



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

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# Irish Water Capital Investment Plan 2017-2021

## Monitoring Report No. 2

### Information Paper

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## Summary

The CRU sets the amount of money that Irish Water can spend over several years known as a revenue control period. This includes money to provide water and wastewater services and to deliver its Investment Plans.

Irish Water's Investment Plans set out the capital projects and programmes that it plans to progress and deliver during the period of each plan. They include proposed budgets and timelines and the outputs and outcomes that will be delivered for the investment. They are integral to maintaining and upgrading water and wastewater assets, to improving quality and compliance, to providing enhanced service levels to customers and to facilitating growth.

Irish Water submitted its proposed Investment Plan 2017-2021 to the CRU in August 2016 (the '2016 Investment Plan') as part of the 2017 to 2018 revenue review process (termed 'IRC2')<sup>1</sup>. This set out the projects and programmes it planned to progress and deliver in the period 2017 to 2021 for the related proposed expenditure. The CRU carried out an assessment of this 2016 Investment Plan as part of the IRC2 process. Further to that assessment, the CRU allowed Irish Water expenditure which in turn forms the basis of charges for the provision of water and wastewater services to Irish Water's customer. Subsequent to the completion of the IRC2 process, Irish Water submitted its updated forecast regarding its delivery of the 2016 Investment Plan to the CRU in October 2017, taking into account the utility's further analysis of the 2016 Investment Plan, including updated cost estimates and delivery timelines. Further to review of that submission the CRU published its first monitoring report regarding Irish Water's delivery of the 2016 Investment Plan in April 2018.<sup>2</sup> That report outlines Irish Water's actual and forecast delivery of its 2016 Investment Plan as of end June 2017.

In November 2018, Irish Water made a second monitoring submission to the CRU outlining its progression and delivery of its 2016 Investment Plan to the end of 2017. This paper provides an overview of Irish Water's progression, delivery and forecast delivery of the 2016 Investment Plan as at the end of March 2018.

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<sup>1</sup> This period was subsequently extended to include 2019: [Irish Water Revenue Control 2019 Revenue Control 2 \(2017/2018\) One-Year Extension](#)

<sup>2</sup> Irish Water Capital Investments Monitoring Report Jan-June 2017, CER/18/057, April 4th 2018 ([https://www.cru.ie/document\\_group/irish-water-s-capital-investment-outputs-2016/](https://www.cru.ie/document_group/irish-water-s-capital-investment-outputs-2016/))

Irish Water's 2016 Investment Plan contains a mix of projects, national programmes and capital maintenance programmes.

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

This paper sets out key findings in relation to Irish Water's progression of the 2016 Investment Plan based on the submission received from Irish Water. It also sets out key outputs and outcomes that were delivered in the first year of that Plan. It is important to consider expenditure and delivery timelines in tandem as to do otherwise could result in misleading conclusions regarding Irish Water's performance in delivering the approved 2016 Investment Plan.

This paper provides an overview of Irish Water's delivery and forecast delivery of that 2016 Investment Plan as at the end March 2018. At this time, it is too early to draw any conclusions on the efficiency of Irish Water's expenditure on capital investments. The CRU's current revenue control process (termed 'RC3') will include a detailed review of this efficiency, taking into account Irish Water's updated forecast regarding progression of the capital Investment Plan as evident from the monitoring submissions received from Irish Water to date. Similarly, it is premature to draw any conclusions regarding Irish Water's forward cost estimates. The forecasted costs and delivery included in the second monitoring submission also form the basis for Irish Water's proposed capital investment plan for 2020-2024 which the CRU is reviewing as part of the RC3 process.

The key findings based on the November 2018 submission are summarised below.

### **2017 Delivery**

- Irish Water spent a total of €489m on capital investments in the first year of the 2016 Investment Plan versus planned expenditure of €516m.
- €292m was spent to progress and deliver projects in 2017, with most of this expenditure to progress projects that are due to be completed in future years.
- 32 projects were closed in 2017. Of these, 23 were originally planned to close by the end of 2016.

- €197m was spent in 2017 to progress and deliver programmes, including maintenance both planned and reactive.
- Key outcomes and outputs delivered in 2017 are summarised below.
  - Compared with 2016 there were fewer people on a boil water notice at the end of the year and fewer people affected by boil water notices issued during 2017. Over half of all boil water notices in 2017 were in place for less than a month.
  - The number of supplies on the EPA's Remedial Action List was reduced from 99 to 77.
  - In 2017 Irish Water removed 968 of the estimated 138,000 individual lead service connections on the public network and 339 of the estimated 38,000 shared backyard lead service connections.
  - The average daily volume of 'unaccounted for water' – which includes leakage – increased on the public network to 755 million litres compared with 732 million litres in 2016.
  - During 2017 the First Fix Free Scheme has resulted in over 20 million litres of water being saved every day. Of this, over 7.7 million litres of water are being saved every day because of repairs carried out by Irish Water, while repairs carried out by customers resulted in over 12.8 million litres of water are being saved every day.
  - Irish Water replaced or rehabilitated 209km of watermains in 2017. This represents 0.33% of Irish Water's network and a replacement rate of once every 300 years.
  - Irish Water provided wastewater treatment at one location that was previously discharging raw sewage (in addition to the six previous locations which had been subject to improvements since 2014). At the end of 2017 there were 43 locations continuing to discharge untreated wastewater.
  - In February 2017, the European Commission referred Ireland to the Court of Justice of the European Union for its failure to provide adequate collection and treatment of wastewater at 38 agglomerations. At the end of 2017, 24 agglomerations remained on the list.

### **2017-2021 Capital Investment Plan**

- Irish Water is planning to spend a total of €3,536m in the period 2017-2021 compared with its original proposal of €3,588m (this does not include any efficiency challenges set by the CRU during revenue controls).
- Total expenditure on programmes over the period 2017-2021 is broadly in line with that in the 2016 Investment Plan. Irish Water is forecasting increased expenditure on national programmes in the first three years of the 2016 Investment Plan, in line with the

first monitoring submission from Irish Water regarding the delivery of the 2016 Investment Plan provided to the CRU in 2017.

- Irish Water's 2016 Investment Plan had included a proposed spend of €2,324m to complete its portfolio of projects. Irish Water is now forecasting that an increased spend of €615m across this portfolio of projects will be required. The efficiency of this spend will be examined as part of the RC3 process.
- Irish Water's forecast spend across its five major projects is now €2,364m compared with €2,070m in the 2016 Investment Plan. The efficiency of this spend will be examined as part of the RC3 process (or later revenue controls, depending on the timing of the projects).

The CRU will continue to monitor Irish Water's actual spend and delivery during 2018 and its updated forecast for the delivery of the 2016 Investment Plan in subsequent years. The CRU will publish a further report on this later this year.

The CRU is currently undertaking its revenue review process for the years 2020 to 2024. In addition to reviewing Irish Water's proposed expenditure and capital investment plan for the years 2020-2024 this review will look back at Irish Water's spend in the years 2014 (Q4) to 2019 to determine its efficiency and effectiveness, including the data included in this report. It is during this process that the CRU will review Irish Water's performance against the approved 2016 Investment Plan during relevant years, including CRU audits of a sample of projects and programmes within the approved Plan. The CRU will publish a consultation paper seeking comments on its views on this and related proposed decisions regarding Irish Water's allowed revenue in that context later this year. This will be followed by a CRU decision.

## **Public Impact Statement**

Monitoring and reporting helps to ensure that Irish Water performs in an open and transparent manner and keeps the public, and other key stakeholders, informed of Irish Water's performance. It also provides Irish Water with a reputational incentive to deliver required outputs and outcomes on time and in budget. Monitoring also supports the CRU in making evidence-based decisions.

This report provides an overview of the investments completed by Irish Water in 2017 and provides an update on how Irish Water will deliver on its approved 2016 Investment Plan based on actual information submitted by the utility to the CRU as at end March 2018.

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# 1. Introduction

## 1.1 Background

The CRU's primary objective as the economic regulator of Irish Water is to protect the interests of Irish Water's customers. The key way in which the CRU delivers on this objective is by periodically reviewing, and ultimately approving, Irish Water's proposed costs for delivery of defined outcomes and outputs and by setting customer service levels.

In that context, Irish Water makes submissions to the CRU outlining its view of what it needs to spend over several years known as a revenue control period. The CRU reviews these submissions and determines the amount of revenue that Irish Water can recover in each period. This revenue allows Irish Water to fund necessary costs and is the basis for charges. As part of each revenue control process the CRU looks back at Irish Water's performance in the previous revenue control period and formally assess the efficiency of its expenditure. The CRU can disallow expenditure that is not considered to be efficient. Irish Water's delivery is monitored during each revenue control period against the Investment Plans that are approved by the CRU.

Irish Water's Investment Plans set out the capital projects and programmes that Irish Water plans to progress and deliver for the money allowed by the CRU. They set out the outputs and outcomes to be delivered for the investment and are integral to maintaining and upgrading water and wastewater assets, to improving quality and compliance, to providing enhanced service levels to customers and to facilitating growth. In December 2016, the CRU published its decision on the amount of money Irish Water could spend in the years 2017 and 2018<sup>3</sup>. This included money to progress and deliver the projects and programmes in Irish Water's 2016 Investment Plan that was provided to the CRU by Irish Water as part of that revenue control process (IRC2). The CRU is now monitoring Irish Water's delivery of the approved 2016 Investment Plan. While acknowledging that Irish Water provided its updated forecast of its delivery of the 2016 capital Investment Plan in its first monitoring submission in October 2017, the CRU will continue to monitor against the 2016 Investment Plan, as the projects, programs and associated costs in that plan were assessed by the CRU as part of the IRC2 process and expenditure and charges approved by the CRU on that basis. Following the conclusion of the CRU's RC3 process, the CRU will monitor Irish Water against a new capital investment plan for the 2020-2024 period approved as part of that process. The CRU will publish reports during the

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<sup>3</sup> This decision was subsequently extended to include 2019: [Irish Water Revenue Control 2019 Revenue Control 2 \(2017/2018\) One-Year Extension](#)

2020-2024 period based on this monitoring activity which will set out Irish Water's progress in progressing and delivering the new plan.

As part of its current regulatory oversight, the CRU also monitors Irish Water's implementation of service requirements under the Customer Handbook and has established the Irish Water Performance Assessment framework which will allow the CRU to assess performance across customer service, environmental performance, the quality of water supply, the security of water supply and sewerage service.

This paper provides an overview of Irish Water's delivery of that Investment Plan based on a submission received from Irish Water at the end of November 2018. The information provided contains actual data to the end of March 2018 and forecasts from that point on.

The CRU published a monitoring report for the first half of 2017 last year.<sup>4</sup> This paper is a follow on and considers Irish Water's performance in the full year 2017 and Irish Water's forecast delivery of the 2016 Investment Plan in subsequent years.

The CRU is currently undertaking its third revenue control process. As part of this process the CRU will examine whether Irish Water has efficiently progressed the approved 2016 Investment Plan for the years 2015-2019, whilst also assessing Irish Water's next, proposed investment plan. The CRU will consult on its considered views on this matter and its related proposed decisions later this year before reaching a decision. For that reason, the CRU is not providing an assessment of the efficiency of historic capital investments, nor forecast capital investment costs as part of this monitoring report.

### **1.1.1 Related Documents**

- [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](#)
- [CRU18057 Irish Water Capital Investments Monitoring Report Jan - June 2017](#)

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<sup>4</sup> Extracts from this first CRU monitoring report are set out in the Appendix to this document for ease of reference. For the full report please see: Irish Water Capital Investments Monitoring Report Jan-June 2017, CER/18/05, April 4th 2018 ([https://www.cru.ie/document\\_group/irish-water-s-capital-investment-outputs-2016/](https://www.cru.ie/document_group/irish-water-s-capital-investment-outputs-2016/)).

## 2. Capital Investment in 2017

Irish Water's Investment Plan contains a mix of projects, national programmes and capital maintenance programmes.

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

In 2017 Irish Water spent €292m on projects. Specific projects that were delivered include a new wastewater treatment plant in Kinvara, Galway and new water treatment plants and reservoirs in Burncourt and Fethard, Tipperary. Most of the spend on projects relates to progressing projects that require multiple years to complete and are due to be completed in 2018 and beyond. Irish Water is forecasting that its overall portfolio of projects will cost more and face extended timelines for delivery when compared with the Investment Plan submission in 2016 (see section 3, below).

Irish Water has spent €197m on programmes and maintenance in 2017. Irish Water has reprioritised its spend relating to programmes and maintenance and has developed several new programmes including the rationalisation programme which targets rationalising a number of underperforming water treatment plants by laying a watermain connection to a neighbouring plant. It has also accelerated spend relating to some drinking water quality programmes including the disinfection programme.

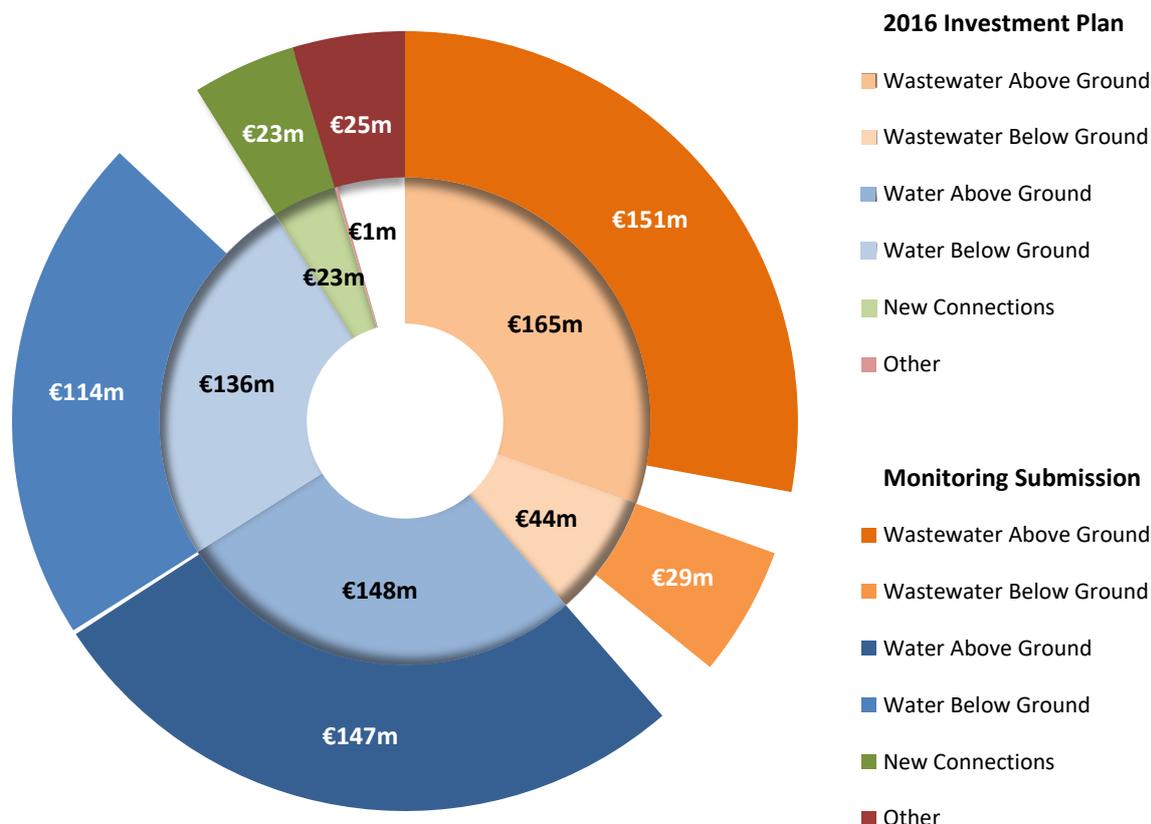


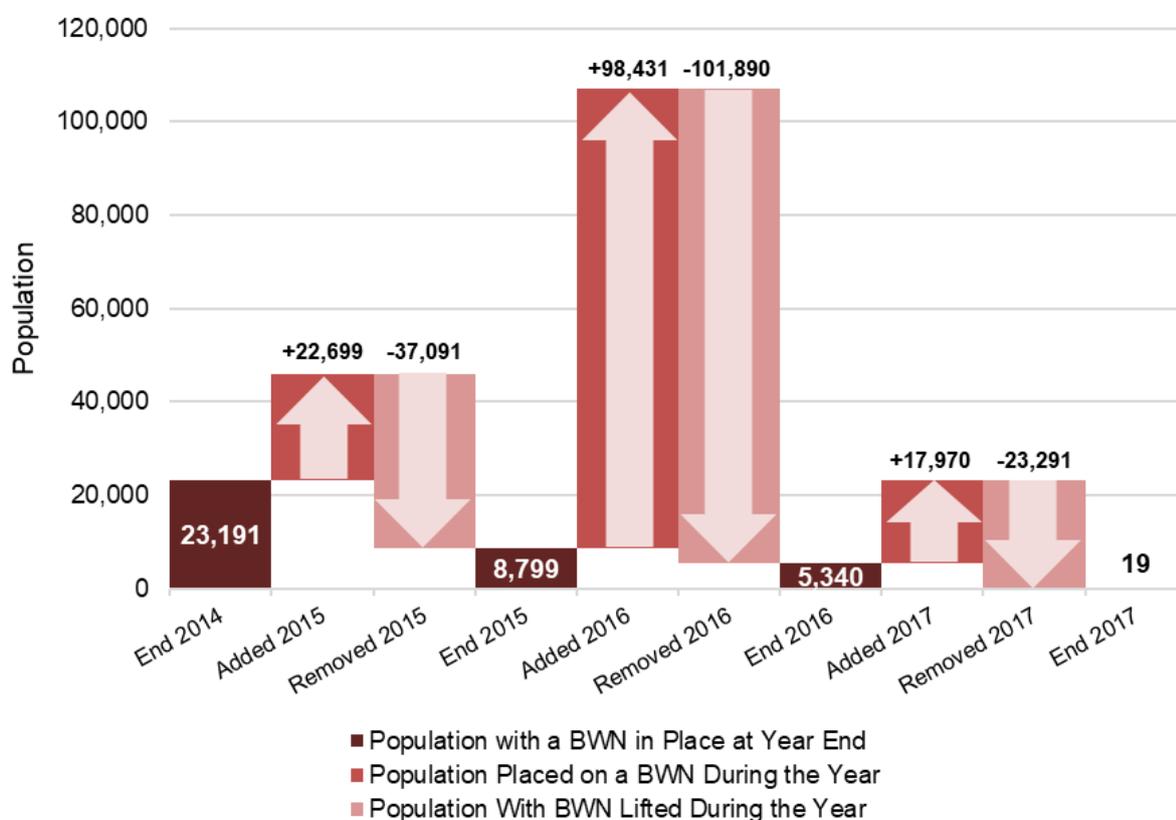
Figure 1 - Balance of Spend Across Asset Category in 2017

## 2.1 Outputs and Outcomes

### 2.1.1 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 (the 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 2 - Number of People on a Boil Water Notice**

Compared with 2016 there were fewer people on a boil water notice at the end of the year and fewer people affected by boil water notices issued during 2017. Over half of all boil water notices in 2017 were in place for less than a month.

The EPA reports that, at the end of 2017, seven boil notices were in place affecting 41 people. The difference with the Irish Water figures is due to the fact that the EPA reports on several small supplies, but Irish Water does not as it seeks clarification over responsibility.

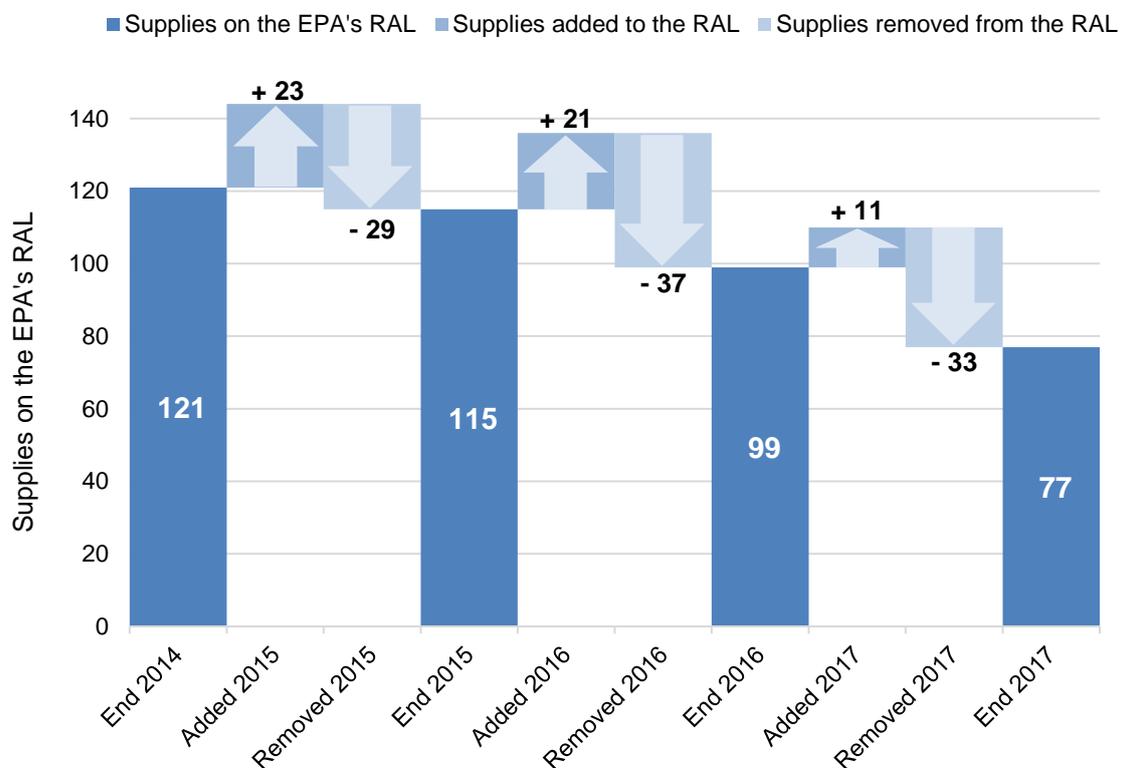
In its Investment Plan submission Irish Water included projects and programmes to remove boil water notices which had been in place for more than 200 days when Irish Water was established by the end of 2021. These boil water notices were affecting over 23,000 people and have now been removed.

### 2.1.2 The EPA's RAL

The EPA's Remedial Action List (RAL) includes public supplies where water quality issues arise because of the performance of the water treatment plant.

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). The RAL is a dynamic list of public water supplies requiring action to improve performance. In the period 2015 to 2017, the EPA has added 55 supplies to the RAL and 99 supplies have been removed. At the end of 2017 there were 77 supplies on the EPA's RAL.

Irish Water's Investment Plan includes projects and programmes that target improvements at 65 supplies that have been on the EPA's RAL since the end of 2014. Irish Water's submission shows that, at the end of 2017, 46 of these supplies remained on the list.



**Figure 3 – Supplies on the EPA's RAL**

### **2.1.3 Lead Pipe Replacement Programme**

Irish Water estimated that there were 40,000 shared lead service connections in 2014 which loop off the mains and serve several properties. In its 2016 Investment Plan, Irish Water has targeted replacing over 18,000 of these shared lead service connections by the end of 2021. By the end of 2017 Irish Water had replaced 2,484 backyard lead connections.

Irish Water has estimated that there are 140,000 individual lead service connections. Irish Water has targeted replacing over 23,000 of these by the end of 2021. By the end of 2017 Irish Water had replaced 1,906 individual lead connections.

### **2.1.4 Leakage**

Irish Water is not yet reporting to the CRU on the amount of water being lost to leaks on either the public network or customer supply pipes. Irish Water has advised that with the roll out of its leakage management system, it will be in a position to provide the CRU with an estimate of leakage in 2019. Irish Water had planned to deliver its leakage management system by the end of March 2018 in its revenue control submission in 2016. Irish Water is now targeting the end of 2019 to report on leakage. In place of reporting to the CRU on leakage, Irish Water has provided a figure for 'unaccounted for water'.

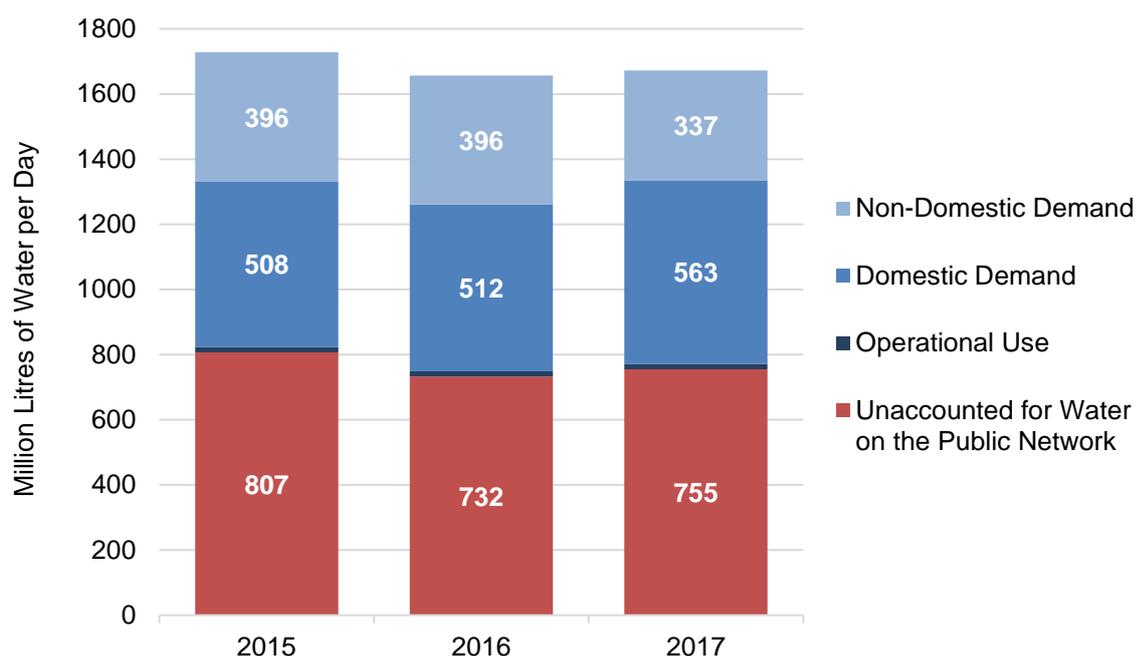
Irish Water has provided an estimate of the water it uses on the distribution system by multiplying distribution input by 1% (Irish Water has not provided a rationale for this assumption) and an estimate of the water demanded by domestic and non-domestic customers (this includes water lost to leaks on the customer's property). Irish Water has categorised the remainder of the water put into the distribution network as 'unaccounted for water'.

It is expected that the 'unaccounted-for water' includes a mix of:

- Unbilled water including;
  - All water used by Irish Water.
  - Water used by fire services and other unbilled use.
- Apparent losses;
  - Water used at connections not recorded on Irish Water's system.
  - Under-recorded use by customers because of, for example, broken water meters and data handling errors.
- Real Losses on the public network from leaks and overflows.

The annual average daily volumes for Domestic Demand and Non-Domestic Demand in Figure 8, below, includes water lost to leaks on customer properties. The Non-Domestic Demand figures also include metered water used at Irish Water’s wastewater treatment plants and pumping stations.

Irish Water is reporting that the annual average daily unaccounted for water was higher in 2017 than 2016.



**Figure 4 - Annual Average Daily Water Demand**

Under Irish Water’s first fix free scheme, metered domestic customers are notified when Irish Water 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. Irish Water may then offer domestic customers a free leak investigation and free leak repair for leaks on the external customer supply pipe. Since the beginning of the scheme in 2015, repairs carried out by Irish Water under the scheme have resulted in 53 million litres of water being saved every day. These savings do not necessarily result in a comparable reduction in the total amount of water being lost on the domestic private side of the network, as new leaks materialise. To reduce the overall amount of water lost to leakage, leaks must be found and repaired quicker than new leaks appear.

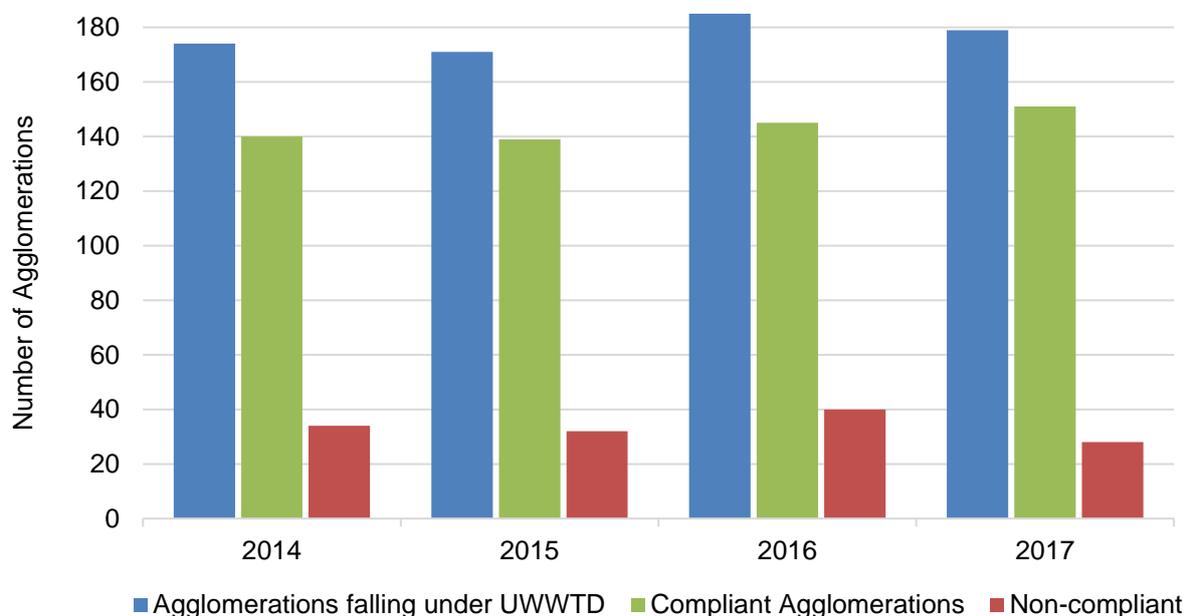
From the beginning of the programme to the end of 2017, repairs carried out by customers after being informed by Irish Water of a potential leak on their property have resulted in an additional 62 million litres of water being saved every day.

### 2.1.5 Mains Replacement

In 2017, Irish Water replaced or rehabilitated 209km of watermains. This represents 0.33% of Irish Water’s network and a replacement rate of once every 300 years.

### 2.1.6 The Urban Waste Water Treatment Directive

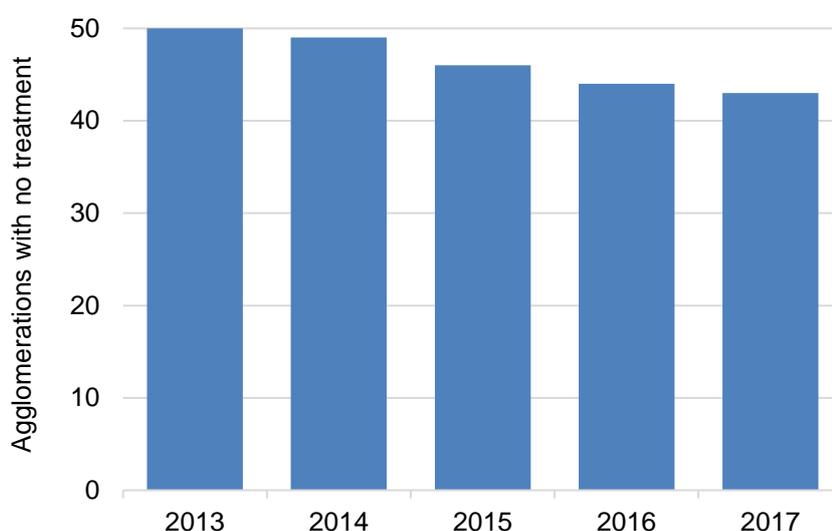
The Urban Waste Water Treatment Directive sets requirements for the collection and treatment of wastewater from large urban areas to protect the environment. The Directive sets quality limits that the treated wastewater must meet depending on the size of the urban area and the type of water body the treated wastewater is discharged to. There were 179 large urban areas in 2017. Of these, 151 large urban areas were compliant with the treatment and effluent quality standards of the Directive. This has been increased from 140 in 2014.



**Figure 5 - Compliance with the treatment and effluent quality standards of the Urban Waste Water Treatment Directive**

### 2.1.7 Agglomerations with no Wastewater Treatment

In 2013 there were 50 agglomerations in Ireland that were discharging untreated wastewater into the environment. By the end of 2017 Irish Water had completed work in seven agglomerations to reduce this number to 43. Irish Water’s 2016 Investment Plan has targeted providing treatment at 25 of these agglomerations by the end of 2018. Irish Water is now forecasting that this target will not be met and that only 13 of the agglomerations will be connected to wastewater treatment plants at the end of 2018.



**Figure 6 - Agglomerations Providing No Treatment or Preliminary Treatment Only**

### 2.1.8 UWWTD Infringement Case

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 Court of Justice of the European Union in February 2017. 24 agglomerations remained on the list at the end of 2017.

### **2.1.9 Energy Efficiency**

Irish Water is required to 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. By the end of 2017 Irish Water had achieved an energy efficiency improvement of 22.4%, surpassing its target for 2018.

In addition, Irish Water has reported a reduction in its greenhouse gas emissions each year since its establishment from 266,397 tonnes CO<sub>2</sub> eq. in 2014 to 233,503 tonnes CO<sub>2</sub> eq. in 2017.

### 3. Investment Plan 2017-2021 Delivery

In its 2018 investment monitoring submission, Irish Water is forecasting that it will broadly retain the balance of spend across asset categories during the years 2017-21 (Figure 7). Irish Water provided its first monitoring submission under the 2016 Investment Plan to the CRU in October 2017 which set out its updated delivery forecast and associated costs. This report is based on the second monitoring submission received by the CRU from Irish Water regarding delivery of the 2016 Investment Plan. Compared to the 2016 Investment Plan, Irish Water has stretched its spend and delivery of a significant portion of its portfolio of projects into the period after 2021 as highlighted in Figure 8 and Figure 9, below.

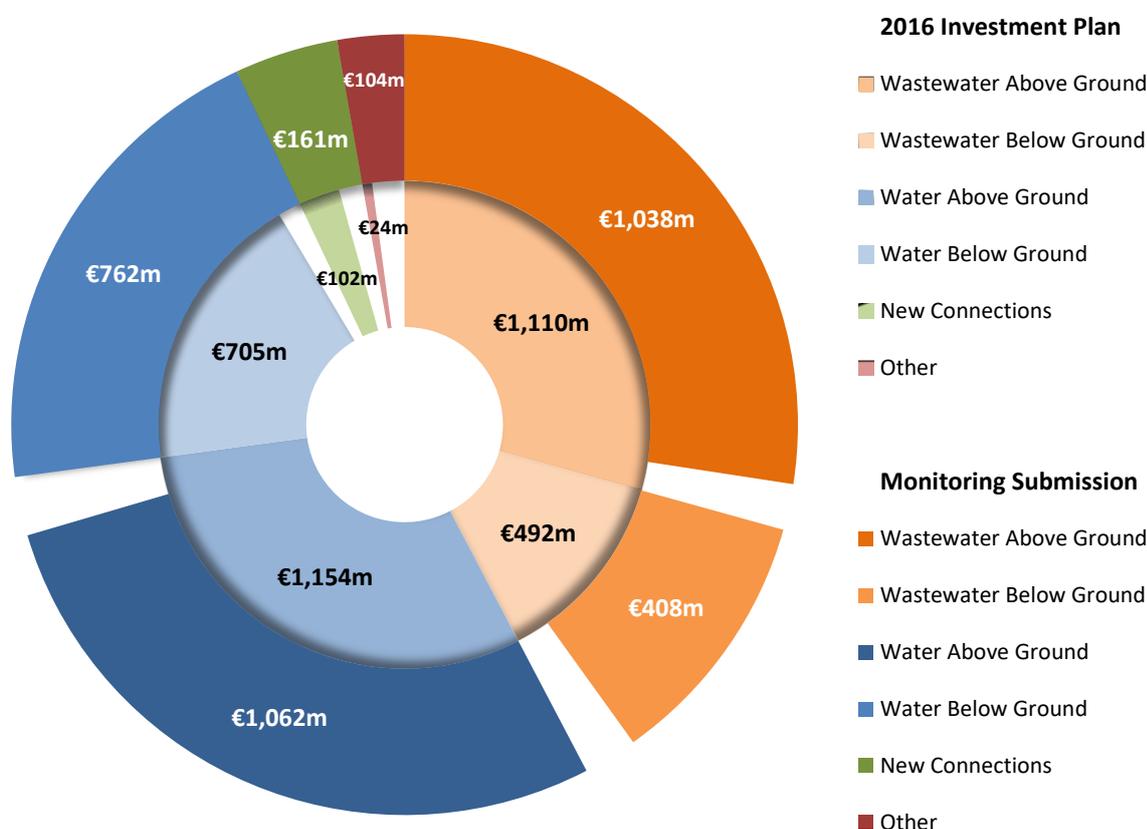


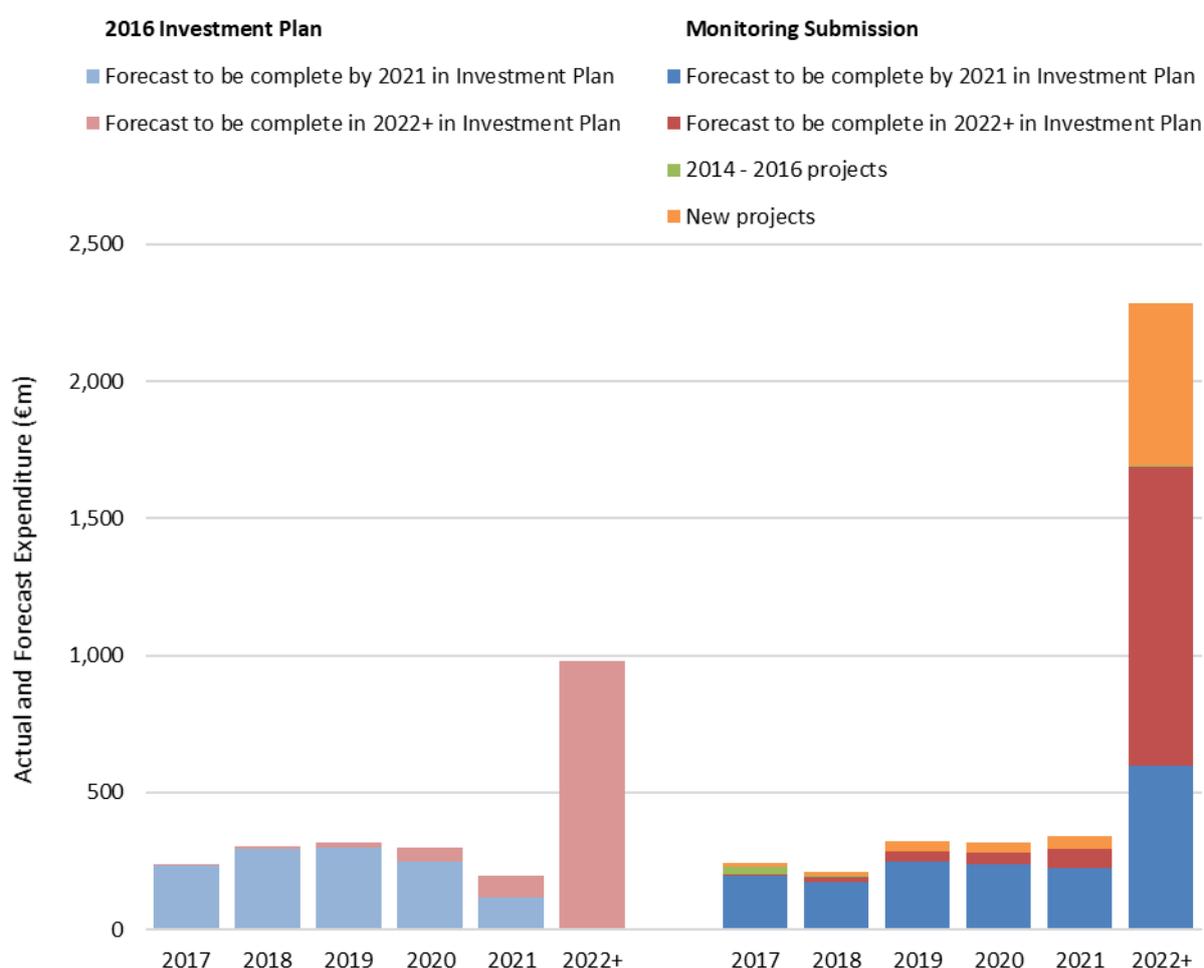
Figure 7 - Balance of Spend Across Asset Category in 2017 to 2021

The graphs below are based on Irish Water’s submission to the CRU at the end November 2018. They show Irish Water’s actual spend in 2017 and forecasted spend in subsequent years.

Irish Water has reprioritised and refined its delivery of projects. Some projects have been split into separate deliveries, while others have been merged into one. Irish Water has also included several new projects that are now being progressed in the 2017-2021 period, while 26 projects

have no forecast spend in the monitoring submission. There are also several projects that were expected to be completed by the end of 2016 that continue to have expenditure in the years 2017 and beyond.

Figure 8, below, illustrates Irish Water’s proposed annual expenditure to deliver its portfolio of projects in the Investment Plan submitted to the CRU in August 2016 and Irish Water’s updated forecast annual expenditure on projects from its monitoring submission, submitted in November 2018. The figures do not include Irish Water’s five major projects, which are covered separately in section 4, below, or Irish Water’s forecast spend on national programmes and maintenance.



**Figure 8 – Irish Water’s Actual and Forecast Spend on Projects.**

The blue bars represent the annual forecast spend for projects that were expected to be finished by 2021 when the Investment Plan was submitted in August 2016. In the 2016 Investment Plan these projects had a forecast spend of €1,184m in the years 2017-2021. In the monitoring submission these projects have a forecast spend of €1,079m in the years 2017-

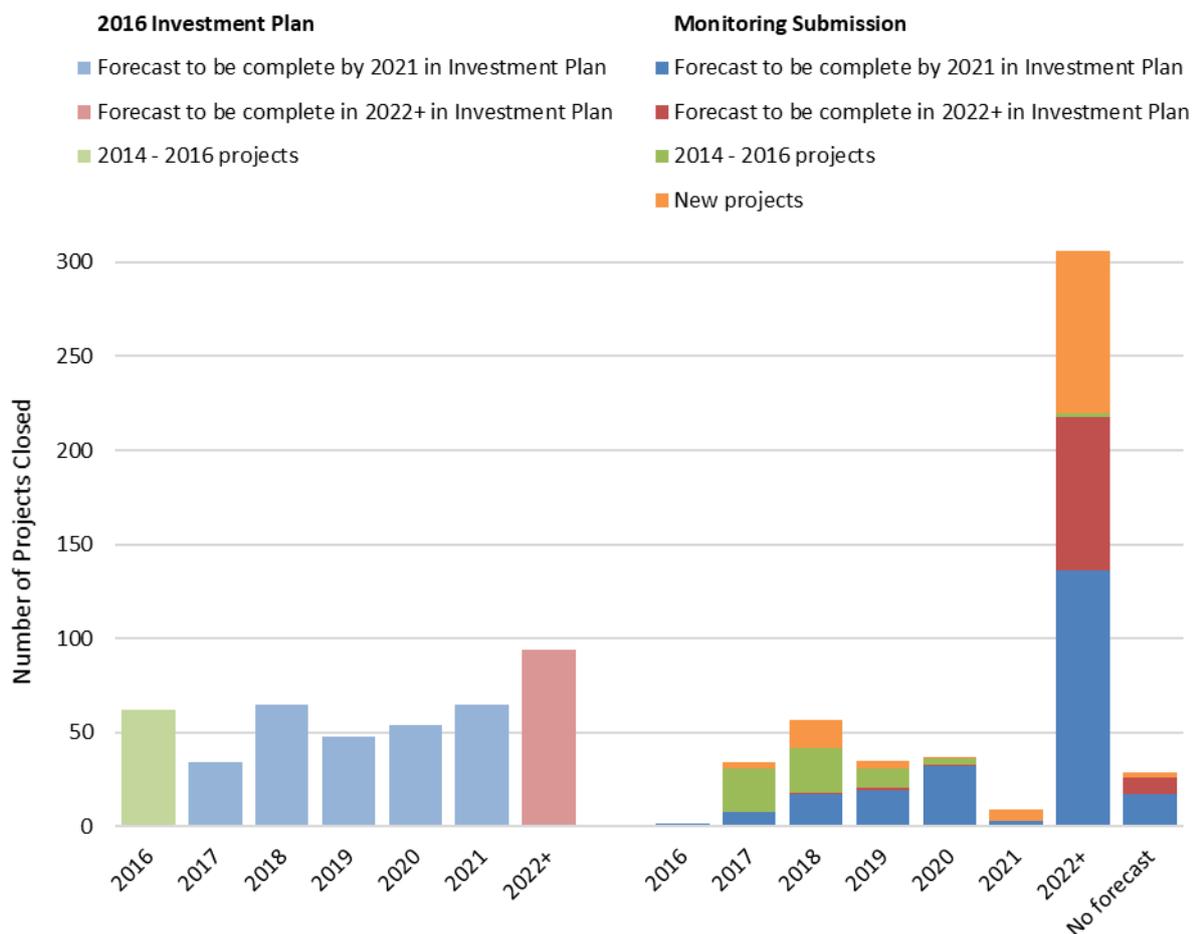
2021, a decrease of €106m. However, there is now a forecast spend of €598m in the years 2022 onwards associated with these projects and most of these projects will not now be completed by 2021. Irish Water is now forecasting an increased total expenditure of €493m to deliver these projects. The CRU will consider this when reviewing the efficiency of Irish Water's expenditure on capital investments during the current RC3 process this year. This will include an examination of the drivers for any re-prioritisation of projects and Irish Water's application of its process to prioritise investments as submitted to the CRU previously.<sup>5</sup>

The red bars are those projects that commenced in the period 2017 to 2021 but were forecast to be finished in the period 2022 and beyond when the Investment Plan was submitted in August 2016. In Irish Water's 2016 Investment Plan these projects had a forecast spend of €163m in the years 2017-2021 and a forecast spend of €978m in the years 2022 onwards. In the monitoring submission these projects have a forecast spend of €171m (an increase of €8m) in the years 2017-2021 and €1,091m in the years 2022 onwards (an increase of €113m). This represents an increased total forecast expenditure of €121m to deliver these projects.

Figure 9, below, illustrates that the number of projects from the 2016 Investment Plan on which Irish Water will be spending money in the period 2022 and beyond more than doubles. Some projects that were expected to be finished after 2021 have been reprioritised and will now be delivered in the period 2017 to 2021, along with some new projects that were not in the 2016 Investment Plan. However, there is a significant list of projects that Irish Water had forecast in its 2016 Investment Plan would be completed by 2021, which will not now be completed until 2022 and beyond.

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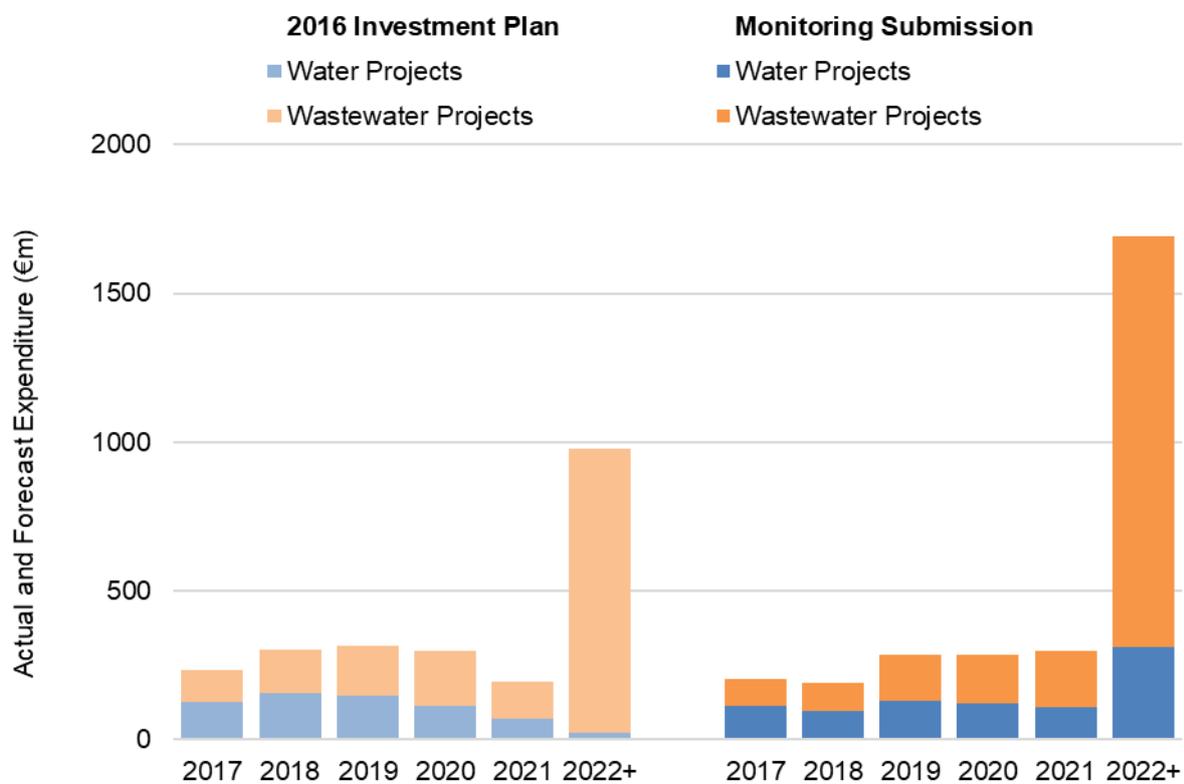
<sup>5</sup> Please see section 5.4.6 of *Irish Water Second Revenue Control 2017-2018 Decision Paper*, CER/16/342, December 12<sup>th</sup> 2016 for an overview of Irish Water's investment planning process: <https://www.cru.ie/wp-content/uploads/2016/07/CER16342-CER-Decision-on-Irish-Water-Revenue-for-2017-2018-4.pdf> .



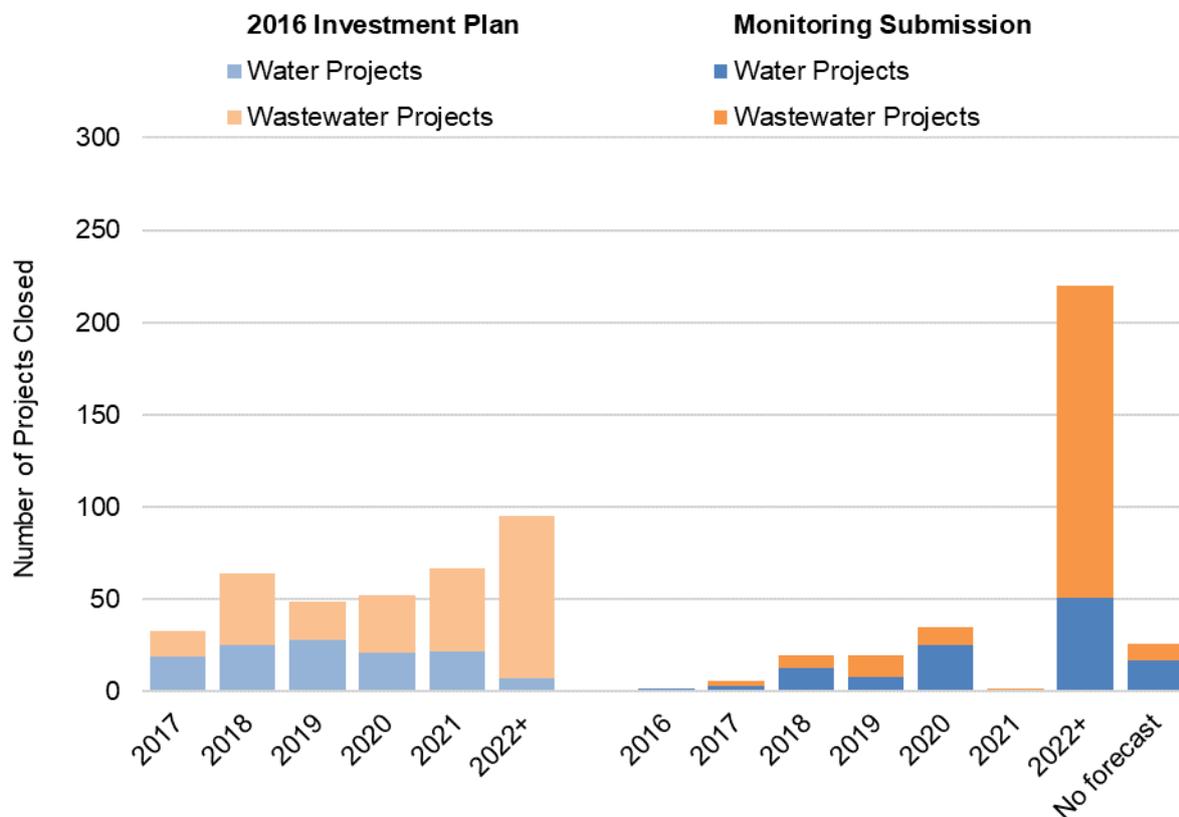
**Figure 9 – Final Year of Spend on Projects**

Figures 10 and 11, below, illustrate Irish Water’s delivery of projects, split out by water and wastewater, that are in both the 2016 Investment Plan and in the monitoring submission (i.e. they do not include new projects or projects that were expected to be completed by the end of 2016).

Irish Water’s 2016 Investment Plan had included a proposed spend of €2,324m to complete this portfolio of projects. As noted above, Irish Water is now forecasting that an increased spend of €634m across this portfolio of projects will be required (Figure 10), reflecting updated cost estimates relative to those developed in 2016. In this report, CRU is not making an assessment of this expenditure. The assessment of the efficiency of these projects will be completed as part of the CRU’s revenue control processes.



**Figure 10 - Irish Water's Actual and Forecast Spend on Projects**



**Figure 11 - Final Year of Spend on Projects**

Irish Water will increase spend on national programmes in 2017 to 2019 relative to its 2016 Investment Plan with most of the increase relating to water programmes. Increased investment is forecast in areas including mains rehabilitation, programmes targeting improvements in drinking water and new programmes including the water treatment plant rationalisation programme and a new regional biosolids storage facility.



**Figure 12 – Irish Water’s Actual and Forecast Spend on National Programmes and Maintenance**

Across the monopoly network utilities that it regulates in the energy and water sectors, the CRU recognises that costings, timelines and scopes of some individual projects and programmes can vary, for example, those that are at scoping phase when such utilities make revenue control submission to the CRU. The CRU also recognises that situations may arise where such utilities are required to reprioritise and accelerate individual projects or programmes if, for example, new information changes the risk profile of an asset.

While changes may occur at project and programme level, the CRU expects that, on balance, the monopoly network utilities that it regulates deliver investment portfolios of equivalent or greater benefit to that in CRU approved capital investment plans.

Reprioritisation of projects and programmes should follow a risk-based approach to investment planning as reviewed by the CRU at each revenue control. In addition, where a network utility has underestimated the cost or required timeline for some individual projects and programmes when in the early stage of development, it can be expected that across an entire capital investment plan this will be offset through, for example, value engineering.

## 4. Major Projects

There are five projects within Irish Water's 2016 Investment Plan of significant spend and strategic importance that the CRU requires more detailed updates from Irish Water. 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. These projects tend to be progressed in phases with costing of discrete phases in that context. As stated above, the CRU is not, in this report, assessing the efficiency of the forecast or actual capital expenditure<sup>6</sup>. That assessment will take place as part of the revenue control process. In the meantime, these forecasts are included in this report as they represent what Irish Water now plans to spend to deliver the five projects in question to provide an estimate of future spend on Irish Water's investment priorities. These forecasts also form the basis for Irish Water's proposed capital investment plan for 2020-2024 which the CRU is reviewing as part of the RC3 process.

Total forecast spend across the five projects is now €2,364m compared with €2,070m in the 2016 Investment Plan.

- 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 operational, treating more than 50% of the Lower Harbour's wastewater load. Irish Water is forecasting that the southern sewer networks aspect of the project will be completed by 2019. Forecast total spend on the project has increased from €118m to €131m.
  
- Greater Dublin Drainage Project – to provide a new regional wastewater treatment facility and the associated infrastructure to serve the growing population of Dublin area.
  - Irish Water's monitoring submission forecasts that the project will be complete in 2024. In 2016 Irish Water was targeting a completion date in 2023. Forecast total costs for the project have fallen from €520m to €486m. A planning application was lodged with An Board Pleanála in June 2018.
  
- Ringsend Wastewater Treatment Plant Upgrade Project – to provide increased capacity and effective nutrient removal at the Ringsend plant. The latest phase of this project is currently

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<sup>6</sup> The submission from Irish Water which forms the basis for this monitoring report is based on actual Irish Water data to the end of March 2018.

progressing through statutory planning processes and is therefore subject to revision in that context.

- Irish Water is forecasting that the project will be complete by 2024 but that the plant will be discharging effluent compliant with the Urban Waste Water Treatment Directive by 2021. Forecast total spend on the project has increased from €363m to €416m.
  
- Vartry Regional Water Supply Scheme – to provide a new treatment plant, upgrades to the Vartry reservoir and replacement of the 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, with forecast total costs falling from €154m to €129m.
  
- 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 2027 compared with 2024 in its 2016 Investment Plan. Irish Water is now forecasting that the project will cost €1,202m compared with €915 in the 2016 Investment Plan.
  - Irish Water is awaiting the enactment of relevant water abstraction legislation prior to submitting a planning application to An Bord Pleanála for this project.

## 5. Next Steps

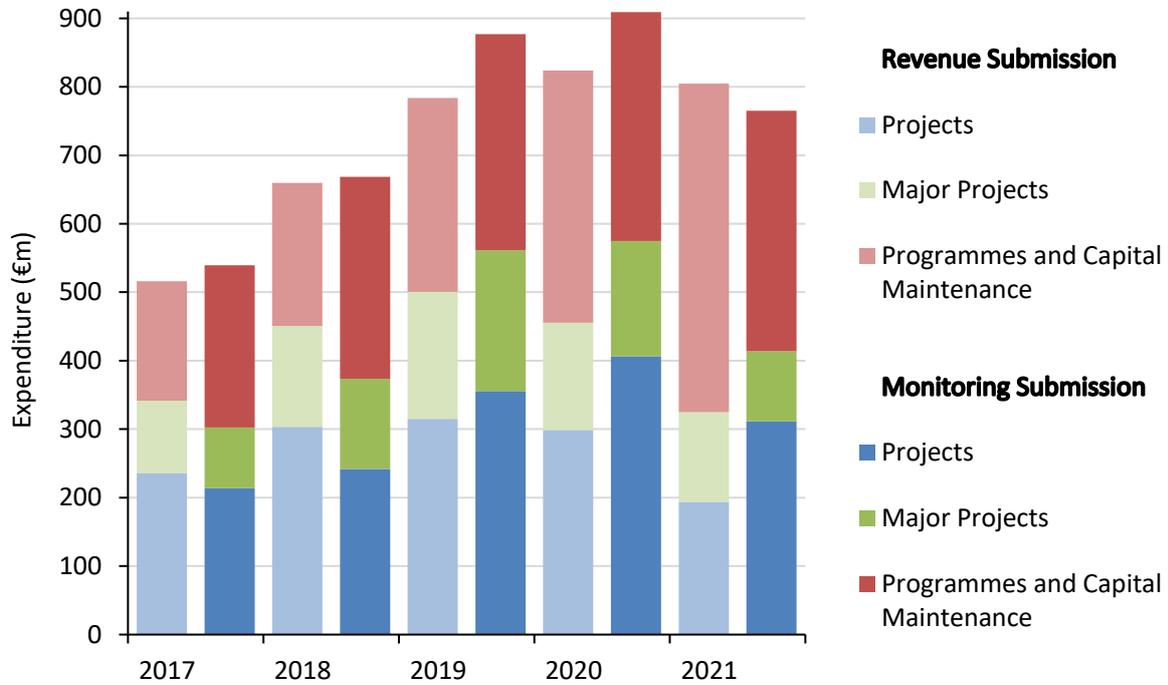
The CRU will continue to monitor Irish Water's actual spend and delivery during 2018 and its updated forecast for the delivery of the 2016 Investment Plan in subsequent years. The CRU will publish a further report on this later this year.

The CRU is currently undertaking its revenue review process for the years 2020 to 2024. In addition to reviewing Irish Water's proposed expenditure and capital investment plan for the years 2020-2024 this review will look back at Irish Water's spend in the years 2015 to 2019 to determine its efficiency and effectiveness. This process includes review of Irish Water's performance against the approved 2016 Investment Plan during relevant years, including CRU audits of a sample of projects and programmes within the approved Plan. The CRU will publish a consultation paper seeking comments on its views on this and related proposed decisions regarding Irish Water's allowed revenue in that context later this year. This will be followed by a CRU decision.

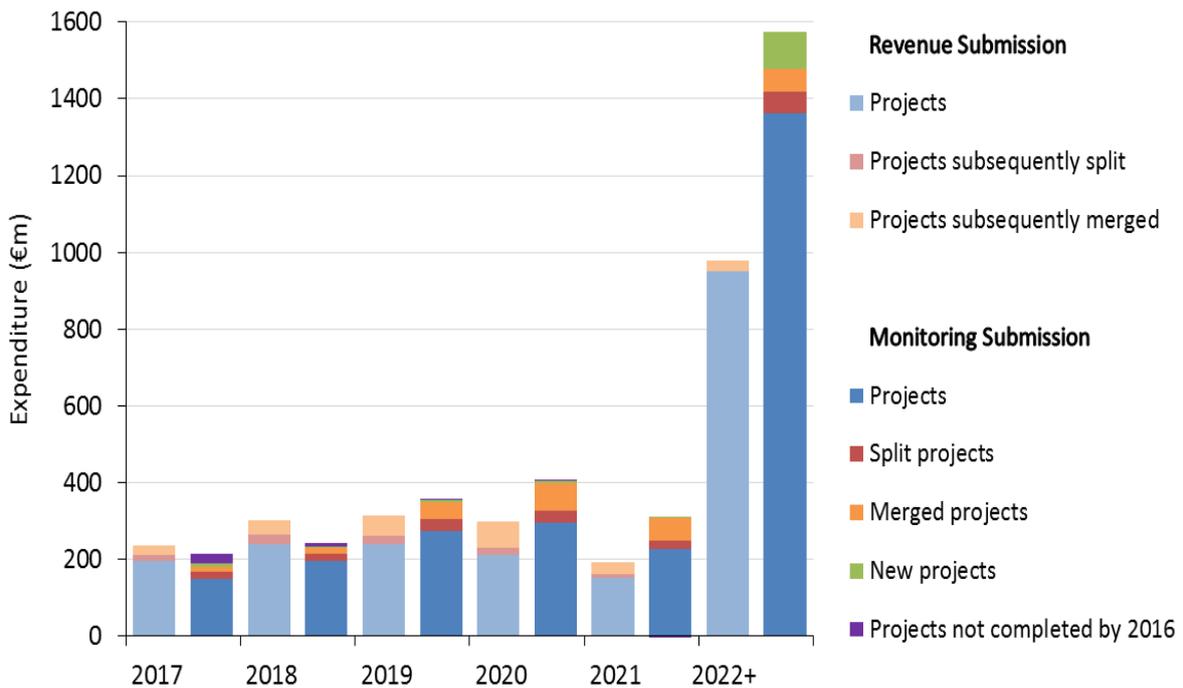
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# Appendix

**Extract: Irish Water Capital Investments Monitoring Report Jan-June 2017, CER/18/057, April 4th, 2018**



**Figure 13 – Irish Water’s Proposed 2017 to 2021 Spend by Investment Category IRC2 Submission vs Irish Water’s H1 2017 Monitoring Submission**



**Figure 14 – Irish Water’s Proposed Projects Spend IRC2 Submission vs Irish Water’s H1 2017 Monitoring Submission**