advice to the Minister on the Economic Regulatory Framework for the Public Water Services Sector in Ireland](#)
- [CER16342 CER Decision on Irish Water Revenue for 2017-2018](#)
- [CER16345 Irish Water IRC2 Submission - Capital Investment Submission](#)
- [CER17120 Irish Water Capital Investment Outputs 2016](#)

1.1.4 Structure of Paper

- Section 1 provides an introduction and background to this paper.
- Section 2 outlines Irish Water's incurred expenditure at the end of June 2017 and forecast expenditure to complete the projects and programmes in the Investment Plan.
- Section 3 provides a summary of Irish Water's five major projects.
- Section 4 summarises Irish Water's delivery of outputs and outcomes.

² www.cru.ie/document_group/irish-water-performance-assessment/

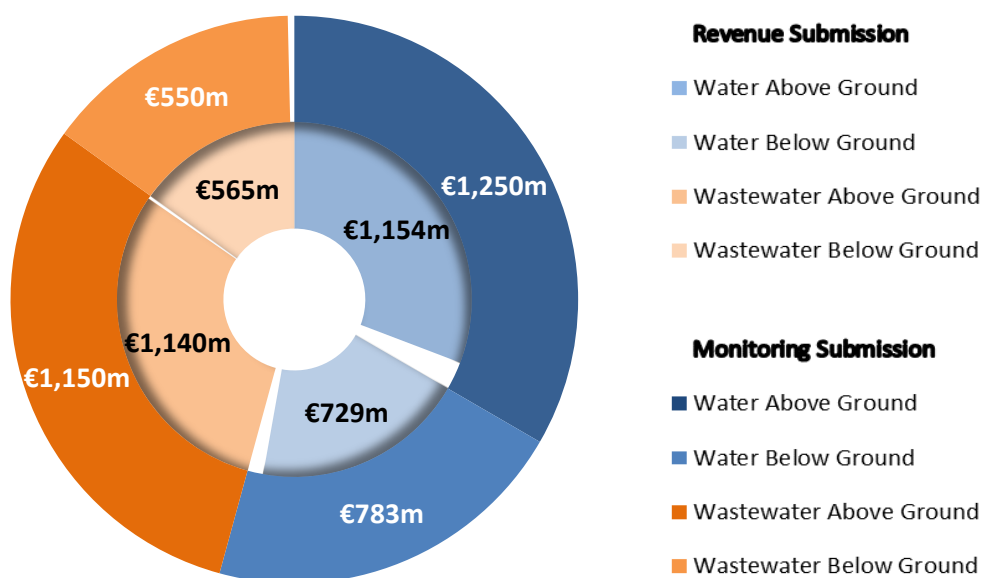
2. Investment Plan Overview

Irish Water is forecasting that it will broadly retain the balance of spend it proposed in its Investment Plan across asset and investment category. However, the total expenditure associated with the projects in the approved Investment Plan has increased with expenditure pushed into the period after 2021. This represents Irish Water’s forecast expenditure on the 30 June 2017. Irish Water will report to the CRU and other stakeholders throughout the period of this, and future, Investment Plans with updated actual and forecast expenditure. The CRU will continue to monitor and report on this.

2.1 Expenditure Overview

In the IRC2 revenue decision in December 2016 the CRU allowed Irish Water capital expenditure of €1,047m in the period 2017 to 2018. Irish Water had spent €201m on projects and programmes in the first six months of 2017. Irish Water was forecasting that it will spend a total of €1,208m in 2017 to 2018.

Irish Water’s monitoring submission contains proposed spend that is broadly aligned with the balance across water and wastewater assets submitted as part of the revenue review, as shown below in Figure 1.



**Figure 1 – Irish Water’s Proposed 2017 to 2021 Spend by Asset Category
IRC2 Submission vs Monitoring Submission**

Irish Water’s Investment Plan submitted to the CRU in August 2016 contained proposed expenditure of €3,588m for the full period of that Plan (2017 to 2021). Irish Water’s monitoring submission has forecast that it now plans to spend €3,760m in the five year period.

The increased spend in the monitoring submission is, in general, against the projects in Irish Water’s Investment Plan.³ Irish Water has communicated to the CRU that it has faced challenges in delivering projects within the expenditure and timelines outlined in the Investment Plan submitted in August 2016. The CRU will continue to engage with Irish Water on this matter and will provide updates. The CRU will continue to monitor and report on Irish Water’s delivery of these projects and will assess the efficiency of spend on projects as part of the revenue review which begins later in 2018.

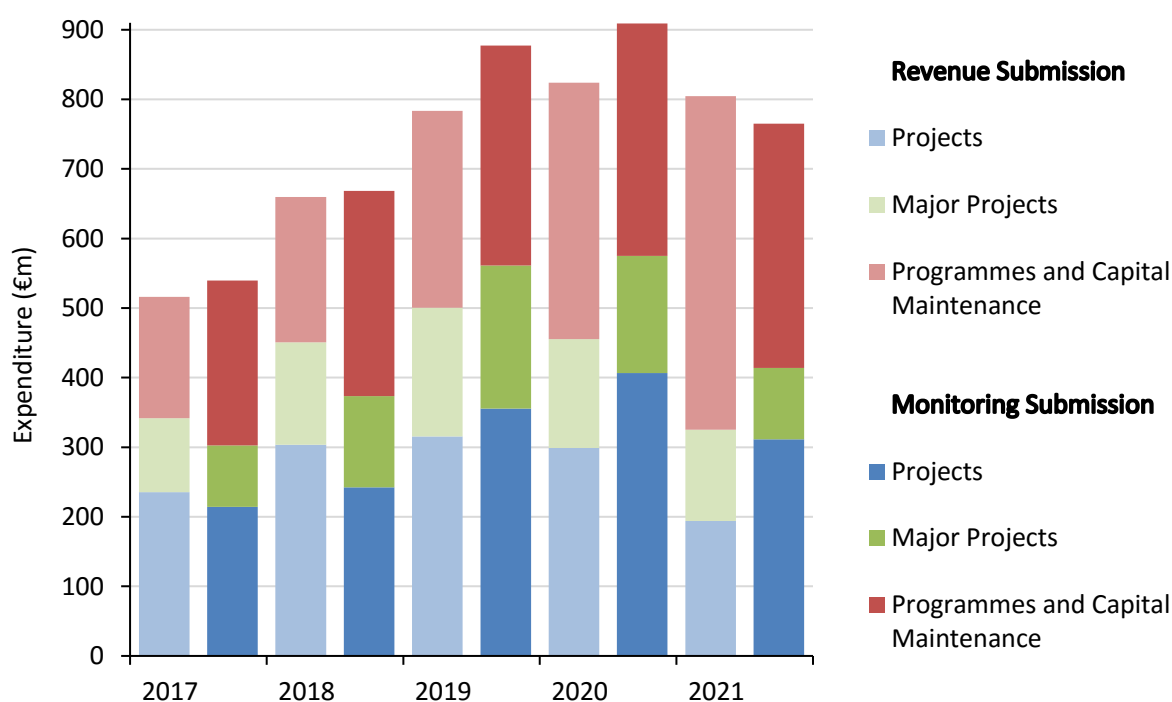


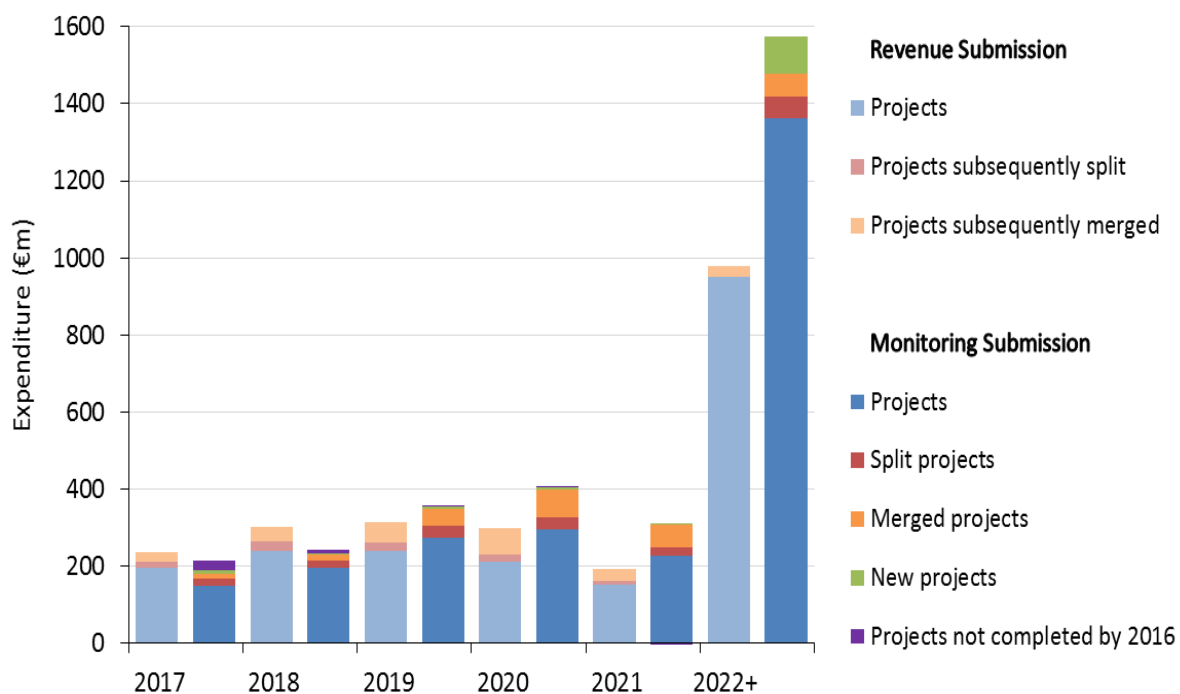
Figure 2 – Irish Water’s Proposed 2017 to 2021 Spend by Investment Category IRC2 Submission vs Monitoring Submission

³ Projects refers to new and upgraded assets at specific locations e.g. a new treatment plant. Major Projects refers to the five projects outlined in section 3: Water Supply Project – Eastern & Midlands, Greater Dublin Drainage Project, Cork Lower Harbour Project, Vartry Water Supply Scheme, and Ringsend Wastewater Treatment Plant Upgrade Project. Programmes address known deficits across the asset base e.g. the Disinfection Programme. Capital Maintenance refers to planned and reactive like-for-like replacements of assets e.g. repairs on a burst main.

The monitoring submission shows the changes in 2017 compared to what was expected in the Investment Plan submitted to the CRU in August 2016. Irish Water will increase spend on capital maintenance and national programmes in the first two years of the Investment Plan with a decrease in expenditure and delivery of projects in those years relative to the August 2016 Investment Plan.

However, as highlighted in Figure 3, below, Irish Water’s expenditure on projects increases from 2019 onwards with increased expenditure pushed into the period beyond the current Investment Plan.

Irish Water has reprioritised the list of projects it has included in the Investment Plan. As stated above, the CRU notes the need to afford Irish Water appropriate flexibility in managing its own proposed capital investments while providing appropriate regulatory oversight. Irish Water is best placed to make decisions on how to manage its portfolio of projects and programmes in the interests of customers including to achieve efficiencies and deliver better service for customers. Irish Water also needs to make decisions in response to incidents as they occur and Irish Water’s revised assessment of risks and any new policy drivers.



**Figure 3 – Irish Water’s Proposed Projects Spend
IRC2 Submission vs Monitoring Submission**

2.2 Project Delivery Overview

The monitoring submission shows that, at this juncture, projected expenditure associated with projects is increasing compared to that which the CRU reviewed in August 2016.

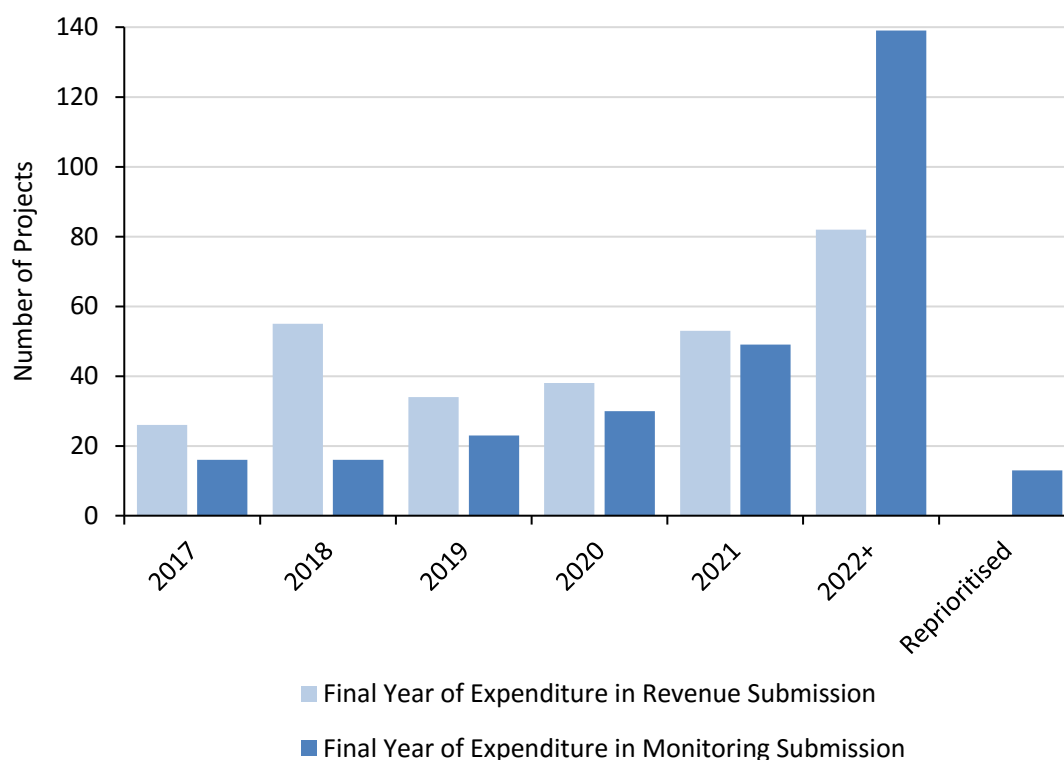


Figure 4 – Final Year of Expenditure of Projects with no Scope Change IRC2 Submission vs Monitoring Submission

Figure 4, above, shows that, in the monitoring submission, the final year of expenditure has changed for some projects. 81 of these projects were due to be completed in 2017 to 2018; this has been reduced to 32 in Irish Water’s monitoring submission. In Irish Water’s revenue submission 82 of these projects were forecast to be delivered in the period 2022 and beyond. This has increased to 139 in the monitoring submission.

3. Major Projects

There are five projects classed as “major projects” within Irish Water’s current Investment Plan. These projects are of such significant spend and strategic importance that the CRU required that Irish Water provided a separate update on their progression as part of the monitoring submission.

- Cork Lower Harbour Project – new wastewater treatment plant and sewer network to provide effective treatment of wastewater produced in areas bordering the Harbour.
 - The wastewater treatment plant is now operational, treating more than 50% of the Lower Harbour’s wastewater load. Irish Water is forecasting that the sewer networks aspect of the project will be completed by 2019. Irish Water is reporting that the project is on track to be completed within budget.

- Greater Dublin Drainage Project – to provide a new regional wastewater treatment facility and the associated infrastructure to serve the growing population of Dublin and parts of Kildare and Meath.
 - Irish Water’s monitoring submission forecasts that the project will be complete in 2024. Forecast expenditure in the years after 2021 has not been included in Irish Water’s monitoring submission. Forecast expenditure included in the Investment Plan for the period 2017 to 2021 has been reduced by €64m in the monitoring submission. Irish Water has advised this has been reprofiled to the period beyond 2021.

- Ringsend Wastewater Treatment Plant Upgrade Project – to provide increased capacity and effective nutrient removal at the Ringsend plant.
 - Construction of the process proving pilot began in Q2 2017 and was forecast to be completed by the end of the year. Forecast expenditure in the years after 2021 has not been included in this monitoring submission. Forecast expenditure included in the Investment Plan for the period 2017 to 2021 has been reduced by €41m in the monitoring submission. Irish Water has advised this has been reprofiled to the period beyond 2021. Irish Water is now forecasting that the project will be complete by 2024 but that the plant will be discharging effluent consistent with compliance with the Urban Waste Water Treatment Directive by 2021.

- Vartry Regional Water Supply Scheme – to provide a new treatment plant, upgrades to the Vartry reservoir and replacement of the 150 year old Vartry tunnel to help to ensure a safe and sustainable water supply in north Wicklow and South Dublin.
 - Irish Water is forecasting that this project is on track to be completed by 2021, broadly within budget.

- Water Supply Project – Eastern and Midlands – to ensure a sustainable and resilient water supply is secured for Dublin and the Eastern and Midlands region.
 - Irish Water is now forecasting that this project will be complete in 2025 compared with 2024 in its IRC2 revenue submission. An additional €37m of expenditure has been included in the period 2017 to 2021. Forecast expenditure in the years after 2021 has not been included in Irish Water’s monitoring submission.

4. Outputs and Outcomes

The following section highlights Irish Water's actual and forecast delivery of outputs and outcomes as at 30 June 2017 when examined by the CRU while compiling this report. It begins by looking at Irish Water's delivery of its nominated outcomes from the Investment Plan and moves on to provide an overview of Irish Water's delivery of some key outcomes across water quality and supply and wastewater services.

The CRU monitors Irish Water's delivery of capital projects and programmes. The EPA, as the drinking water quality and environmental regulator, determines whether Irish Water's assets are compliant with statutory obligations. The CRU has a memorandum of understanding with the EPA and regularly engages with them regarding Irish Water's performance in fulfilling its obligations.

4.1 Irish Water's Nominated Outcomes

As part of its Investment Plan submission to the CRU Irish Water produced a table of outcomes that some of the projects and programmes in the Plan would deliver by 2018 and 2021 (see Table 5.6, page 87 and Appendix A in the [IRC2 Decision Paper](#)). Irish Water has linked 51% of the proposed spend in the 2017 to 2021 Investment Plan to this list of outcomes. In addition, Irish Water is investing across a range of projects and programmes that do not directly feed through to its nominated outcomes. This includes investment in, as examples:

- Upgrades of treatment plants 'at risk' of failing compliance requirements,
- Programmes of work where outcomes were not fully defined by Irish Water at the time of its Investment Plan submission to the CRU such as the disinfection programme,
- Projects which were forecast to be delivered outside the Investment Plan period,
- Supporting social and economic development.

In its Investment Plan submission Irish Water had targeted removing boil water notices, by the end of 2021, which had been in place for more than 200 days as reported at the end of 2013. These boil water notices were affecting over 23,000 people. Irish Water has reported that by the end of June 2017 the number of people affected by these historic boil water notices had been reduced to five.

Irish Water's Investment Plan targets completing work at all supplies that were on the EPA's Remedial Action List at the end of 2014. The monitoring submission shows that, in the first six

months of 2017, eight supplies were removed and Irish Water is now forecasting that eleven of these supplies will remain on the RAL at the end of 2021.

Irish Water's submission forecasts that it will deliver its outcome of twelve updated hydraulic models, 36 Drainage Area Plans and a register of, and commencement of work at, twelve high priority flood sites by 2021 in its sewer flooding target to reduce the number of properties at risk of flooding.

Irish Water is also forecasting that it will achieve an improvement in energy efficiency of 33% by 2020 from the 2009 baseline in line with national targets for public sector bodies under the National Energy Efficiency Action Plans.

In the first six months of 2017 Irish Water has replaced 261 individual lead service connections and 125 shared backyard service connections. Irish Water's Investment Plan targets reducing the number of individual lead service connections from over 139,000 to under 117,000 and reducing the number of shared backyard service connections from over 38,000 to under 22,000 2021 as part of the lead replacement programme.

Irish Water has reported that in the first six months of 2017 a total of twelve Environmental Assessments had been submitted to the Lead Mitigation Advisory Group⁴ for review.

Irish Water has reported that no plumbosolvency⁵ control plans were rolled out in the first six months of 2017. Irish Water has targeted completion of 200 Environmental Assessments and plumbosolvency control plans by the end of 2021. Irish Water has stated in its monitoring submission that it will achieve the expected outcomes from its lead mitigation programmes.

Irish Water has not provided an update for its outcomes relating to headroom. Irish Water's monitoring submission for the period to 30 June 2017 forecasts that it will not achieve the remainder of its nominated Investment Plan outcomes.

The CRU will continue to monitor and report on Irish Water's delivery of these outcomes and updated forecasted delivery to 2021.

⁴ The group is comprised of representatives from the Department of Housing, Planning and Local Government, the EPA, the HSE, and the National Parks and Wildlife Service.

⁵ Plumbosolvency refers to the ability of water to dissolve lead into water supplies from lead pipes and fittings.

4.2 Water Supply

4.2.1 Supply-Demand

In order to monitor the overall benefit of Irish Water's leakage reduction projects and programmes the CRU requested that Irish Water complete a water balance. A water balance splits the water entering the network in to water delivered to customers, water used by Irish Water and water losses. Irish Water stated in its submission that some of the data required was not yet available.

Irish Water provided an estimate of the average distribution input, domestic demand and operational use in its submission for the first six months of 2017. Irish Water has estimated operational use at 1% of distribution input and used metering data to estimate total domestic demand.

Irish Water stated in its submission that it calculated 'unaccounted for water', which includes leakage, as the water put into the system (distribution input) minus the water demanded by customers (domestic and non-domestic) and used by Irish Water (operational usage).

Irish Water stated that the six month average 'unaccounted for water' has increased to 761 ML/day. This is an increase from the 732 ML/day reported for 2016.

4.2.2 DMA Infrastructure

Irish Water's water network is 62,000 km long and has been broken down into smaller district metered areas (DMAs). This covers the vast majority of the network, with an average number of premises per DMA at just over 400 connections. This varies with density of connections between urban and rural locations. In rural areas, the number of connections is lower, typically under 100. In urban areas, the typical number of connections is estimated at between 1,000 and 1,500.

Irish Water had reported to the CRU that at the end of 2016 there were 4,407 DMAs across its network, 73% of which it considered operable.

In the monitoring submission Irish Water reported that, at the end of June 2017, there are 4,291 DMA's on its network of which 3,112 (or 73%) are considered operable. Operability is monitored by ongoing testing.

4.2.3 First Fix Free Scheme

In 2015 Irish Water implemented a First Fix Free Scheme in line with Government policy. Under the scheme Irish Water notifies metered domestic customers when it suspects a leak is occurring within the boundary of their property. A leak alarm notifies Irish Water that there is a constant flow of six or more litres of water per hour for a continuous period of 48 hours or more. Under the Scheme Irish Water offers to repair leaks which are identified on the external supply pipe serving a property for free.

3.2 million litres of water per day is being saved through fixes provided by Irish Water in the first six months of 2017. Since the scheme commenced 49 million litres per day are being saved through first fixes.

Repairs carried out and funded by customers have made a significant contribution to reducing leaks. Savings of 6.6 million litres of water per day has been achieved in the first six months of 2017 through customer fixes.

Since the beginning of the programme in 2015, 36,524 customers have repaired leaks on their property after being advised by Irish Water that the leak alarm on their meter had been triggered. Customer repairs have contributed to 56 million litres being saved every day.

4.2.4 Mains Replacement

Irish Water has stated in its submission that, in the first six months of 2017 it has laid 87km of new or rehabilitated watermains. This represents a replacement rate of once every 357 years. The CRU will continue to monitor Irish Water's mains replacement and provide further updates on this matter in future monitoring reports.

4.3 Drinking Water Quality

4.3.1 The EPA's RAL

The EPA's Remedial Action List (RAL) includes public supplies where water quality issues arise as a result of the performance of the water treatment plant. The RAL is a dynamic list of public water supplies requiring action to improve performance.

Supplies are added to the RAL where the EPA deem 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 as a result of audits from the EPA, notifications of exceedances, or information gathered from Irish Water or the Health Service Executive (HSE).

In the first six months of 2017, eight supplies were removed from the EPA’s Q4 2014 RAL. In its Investment Plan Irish Water had targeted completing work at all supplies on the EPA’s Q4 2014 RAL by the end of 2021. The monitoring submission shows that Irish Water is now forecasting that eleven of these supplies will remain on the RAL at the end of 2021. The CRU will continue to monitor Irish Water’s delivery and forecast delivery of projects and programmes that remove supplies from the EPA’s RAL.

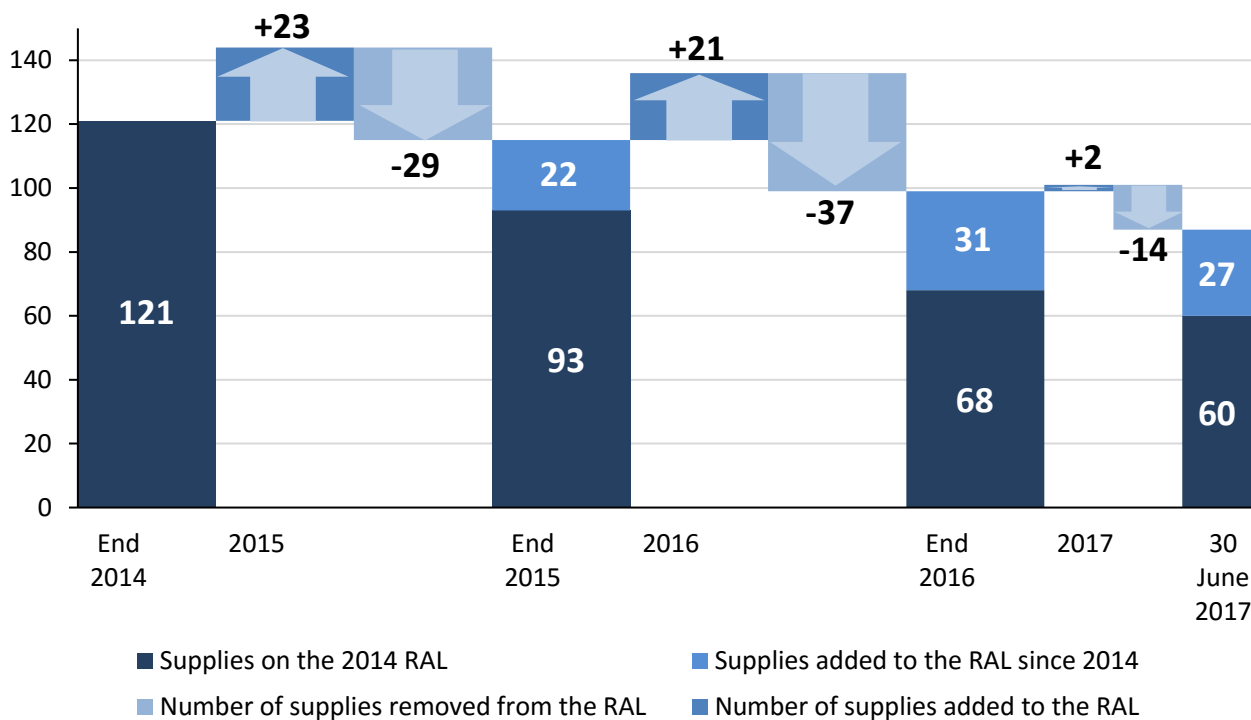


Figure 5 - Supplies on the EPA's RAL

Irish Water has reduced the total number of supplies on the RAL from 99 at the end of 2016 to 87 by the end of June 2017.

4.3.2 Boil Water Notices

Where Irish Water identifies that the drinking water it is supplying may pose a health risk to its customers it must consult with the Health Service Executive (HSE). If this consultative process concludes that public health may have been compromised, then Irish Water may be required to issue a water restriction or boil water notice.

Boil water notices can be issued where microorganisms such as *E. coli* or *Cryptosporidium* are detected. Boil water notices can also be issued as a precaution where there is, as an example, a temporary process failure at a water treatment plant. In this context, the number of supplies with a boil water notice in place can fluctuate throughout the year.

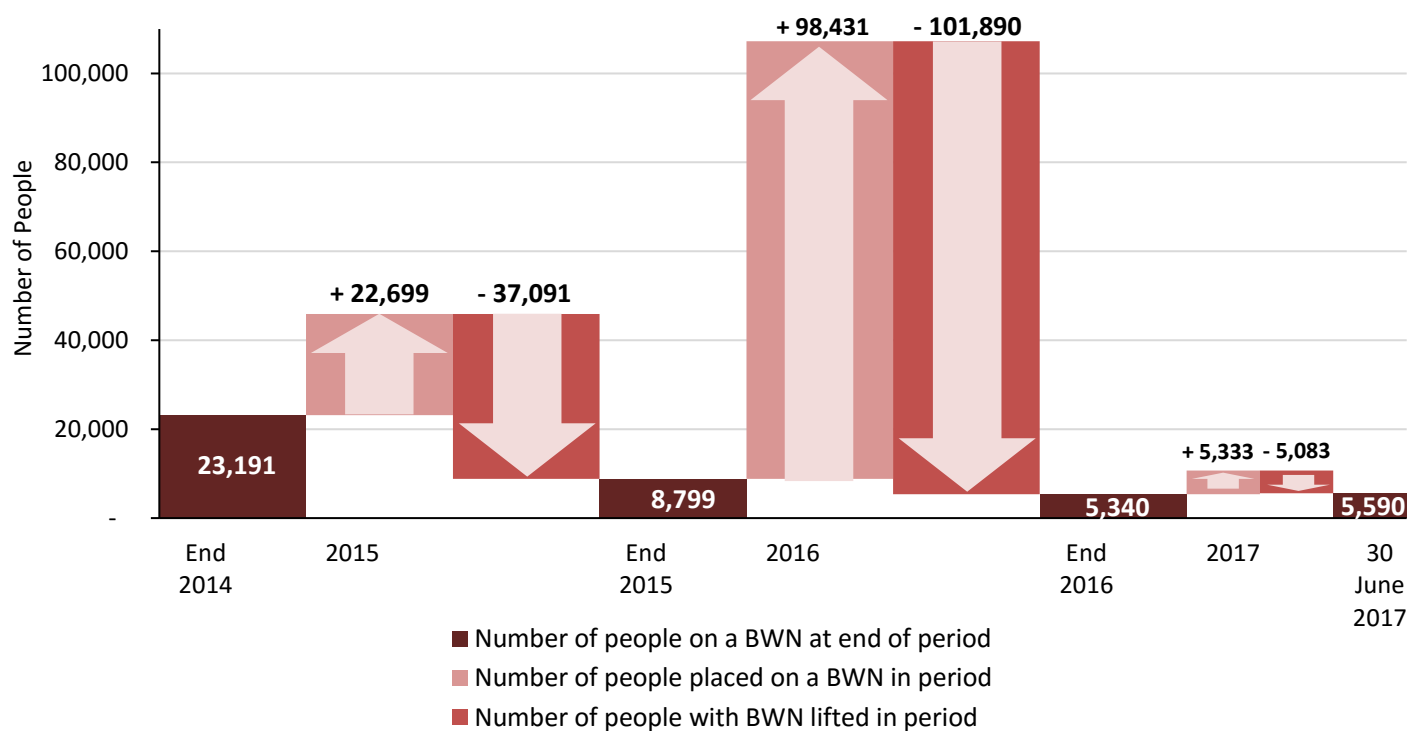


Figure 6 - Number of People on a BWN

As can be seen in Figure 6 above, there has been a general decrease in the number of people served by a supply that is subject to a BWN. Irish Water has invested in and continues to invest in upgrading plants to reduce the risk of water being produced that is unfit for human consumption

Additionally, and as noted in section 4.1, when Irish Water was established over 23,000 people had been on a BWN for over 200 days. By 30 June 2017 Irish Water has reported that it had removed the BWNs affecting all but five of these people.

4.4 Wastewater

4.4.1 ECJ Urban Waste Water Treatment Directive Infringement Case

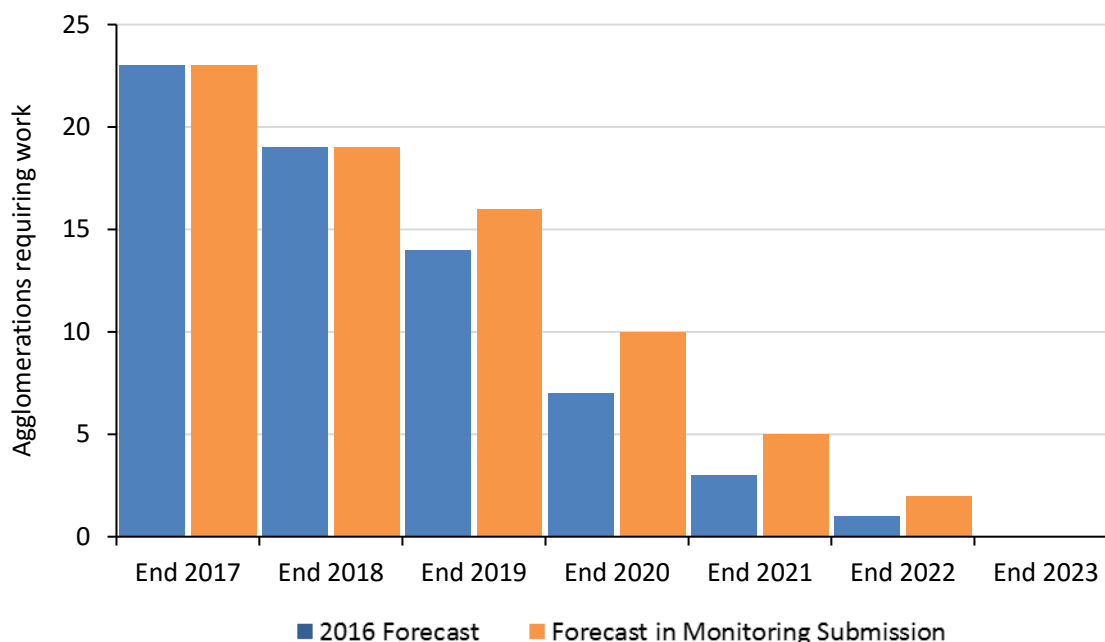


Figure 7 - Agglomerations in the ECJ's Infringement Case Requiring Work

In September 2013 the European Commission initiated an infringement case against Ireland in relation to its implementation of the Urban Waste Water Treatment Directive (UWWTD). The UWWTD sets requirements for the collection, treatment and discharge of wastewater from large urban areas. The infringement case cited 71 agglomerations with inadequate collection and/or treatment of wastewater.

In September 2016 the European Commission issued its reasoned opinion that 38 agglomerations remained in breach of the Directive and referred Ireland to the European Court of Justice in February 2017.

Irish Water has targeted completing work at four agglomerations by the end of the year. A full year of testing and analysis is then required before compliance with the UWWTD can be confirmed. The CRU will report on this in its next monitoring report and will continue to monitor Irish Water's delivery and forecast delivery of these projects.

4.4.2 Agglomerations with no Treatment

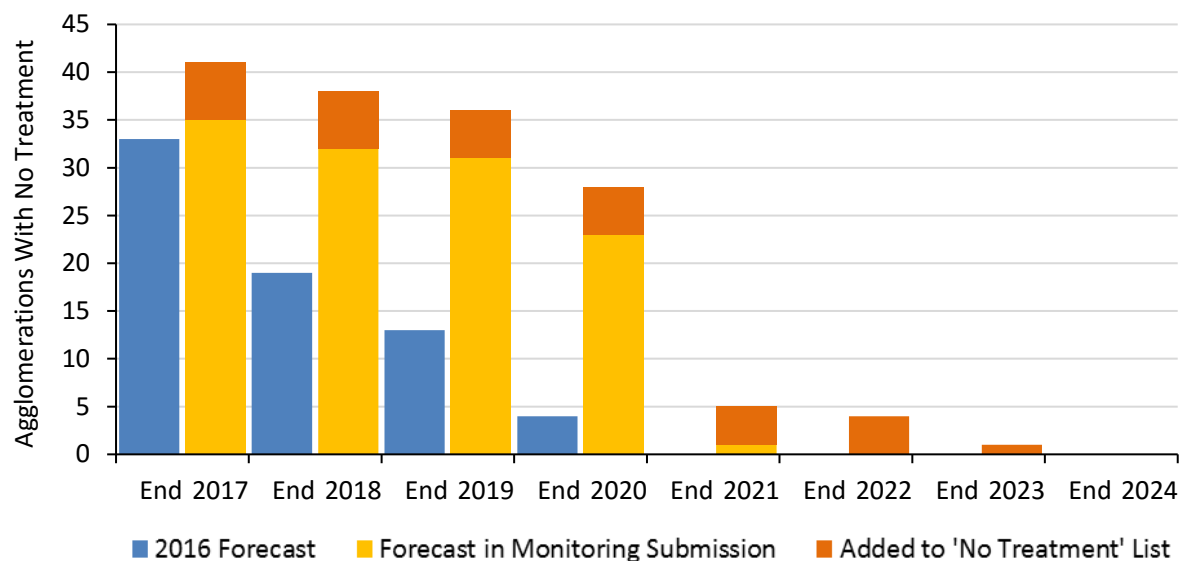


Figure 8 - Agglomerations Providing No Treatment or Preliminary Treatment Only

In 2013 the EPA’s ‘Focus on Urban Wastewater’ reported that 44 agglomerations throughout the country were discharging raw sewage into the environment. The EPA has added six agglomerations to the original list since 2013 and Irish Water has added projects to its Investment Plan to provide treatment at these agglomerations.

Six of the 44 agglomerations with no treatment are included in the infringement case outlined in section 4.4.1, the remainder are below the European Commission’s thresholds. These smaller urban areas require appropriate treatment to allow the receiving waters to meet relevant quality objectives and relevant provisions of European Directives.

Irish Water is now providing treatment at Kinvara, Galway. Three more projects were due to be completed by the end of 2017. The CRU will continue to monitor Irish Water’s delivery and forecast delivery of projects to provide treatment in these agglomerations.

4.4.3 Wastewater Planning

By the end of 2016 Irish Water had established a register of strategic wastewater networks and available hydraulic models. By the end of June 2017, seventeen Drainage Area Plans⁶ (DAPs) covering 12% of the network and 15% of properties had been developed.

⁶ A DAP involves collecting data, surveying the sewer network, building and verifying models, carrying out risk assessments and identifying investment/operational needs and associated solutions.

5. Next Steps

The CRU will publish, in 2018, an enduring framework to monitor Irish Water's delivery of capital investments and will continue to publish reports outlining Irish Water's delivery of capital investments and outcomes for customers.

The CRU's next revenue review will begin in Q2 2018. During the review, the CRU will look back on, and determine the efficiency of, Irish Water's spend in previous years. The CRU will review a new Investment Plan for the period 2020 to 2024 and will approve necessary and efficient expenditure.

Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
Agglomeration	For the purposes of the Urban Waste Water Treatment Directive an agglomeration is an area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and conducted to an urban waste water treatment plant or to a final discharge point.
BWN	Boil Water Notice
DAP	Drainage area plan
EPA	Environmental Protection Agency
HSE	Health Service Executive
IRC2	The second Interim Revenue Control period 2017 to 2018
Outcomes	The delivery of projects and programmes leads to outcomes such as improved drinking water quality, reductions in interruptions to supply, compliance with Urban Waste Water Treatment Directive.
Outputs	Projects and programmes deliver tangible outputs for Irish Water's customers including new treatment plants, watermains and sewers.
Plumbosolvency	The ability of water to dissolve lead into water suppliers from lead pipes and fittings
RAL	Remedial Action List. A list of public water supplies where the EPA deems there to be a treatment deficiency, or operational/management issues that may result in persistent failures of key water quality parameters.