

Irish Water

Interim Revenue Control 2 Rollover

Submission for 2019 costs



Executive Summary

On 7 December 2017, the Commission for Regulation of Utilities (CRU) published an Information Paper on the Irish Water (IW) Revenue Control for 2019 (CRU/17/332).

The Information Paper set out the CRU's decision to extend the current revenue control period (Interim Revenue Control 2 or IRC2) by one year, so that it will cover the period from the start of 2017 until the end of 2019. This means that the next revenue control will start in January 2020.

Further to the publication of CRU/17/332 this document outlines IW's operational (Opex) and capital expenditure (Capex) requirements for 2019. All monies are in 2017 prices unless otherwise stated.¹

The key rationale for the establishment of a national water utility was to drive savings and efficiencies while at the same time improving the quality of services provided to customers. IW has made real gains in this regard since becoming the national water services utility on 1 January 2014. Achievements to date include the following:

- Removal of Boil Water Notices for over 20,000 people that had been in place at the start of 2014 for greater than 200 days;
- Effective incident response to two major storm events (Ophelia and Eleanor), returning service to customers within days;
- Worked with LA partners to address major service disruptions to our customers in Drogheda and Limerick;
- Completion of work at 126 supplies on the EPA's remedial action list (RAL) up to the end of 2017;
- Commissioning of seven new water treatment plants and upgrading of another 26;
- Provision of wastewater treatment at six agglomerations previously discharging raw sewage;
- Commissioning of 37 new wastewater treatment plants and upgrading of another 45;
- Delivery of nearly 1000kms of new or rehabilitated watermains;
- Completion of over 350,000 work orders following deployment of the Work and Asset Management system (Maximo) to all 31 Local Authorities (LAs), including roll-out of c. 1,100 hand held devices providing real time information;
- Closing out over 1,400 Health & Safety corrective actions in 2017, ensuring a safer work environment for IW and our LA partner staff;
- Development of a new National Telemetry Strategy (NTS) which will enable remote monitoring and data collection;
- Procurement, design and initial build of a new national Leakage Management System; and
- The migration of all non-domestic customers from the LA billing systems to one single IW billing system.

Such operational and service improvements for customers had to be delivered while also pursuing the very challenging efficiency targets set by the CRU. While progress is both clear and quantifiable, with c. €25m of efficiencies projected in 2018, much remains to be done to achieve the cost and service performance levels of international peers.

¹ Please see the following link [here](#) to HICP inflation rates.

IW's asset base still suffers from serious deficiencies and there is a clear compliance deficit across water and wastewater. This has resulted in EPA sanction and European Court of Justice action against Ireland. Significant mains burst in Drogheda (water) and Limerick (wastewater) in 2017 further highlight the operational vulnerability of the existing infrastructure and the risk of serious customer impact. Appropriate regulatory allowances are crucial to address these critical needs.

Within funding and delivery constraints, IW is continuing to prioritise investment in the areas which most urgently need to be addressed and this is reflected in our cost projection for 2019. Below we set out a summary of 2019 Opex and Capex requirements, followed by a high level overview of each element.

Cost Category	2019 Requirement
Total Opex	€757m
<i>Controllable Opex</i>	€702m
<i>Uncontrollable Opex</i>	€55m
Total Capex	€899m
<i>Network Capex</i>	€802m
<i>Non-Network Capex</i>	€97m

Table 1: Opex and Capex Expenditure requirement for 2019 (2017 monies rounded)

Controllable Opex

Consistent with the CRU's approach to the IRC2 determination, we have used the projected outturn for 2018 as the basis for establishing the Controllable Opex requirement for 2019. As summarised in the table below, IW is projecting that we will deliver the CRU's very challenging 5% efficiency requirement for 2017 and 2018. However, IW is also incurring essential additional expenditure relating to environmental and regulatory compliance, growth in our asset base, growth in the economy, and externally driven costs. These are explained in the main body of this submission paper.

A similar outcome is expected in 2019. IW is targeting an ambitious cost savings programme of €23m but non-discretionary additional cost will be incurred in meeting compliance, growth, and service demands. At an aggregate level, we are projecting a moderate net increase of €7m (c.1%) in Controllable Opex in 2019.

Controllable Opex	2018	2019
CRU Allowance	€674m	N/A
Projected Out-turn	€695m ²	€702m
Efficiencies projected	€25m out of €28m CRU target	€23m
Essential additional expenditure	€33m ³	€31m

Table 2: 2018 and 2019 Opex (2017 monies rounded)

IW accepts the requirement to reach the efficiency and performance levels which have been achieved by other utilities in the water sector. This can only be delivered through transformation of the industry operating model. IW has commenced this process with the design of the Single Public Utility under the Water Industry Operating Framework (WIOF) Programme but the pace of delivery is being determined by a complex engagement process with multiple stakeholders.

IW's IRC2 submission included an indicative timeline for the Single Public Utility implementation and associated efficiency savings. The pace of the Single Public Utility implementation is highly dependent on external factors, including progress on complex engagement with key stakeholders. As a result, the current timeline has moderated from the delivery profile set out in our original IRC2 submission and this is reflected in the estimated efficiency savings for 2018 and 2019.

In the interim period until the full Single Public Utility is fully delivered, IW continues to pursue the CRU's efficiency target across areas such as procurement, energy usage, and contractor management. The scope for such efficiencies is limited and is diminishing over time. Once these savings are achieved, further cuts in the absence of Single Public Utility implementation would have a detrimental effect on IW's core operations and compliance and service targets. IW remains committed to attaining peer efficiency levels but cost reductions must be carefully managed to ensure that they are sustainable. Savings must be enabled by, and aligned to, underlying transformation of industry structures and ways of working.

The Controllable Opex requirement of €702m is the minimum needed in 2019 to deliver safe and effective water services to customers, address urgent compliance requirements, and facilitate economic growth in the wider economy.

Non-Controllable Opex

The 2019 Non-Controllable Opex submission is comprised of Regulatory Levies of €5m and Commercial Rates which are estimated at €50m. Commercial Rates have been reinstated for IW in the Water Services Act 2017, subject to SI publication by the Minister for Housing, Planning and Local Government.

² Allowance versus out-turn delta of €21m is explained by essential additional expenditure of €33m; less reduced Domestic Customer Service costs of €18m; plus 2018 efficiency underperformance of €3m; plus 2017 controllable Opex underperformance of €3m.

³ Essential additional expenditure of €33m includes the reallocation of the unused €18m of Domestic Customer Service costs originally included in IRC2.

Network Capex

Network Capex relates to investment in the assets that deliver water and wastewater services to our customers. The repair and upgrading of our water and wastewater treatment plants and networks will require a multi-billion euro investment programme over several investment cycles. IW's long term investment planning strategy has been set out in our 25 year Water Services Strategic Plan (WSSP). This was subject to public consultation and approved by the Minister for the (then) Environment, Community and Local Government in 2015.

To date, IW has also produced two Capital Investment Plans (CIPs). 'CIP1' covered the 3 year period 2014-2016 and formed part of the IRC1 submission to the CRU. 'CIP2' covered the 5 year period 2017-2021 and formed part of the IRC2 submission. The CRU's IRC2 decision (CER/16/342) covered the period 2017-2018.⁴

Since submission to the CRU in August 2016, the profiles of expenditure and delivery set out in CIP2 have been reviewed. This was necessary to ensure that planned investment continues to meet national policy obligations, emerging customer and service needs, and economic growth requirements. The review also accommodates an updated view of estimated project costings and delivery schedules over CIP2. Such reviews are a common feature of large investment programmes in other utilities, both nationally and overseas, and reflect their scale and complexity.

This submission sets out network investment of €802m required for 2019 across projects, national programmes and capital maintenance programmes.

Non-Network Capex

Non-Network Capex refers to the investment which is needed in IT, Facilities, Fleet, and Business Change programmes to support operations, continuous improvement, and enhanced service to our customers. Importantly, it also includes the projected cost for rollout of the WIOF Programme in 2019. This industry transformation programme will implement a Single Public Utility to streamline organisational structures, optimise technology use, and enable improved efficiency in how water services are delivered to customers in Ireland.

IW is projecting Non-Network Capex expenditure of €97m in 2019, further details of which are provided in the main body of this submission document.

Executive Summary Conclusion

Since establishment in 2014, IW has demonstrated the capability to deliver on the cost and service mandate of a national water services utility. While we are on track to largely meet the CRU's very challenging 5% Opex efficiency targets for 2017 and 2018, we are also incurring essential additional expenditure to address urgent compliance, service and growth needs. Our 2017-2021 CIP2 capex programme continues to be rolled out and adapted in response to changing policy obligations and emerging requirements.

IW is now at an important transition as it commences implementation of one of the most ambitious transformation programmes in the history of the State. Work delivered through the LA partnership accounts for the large majority of IW's operational costs. As a result, successful implementation of the Single Public Utility through the WIOF Programme will be

⁴ Please see the CRU's decision paper at the following [link](#).

the key enabler of future efficiency. While IW is pursuing rollout as quickly as possible, the programme is of enormous scale and complexity and must be carefully managed in close co-operation and engagement with all involved stakeholders.

Ultimately, WIOF Programme delivery timelines will determine how quickly IW can reach peer levels of performance across both cost and service.

Our estimated capex for 2019 of €899m is in line with our Business Plan spend expectations out to 2021.

In 2019, IW is seeking the necessary Opex and Capex allowances to protect and enhance existing service levels, progress critical compliance requirements across both water and wastewater, and continue WIOF Programme progress towards the Single Public Utility.

Section one of the paper discusses our 2019 Opex requirement and the essential additional expenditure needed for 2018 and 2019. It also outlines the efficiencies IW expects to deliver across both years. Section two details the Network Capex requirement for 2019 and the expected IP2 cumulative outcomes to the end of 2019. Section three discusses the Non-Network Capex requirement for 2019, including the investment needed for the WIOF Programme. Section four is a brief conclusion to the points made in this submission.

1. 2019 Opex requirement

IW's operational cost base reflects the costs of providing water and wastewater services to our customers 24 hours a day, 365 days per year. It includes the costs of operating and maintaining our assets as well as the additional support activities required to sustain a national utility. IW's Opex is broken into Controllable and Non-Controllable costs as set out in the table and addressed separately below.

Cost Category	2019 Requirement
Total Opex	€757m
Controllable Opex	€702m
Non-Controllable Opex	€55m

Table 3: Controllable and Non-Controllable Opex requirement for 2019 (2017 monies rounded)

Controllable Opex

Consistent with the CRU's approach to the IRC2 determination, we have used the projected outturn for 2018 as the basis for establishing the Controllable Opex requirement for 2019. As summarised in the table below, IW is projecting that we will deliver the CRU's efficiency requirement for 2018, even with updated timelines for implementation of the Single Public Utility. However, IW will also incur essential additional expenditure relating to environmental and regulatory compliance, growth in our asset base, growth in the economy, and externally driven costs.

A similar outcome is anticipated in 2019. IW is targeting an ambitious efficiency saving of €23m but additional cost will, by necessity, be incurred in meeting compliance, growth, and service demands. At an aggregate level, we are projecting a moderate net increase of €7m (1%) in Controllable Opex in 2019.

Controllable Opex	2018	2019
CRU Allowance	€674m	N/A
Projected Out-turn	€695m ⁵	€702m
Efficiencies projected	€25m out of €28m CRU target	€23m
Essential additional expenditure	€33m ⁶	€31m

Table 4: 2018 and 2019 Opex (2017 monies rounded)

Below, we separately explain the drivers of both essential additional expenditure and efficiencies over the two year period 2018 to 2019.

⁵ Allowance versus out-turn delta of €21m is explained by essential additional expenditure of €33m; less reduced Domestic Customer Service costs of €18m; plus 2018 efficiency underperformance of €3m; plus 2017 controllable Opex underperformance of €3m.

⁶ Essential additional expenditure of €33m includes the reallocation of the unused €18m of Domestic Customer Service costs originally included in IRC2.

Essential additional expenditure

Essential additional expenditure is categorised in the table below for both 2018 and 2019.

2018 & 2019 cost increases	2018 €m	2019 €m
Meeting Compliance	7	19
Taking in Charge	1	3
Site Security	-	1
Economic Growth Impact	1	1
Externally Driven Costs	8	3
TOM, Shared Services & Insurance	16	4
Total	33	31

Table 5: 2018 and 2019 essential additional expenditure (2017 monies rounded)

These 2018 and 2019 cost pressures are now discussed in detail.

a) Meeting Compliance

IW is responsible for the provision and development of water services, including the collection, treatment and discharge of urban wastewater. IW is obliged to comply with both European and national law and the requirements of all EPA wastewater discharge authorisations. Furthermore, it is expected that the Department of Housing, Planning and Local Government (Department) will introduce a water abstraction licensing regime that will need to be implemented by IW over 2019.⁷ Achieving compliance with all water and wastewater requirements remains a serious challenge for IW, with the key priorities described further below.

Due to a legacy of historic underinvestment in Ireland's wastewater infrastructure, there are currently still 43 locations across Ireland where wastewater is being collected and released back into the environment without treatment. As a result of such **wastewater non-compliance**, a case is being taken against Ireland at the European Court of Justice.

The scale and impact of Ireland's wastewater deficiencies are evident from the recent wastewater publications of the EPA⁸ and, at an international level, our wastewater performance benchmarks poorly in comparison to our European peers.

Serious problems also exist in the area of drinking water, with 77 schemes on the EPA's **Remedial Action List (RAL)** at the start of 2018. In addition, there are continuing public health risks related to the **consumption of lead in drinking water**. Following World Health Organisation (WHO) advice, the European lead limit was further reduced to 10 µg/l in December 2013. In response, IW developed a national Lead in Drinking Water Mitigation Plan. IW must address these issues as a matter of urgency, to meet our responsibility to provide safe and secure drinking water, and to comply with the Drinking Water Regulations.

⁷ Please refer to the following link [here](#), re. Water Environment (Abstractions) Bill.

⁸ Please refer to the following link [here](#) on the EPA website.

Across both water and wastewater, interventions will be required which impact on our Opex cost base. For example, to address lead in drinking water in the short to medium term, IW is implementing a programme of orthophosphate dosing in line with international best practice. This is driving additional operational costs in 2019 that were not included as part of our IRC2 submission.

In addition to such operational interventions, IW will need capital investment to address environmental compliance deficiencies in 2018 and 2019. The commissioning of more efficient plants and the upgrading of current ones will:

- achieve an improvement in agglomeration compliance with UWWTD and WWDL;
- reduce the number of agglomerations with infringement proceedings by the EU;
- improve drinking water compliance (including lead parameters); and
- remove supplies from the EPA's RAL.

Increasing the size of our asset base through capital investment increases our operational costs.

However, it is anticipated that such investment will have significant benefits for customers, with improved wastewater treatment for c.96k population equivalent, and better drinking water quality for c.363k customers by 2019. However, additional Opex will be required to operate and maintain this new infrastructure.

Sludge management is another environmental compliance activity that we expect will increase our Opex cost base in 2019. There are c. 60k tonnes of wastewater sludge generated by IW assets every year and there is concern over whether current treatment practice is sufficient to meet the code of good practice. Furthermore, we anticipate that the quantity of wastewater sludge generated will increase year-on-year (by more than 80% by 2040), as new and upgraded plants are completed.

In response to this, IW has allocated Capex in CIP2 to 'Sludge Satellites and Hubs' that will provide a higher level of sludge treatment at IW sites.⁹ IW also published the first National Wastewater Sludge Management Plan (NWSMP) in September 2016. This 25 year plan sets out a national standardised approach for ensuring that wastewater sludge is effectively managed, stored, transported and re-used or disposed of, in a sustainable way.

These upgrades, and the initiatives outlined in NWSMP, are key to achieving our target of 99% sludge compliance in 2021. Nevertheless, due to the current compliance deficiencies and increased production, we estimate that sludge management costs will rise above our IRC2 expectations.

While Opex increases are necessary to address compliance deficiencies, IW is employing process improvement and optimisation across the network to generate efficiencies and offset the overall cost requirement. By the end of 2017 there were 1,340 operational recommendations completed. This work programme will continue to be rolled out and further developed in 2019.

Design, Build and Operate (DBO) costs are those paid to external suppliers for the Design, Build and Operation of plants on behalf of IW. At the time of the IRC2 submission there

⁹ IW is currently seeking feedback on the location of a Regional Biosolids Storage Facility in the Dublin region. Please see the following link [here](#) for more information.

were 115 DBO contracts across 232 sites. These numbers have now increased to 121 DBO contracts across 266 sites.

We have already established a National DBO strategy group to review the current DBO model, including contract performance. This is helping to manage 2018 costs in line with the CRU allowance. However, with increased capital investment in 2019 and higher numbers of DBO contracts and sites, we estimate that DBO costs will increase above our IRC2 expectations.

At an aggregate level, we are forecasting a cost impact of c. €7m in 2018 and €19m in 2019 due to the critical need to meet compliance standards and public health requirements.

b) Taking in Charge

We expect that our cost base will also increase in 2019 as a result of legislative requirements relating to water services needs. In CIP2, we outlined potential policy impacts on the investment programme to 2021, which in turn impact on our operational costs. These included the potential for the 'taking in charge' of residential estates and Group Schemes.

A Department survey in February 2016 indicated that there were c.4,500 residential estates nationally where planning permission had been granted and where the statutory taking in charge process had yet to be completed. IW has, to date, taken in charge c. 600 of these estates.

The taking in charge process for estates that were in "a reasonably good condition" was initially accelerated in line with Department guidelines. However, taking in charge of developments that have significant difficulties with water services infrastructure impacts our operational costs. We did not include any Opex provision in our IRC2 submission for Taking in Charge as the policy environment was still being finalised at the time. We estimate that an additional 900 residential estates will be taken in charge by end 2019, with an associated increase in the IW network of c. 700kms. Therefore, an Opex provision is required for 2018 and 2019 to accommodate this increase in the IW network.

The 2013 Act also allows for taking in charge by IW of Group Schemes (Group Water Schemes and Group Sewerage Schemes). IW is then responsible for the operation and maintenance of these assets. There have been 39 Group Schemes transfers to IW to date and we expect that another 100 will transfer by the end of 2019. It is estimated that will increase the length of IW network by c. 600kms over 2018 and 2019.

We expect the combined effect of both policy directions in relation to residential estates and Group Schemes is to increase our asset base by c. 1300kms by end 2019. Maintenance costs will be dependant both on the increase in the asset base and the state of the assets being taken over, which, at present, we cannot be certain of. Therefore, we are making a provisional forecast that taking in charge of residential estates and Groups Schemes will result in an increase in Opex of c. €1m in 2018 and c. €3m in 2019.

c) Site Security (c. €1m)

IW site security is another important area that we expect will require increased operational expenditure in 2019. Certain minimum security levels on our sites are required to protect IW property, assets, and water supply. They are also needed to ensure the safety of IW and LA

partner staff, the public at large, and meet our obligations under the 2005 Safety Act and Ervia's safety policy.

Since establishment, IW has been examining the security of water and wastewater sites around the country. A specific Security Risk Assessment has been completed on critical water infrastructure to get an understanding of existing security systems on our sites and to benchmark these against our peers and IW security standards.

Based on the results of the Security Risk Assessments, it is clear that we need to accommodate a number of additional safety features at sites in 2019, including:

- CCTV, IDS and access maintenance, reactive costs and repair;
- Manned guarding site costs;
- Remote monitoring of sites; and
- 3rd party incident response.

This will result in an increase in Opex in 2019 of c. €1m.

d) Economic growth impact

Ireland's economic and population growth continues to gather momentum, leading to increasing pressure on water production to keep pace with demand.¹⁰ This has a direct impact on IW's operating costs due to an increasing requirement for key variable inputs such as energy and chemicals. Current estimates of the Opex cost increase associated with this growth is c. €1m in 2018 and c. €1m in 2019.

e) Externally Driven Costs

National Wage Agreements and Energy charges are externally driven costs which will impact on our 2019 Opex.

The majority of SLA payroll costs are subject to National Wage Agreements. These agreements helped to manage the water services cost base during the economic downturn. However, they also include commitments which were not included as part of the IRC2 submission, which we have no discretion over, in order to allow the business to function as normal and to drive required efficiencies. We expect that these commitments will increase our 2018 SLA payroll costs by c. €8m.

Energy costs are another significant element of the IW cost base and represent c.10% of the c. €520m SLA cost category. Water services provision is, by its nature, energy intensive. IW assets used c. 340 million kWh of electricity in 2017. While IW strives to maximise savings through contractual negotiation, our energy costs are subject to international fossil fuel trends and it is expected that these trends will continue to rise in 2019.

In addition to the impact of increasing energy prices, we do not have any control over the electricity pass through charges, namely network charges and the Public Service Obligation levy.

¹⁰ For example, the Department of Housing, Planning, Community and Local Government has set a target of 26,000 new social housing units to be built by LAs and Approved Housing Bodies by the end of 2019. Its Statement of Strategy 2016-2019 document can be found [here](#).

We will see a real increase in our energy costs of c. €3m across the 2018/2019 tariff period which we have included in our 2019 essential additional expenditure. This is a cost increase that is outside of IW's control.

f) TOM, Shared Services & Insurance

Target Operating Model (TOM), Shared Services and insurance costs are facing unavoidable increases in 2018 and 2019. These increases are driven by critical business activity to meet customer and regulatory requirements, as set out below.

The effect of Ireland's economic and population growth on our services has been highlighted above. In addition to impacting on our SLA costs, it will also drive TOM costs in the area of Connection and Developer Services. As the level of development activity nationally (e.g. housing needs) rises significantly, there is an associated requirement for additional supervision and support in Connection and Developer Services to keep pace with demand.

Other additional TOM costs relate to the c. 890k domestic meters installed by IW under the domestic metering programme. There is a requirement for an enduring IW team to conduct field investigations to resolve customer complaints and maintenance issues that arise. This activity was not included in our IRC2 submission and will be a direct cost to IW.

Shared Services provides the transactional services required by the Ervia Group in a number of critical operational areas including finance, procurement, facilities, HR and IT. Activity levels in Shared Services have been rising significantly over IRC2 and we expect that this trend will extend into 2019. For example, the IRC2 submission outlined that Shared Services IT supported c. 3,000 users of Asset Management applications, such as Maximo, Click and Syclo. There are now c. 5,700 users – a near doubling of the original number.

Work is currently underway in Ervia to examine how best to deliver business services across the organisation.

Up to the end of 2014 the LAs placed their own Employers Liability (EL) / Public Liability (PL) insurance cover, which was then recovered through our SLA. IW arranged its own standalone EL/PL insurance as per IW requirements. In 2015 and 2016, IW placed a joint IW/LA EL/PL insurance policy.

However since 2016 we have experienced a significant increase in PL claims. This is pushing up our insurance costs, from the provision submitted in IRC2. In response, IW has implemented a new Self Insured Retention (SIR) policy which we anticipate will reduce the number of claims by adopting a more active management approach. The move to a SIR basis will also bring IW in line with the existing approach adopted in GNI and the majority of water utilities in the UK.

However, we still experienced a significant increase in PL claims over 2016, which could not have been forecasted at the time of IRC2 submission. While we will robustly manage claims arising in 2018 and 2019 under the SIR model, we do not expect PL claim numbers to drop to pre IRC2 submission levels. The overall result is an increase in our insurance costs over IRC2.

Cybersecurity is also an issue that has taken on a new level of criticality since the IRC2 submission. As a national utility IW needs to protect IT networks, computers, programs and

data from attack, damage or unauthorised access. The essential need to implement more robust cybersecurity arrangements across IW has impacted on our operational cost base.

IW also needs to adopt measures to meet the requirements of General Data Protection Regulation (GDPR) which will add further to IW's cost base in 2019. This EU law is designed to harmonise data privacy across Europe and ensure that customer and employee data is effectively protected. This is a significant undertaking, the cost of which was not included in our original IRC2 submission.

Efficiencies over 2018 and 2019

While IW will incur essential additional expenditure in 2018 and 2019, we will also drive significant efficiencies, largely meeting the CRU target. These are set out in the table and described further below.

2018 & 2019 efficiencies	2018 €m	2019 €m
Energy Initiatives	3	3
Goods & Services	8	9
LA payroll related	9	5
Supply Chain	2	4
Fleet Management	3	2
Total	25	23

Table 6: Opex Efficiencies for 2018 and 2019 (2017 monies rounded)

Our Opex submission for IRC2 detailed a number of areas where we are targeting efficiencies over the period. These include savings through procurement practices, such as the establishment of operational frameworks. These frameworks help manage costs and identify areas where we can save money in the purchase of goods and services. They also increase our control over the supply base to deliver enhanced performance in areas such as Health & Safety compliance, traceability, and delivery times.

Under the area of contractor management we are implementing better ways of working at site level and nationally. We will undertake investment in plant to reduce the requirement for ongoing contractor maintenance, leading to a reduction in contractor costs. An Ervia-wide procurement and contractor strategy will standardise agreements and achieve improved efficiencies and economies of scale in Goods and Services, TOM and Shared Services costs.

Another area of targeted cost reduction is energy usage. In order to reduce our costs, mitigate the effects of climate change, and protect the environment, IW must become more energy efficient. We have rolled out programmes to improve the management of our energy consumption and trialled new designs for energy efficient plants, including the upgrade of Kilkenny Main Drainage aeration and high lift pumps at Clonakilty and Wexford. We will replace plant and machinery with energy efficient alternatives, reducing energy usage through real time monitoring and transition of locations onto lower cost tariffs.

Our investment in SCADA and Telemetry is starting to deliver savings in our operational cost base, reducing the time needed for, and frequency of, site visits. The systemised logging of incidents and production of data reports is helping us to improve maintenance profiles, generating further efficiency. We have also started to invest in a company-wide fleet programme to reduce reliance on leasing arrangements and lower the associated costs.

One of the key initiatives needed to deliver on our cumulative €1.1bn of efficiencies by 2021 continues to be the full implementation of the Single Public Utility. The core objectives of the Single Public Utility are to:

- Standardise the way we work across the country and by function;
- Deliver economies of scale by centralising and regionalising activities where efficient to do so;
- Deepen specialisms and streamline work to create better definition of roles and specialist teams with deeper expertise;
- Maximise use of IT investment in systems and data; and
- Invest further in both infrastructure and technology, to improve ways of working.

Since our IRC2 submission to the CRU in 2016, the WIOF Programme has completed the national design (organisation size and structure, ways of working etc.) for the Single Public Utility. IW's WIOF Programme is now working with Ervia, the Department, the LAs and unions to put in place a framework to support the proposed implementation and transition.

The current pace of the Single Public Utility implementation is running behind the timeline originally set out in the IW Business Plan. The implementation approach is based on a phased transition to the full Single Public Utility over a number of years. It is envisaged that the first wave of transformation would commence in 2019 and will involve a number of the LAs in the Eastern Region. It is proposed that the transition in any given LA area will be achieved in two steps:

- Step 1 - transfer all water services staff into IW while simultaneously transforming the management and team structures into those of the end state Single Public Utility; and
- Step 2 - following a period of stabilisation, commence the transformation to end state Single Public Utility structures and ways of working for fieldworkers and frontline supervisors.

We anticipate that €5m in savings will be generated through the WIOF Programme in 2019. The subsequent full implementation of the Single Public Utility will drive deeper efficiency savings, across payroll, Central Management Charges, overheads and good and services. However, the pace of delivery of these savings will be determined by a complex engagement process with multiple stakeholders.

In the interim period until the Single Public Utility is fully delivered, IW continues to pursue the CRU's efficiency target across the other areas set out above, such as procurement, energy usage, and contractor management. It is evident that the scope for such efficiencies is limited and is diminishing over time.

IW remains firmly committed to attaining peer efficiency levels but cost reductions must be carefully managed to ensure that they are sustainable. Savings must be enabled by, and aligned to, underlying transformation of industry structures and ways of working. The efficiencies targeted by IW in 2019 are the maximum that we believe are attainable given the latest projections of WIOF Programme timelines. Further cuts in the absence of full Single Public Utility implementation would have a detrimental effect on IW’s core operations and compliance and service targets.

Non-Controllable Opex

The 2019 non-controllable Opex submission is made up of Commercial Rates (LA Rates) and Regulatory Levies (CRU levy and EPA licence fees). LA Rates are an annual charge on non-domestic property. The LAs charge Commercial Rates on the basis of the valuations provided to them by the Valuation Office. The pass through of these costs to IW ceased at the end of 2014, but have been reinstated in the Water Services Act 2017, subject to SI publication by the Minister for Housing, Planning and Local Government.

Our Non-Controllable submission figure includes a Commercial Rates estimate of €50m for 2019, which is close to the 2014 outturn level. Our submission for Regulatory Levies is €5m, which aligns with 2017 outturn levels.

Total Opex for 2019

For ease of reference, the total 2019 Opex submission of €757m (rounded) is broken out in the table below according to the cost categories utilised in the original IRC2 submission.

Operational Expenditure	2019 €m
Operations and Maintenance	523
IW TOM	119
Shared Services & Group Centre	39
Irrecoverable VAT & Insurance	21
Non-Controllable Costs	55
Total	757

Table 7: Total Opex for 2019 in IRC2 categories (2017 monies rounded)

2. Network Capex for 2019

IW's primary function is to provide clean drinking water to customers and to treat and return wastewater safely to the environment. In providing these services, we play a central role in the health and safety of the public, in protecting the environment, and in facilitating economic growth. Consequently, we must take a number of policy considerations into account when weighing up the relative merits of investment needs. With a deficient asset base, IW has to select its investment portfolio in consideration of a wide range of competing priorities.

IW's long term investment planning strategy has been set out in our 25 year Water Services Strategic Plan (WSSP). This was subject to public consultation and approved by the Minister for the (then) Environment, Community and Local Government in 2015. To date, IW has also produced two Capital Investment Plans (CIPs). 'CIP1' covered the 3 year period 2014-2016; and 'CIP2' covers the 5 year period 2017-2021.

Since submission to the CRU in late 2016, the profiles of expenditure and delivery set out in CIP2 have been reviewed. This was necessary to ensure that planned investment continues to meet national policy obligations, emerging customer and service needs, and economic growth requirements. The review also accommodates an updated view of estimated project costings and delivery schedules over CIP2. Such reviews are a common feature of large investment programmes in other utilities, both nationally and overseas, and reflect their scale and complexity.

It is important that IW has sufficient flexibility in the investment portfolio to ensure that we can accommodate changing priorities driven by:

- External events that are unforeseen at the time of submission to CRU (e.g. Drogheda and Limerick bursts in 2017);
- Emerging risks which are not currently known to IW; and
- Changes in national policy impacting the water and wastewater services sector (e.g. the taking in charge of Group Water Schemes and the acceleration of housing infrastructure).

Estimated Investment in 2019

CIP2 sets out three primary channels of investment. The first is Capital Maintenance, which is focused on 'like for like' replacement or refurbishment of worn out assets across both water and wastewater. The second channel is National Programmes. This refers to water, wastewater and other programmes which are required to bring asset performance to acceptable levels of compliance and capacity at a national level e.g. Disinfection Programme, and Impounding Reservoirs Programme. The third category is Projects, which are Water and Wastewater projects, including Major Projects, targeted at specific assets to achieve a quality, enhanced level of service, or supply/demand balance objective.

The breakout of the €802m Network Capex submission into these categories across water and wastewater is provided below.

Investment Category	2019 Capex €m
Water National Programmes	128
Wastewater National Programmes	62
Other Infrastructure National Programmes	17
National Programmes Total	207
Water Capital Maintenance	94
Wastewater Capital Maintenance	32
Capital Maintenance Total	126
Water Projects	196
Wastewater Projects	272
Projects Total	468
Total Spend in 2019 (rounded)	802

Table 8: Capex Expenditure requirement for 2019 (2017 monies rounded)

Estimated cumulative outcomes for 2019

CIP2 sets out service targets across a range of metrics, including Boil Water Notices, the number of untreated agglomerations, the number of Water Treatment Plants on the EPA's RAL etc.¹¹ The below table sets out expected progress on these targets to the end of 2019, i.e. the figures reflect cumulative capex of 2017, 2018 and the forecasted spend of €802m in 2019.

¹¹ Please refer to the following link [here](#) on the CRU website – CRU/16/345.

Indicator ¹²	Outcomes by end 2019
Number of people on BWNs, start 2014 baseline	Zero
Number of WTPs on the RAL	18
Compliance with the parameters for Lead in Drinking Water	96.5%
Environmental Assessments and Plumbosolvency Control Plans	200 WTWs
Replace Backyard Lead Shared Service	<31,500
Replace Individual Lead Service Connection Pipes	<128,000
Leakage (ML/day of savings)	180
Rationalisation of WTPs	71
WWTWs - Compliance with UWWTD	>2,363,000 population equivalent
Overloaded WWTWs >2000	29
Overloaded WWTWs <2000	87
Number of agglomerations with no treatment or preliminary treatment only	30
WWTWs – compliance with Emission Limit Values	26
Sewer Flooding	6 projects in progress
Energy Efficiency Improvement	20%
Headroom – Water	54% ¹³
	>7% ¹⁴
	38% ¹⁵
Headroom – Wastewater	55%
Network Capacity – Number of supply zones with updated hydraulic models	6
Network Capacity – Number of agglomerations covered by DAP	18

Table 9: Capex Outcomes by end 2019 (2017 monies rounded)

¹² Please refer to the following link [here](#) on the CRU website to the IP2 outcomes explanation document (CER/16/345).

¹³ % of plants meeting headroom targets of: 20% in large urban areas, 15% in Regional Gateway Towns, 10% at all other plants.

¹⁴ Capacity headroom in GDA and mid-Eastern Region.

¹⁵ % of plants with headroom of <15%.

IW's Investment Plan 2017-2021 is building upon the steady progress made in the period to end 2016. Planned capex is being delivered across prioritised areas while adapting to emerging and unforeseen needs such as the burst in Drogheda and two national storm events (Ophelia and Eleanor).

IW customers are already seeing the benefits of IW's focused investment to date. Over 20,000 people who were on long-term boil water notices at the end of 2013 are now receiving clean drinking water, two years ahead of the target date. All investment options continue to be carefully reviewed to ensure that the overall portfolio achieves an appropriate balance across compliance, service, and growth requirements. The outcomes targeted for delivery by the end of 2019 are evidence of IW's commitment to addressing the deficit in Ireland's water services infrastructure as quickly as possible, within funding constraints.

3. Non-Network Capex for 2019

Non-Network Capex (NNC) investment relates to the capital expenditure required for IW's critical business assets in the areas of Fleet and Facilities, IT and Business Change. It also includes expenditure covering the WIOF transformation programme to deliver a Single Public Utility.

IW's NNC submission for 2019 is outlined in the table below, followed by the underlying rationale for each cost category.

Investment Category	2019 capex in €m
Fleet & Facilities	22
IT	24
Business Change	4
WIOF Programme	47
Non Network Capex total (rounded)	97

Table10: Non-Network Capital Expenditure requirement for 2019 (2017 monies rounded)

Fleet & Facilities (c. €22m)

The current national water services fleet numbers c. 2000 and is made up of light commercial vehicles (LCVs), heavy goods vehicles (HGVs) and mobile equipment such as generators. A substantial portion of this fleet is past its operational lifespan, which is leading to significant downtime and excessive/inefficient maintenance costs. There is little standardisation of vehicles across the country, which is inefficient for a national utility.

In addition, there are significant health and safety and statutory compliance issues associated with this ageing fleet, which could have a detrimental impact on both staff and customers. Finally, the current fleet profile is not adequate to respond appropriately to major incidents.

The *Staleen Water Treatment Plant Outage Review* (Staleen report) was published by IW in September 2017 following a significant water supply outage in the Drogheda, South Louth and East Meath area. One of its key recommendations is for IW to establish a central store to provide for the quick deployment of equipment to address future incidents.¹⁶ NNC in 2019 will begin to address the recommendations of the Staleen report so that we can deal with future outages, or severe weather events, more effectively for our customers. This includes the procurement of an IW bulk supply fleet.

IW is introducing Fuel Cards which will a) provide clarity on how much fuel is purchased, b) link fuel consumption to vehicles, and c) allow for discounts based on bulk purchase. The introduction of telematics to the vehicles will provide enhanced locational mobility. An improved IW fleet with more modern fuel efficient vehicles will also help reduce fuel consumption.

¹⁶ Please see the following link [here](#), section 10.

IW has carried out a detailed inspection of the current LA fleet and estimates that Capex of c. €10m will be required in 2019 to begin to implement the improvements set out above.

In relation to facilities, IW needs to invest in physical buildings to support the regional delivery of water and wastewater services to the c. 1.6m customers across the country. IW resources work in every county, delivering capital investment and carrying out operational and maintenance activities. The disparate nature of our assets has a significant bearing on where we can locate our staff and how we undertake our work.

With completion of asset transfer from the LAs, and the further rollout of industry transformation in 2019, operational staff will need to have a greater regional presence. All building stock will require further works to ensure compliance with changes to building standards and to new business needs. Facilities investment of c. €12m in 2019 will:

- Support the roll out of Regional Capital Project Offices;
- Support the roll out of a Disaster Recovery Site for the National Operations Management Centre;
- Meet changing statutory building standards and regulations;
- Comply with new legislative energy management requirements; and
- Bring LA buildings transferred to IW up to statutory standards.

The €12m investment will also cover the roll out of 5 IW training centres across the country. These centres will support the upskilling of IW and LA partner staff. This includes health and safety training related to vehicle usage, confined spaces, on-site safety, as well as technical training such as the use of handhelds.

To maximise efficiencies, any new office space requirement will be co-located within the existing IW and Ervia offices, where possible.

IT (c. €24m)

For a national utility, the use of technology is critical to support mobility, monitor asset performance, and enable resources to work together efficiently.

Consistent with IW's IRC2 submission, individual projects to meet IT priorities in 2019 can be classified under five categories as set out below:

- a) Environmental/Regulatory/Customer of c. €3m.

IW is subject to a range of environmental, regulatory and customer requirements. Business process and IT system changes will be required to comply with changes to environmental and economic regulation requirements.

One of the key projects in this category is enhancement of the Environmental Information Management System (EIMS) which will facilitate ease of reporting and improve efficiency in the Annual Environmental Return process.

- b) Run Mandatory (platform stability, security and maintenance) of c. €7m.

These projects are critical to ensure the stability, security and maintenance of IW's existing IT infrastructure and support IW in optimising business processes. They are categorised as

“Run – Mandatory” as they are an essential preservation and enhancement of IW’s IT asset base.

A significant portion of the 2019 spend will be on ‘patch’ upgrades, enhanced functionality and/or modifications to our key IT systems, such as CC&B, Maximo, Click, and GIS.

c) Business Requirements Projects of c. €4m.

New technologies and enhancements will be required to support development and growth of the business. These include system requirements arising from new reporting and analytics demands, new processes for finance, inventory and other core functions across the business.

A key 2019 project in this area will be Non-Domestic tariff harmonisation. We expect that there will be IT requirements needed to facilitate the outcomes of the CRU 2018 review.¹⁷

d) Water and Wastewater Service Transformation Projects of c. €3m.

These projects focus on improving operational capability, efficiencies, and organisational effectiveness across the asset base and related operational activities. IW is currently developing a SCADA programme which will deliver a NTS. Capex in 2019 will support the implementation of this NTS, which is a key requirement for any modern water utility.

e) Centrally Delivered Projects of c. €6m.

Capex in this area relates to IW’s cost allocation in respect of Ervia Group initiatives. Being part of a multi utility organisation provides opportunities to rationalise duplicate or comparable systems, thus saving money on licensing and maintenance costs. One such project in this category in 2019 will be Applications Portfolio Optimisation. As well as reducing costs, this project will strengthen our position with regard to vendor negotiation and deliver value across Ervia.

Business Change (c. €4m)

The IW Business Change (BC) function is responsible for delivering a portfolio of transformational change initiatives across IW and the LAs. Our IRC2 BC submission was comprised of 28 separate projects, with the BC function providing effective oversight, governance, project management and change management. Business process re-alignment, training, business readiness, and roll-out are also managed by the Business Change team.

Some of the IRC2 transformation projects have now completed, including BC009 - Customer Charter and Codes of Practice, and BC010 - Non Domestic Billing Migration. IW’s 2019 BC submission is made up of projects that require continued support to completion, and projects to support new emerging requirements from the Business. For example, BC003 - Standard Operating Procedures (SOP) is an IRC2 project which requires continued project and change management support for rollout to the LAs. An example of a new BC project is the implementation of the non-domestic tariff harmonisation programme over 2019.

¹⁷ Please see following link [here](#) for CRU review of the Non-Domestic tariff regime.

There are 27 BC projects in our 2019 submission, with average spend per project of c. €170k. These are set out in the excel submission which accompanies this paper.

WIOF (c. €47m)

The current SLA based operating model has met its original objective of supporting the initial transition of water services from the LAs to IW. The IW Business Plan sets out the wider service transformation required by the end of 2021, which can only be achieved through a fully integrated Single Public Utility.

The WIOF Programme is the transformation project put in place to implement the Single Public Utility, thereby delivering substantial payroll and related cost savings over and above what can be achieved through the SLA model. The implementation of the Single Public Utility will also indirectly enable the achievement of other critical Business Plan targets, both financial and non-financial. For example, it is a key enabler to achieving a substantial proportion of non-payroll Opex efficiencies and other vital customer service, operational, and environmental performance improvements.

The implementation of the Single Public Utility represents a significant change from the current service delivery model for water services. It will see not just a change to the way the industry is organised, but also to the way that people within water services will work in the future. Implementing the new model will be one of the most complex transformational programmes ever undertaken in the Irish public sector. It will bring together staff from 32 different organisations into a single body, to deliver clean safe drinking water to a consistently high standard, and to take wastewater away and return it to the environment safely.

IW's IRC2 submission included an indicative timeline for the Single Public Utility implementation and associated efficiency savings. The pace of the Single Public Utility implementation is highly dependent on external factors, including progress on complex engagement with key stakeholders. As a result, the current timeline has moderated from the delivery profile set out in our original IRC2 submission and this is reflected in the estimated efficiency savings for 2018 and 2019.

The capital investment required for the WIOF Programme in 2019 is c. €47m. IW will incur further capex in the next revenue control cycle, starting in 2020.

The 2019 investment of €47m is made up of the following categories:

- a) Implementation costs (excluding IT) of c. €20m.

This category refers to the core project costs which will be incurred in supporting the delivery of the Single Public Utility. The key areas of support required in 2019 are programme management, transitioning of staff into new roles, providing necessary training requirements, and ensuring all processes and procedures are in place. The main focus of this work is implementation of the Single Public Utility detailed design to enable IW to start taking full operational control of the water and wastewater plants and networks on a phased basis from 2019.

b) Technology (IT) costs of c. €17m.

This represents the technology investment needed to implement the Single Public Utility and enable staff to work under the new operating model. Examples include the requirement to resize and upscale central data centre services, storage infrastructure, IT licensing and backups, for the first wave of LAs to transfer into IW. It also includes the preparation of new physical sites with IT assets to support operations. This WIOF Programme capex is separate to the IW IT capex identified earlier.

c) Material costs of c. €2m.

Investment is needed in 2019 to provide appropriate customer facing material (e.g. equipment and workwear) to facilitate the transfer of a large staff cohort into IW.

d) Contingency of c. €8m.

We have included a 20% provision for contingency to accommodate unforeseen events or circumstances which may impact on the WIOF Programme. 20% is considered to be prudent given the nature, scale and complexity of the WIOF Programme and the dependency on external factors, such as the successful conclusion of engagement with all stakeholders.

Future WIOF matters

As noted earlier, the submitted 2019 WIOF Programme investment excludes provision for Staff Arrangement costs. Once all necessary stakeholder engagement processes have concluded, and there is clarity on the projected costs of this element of the programme, IW will engage with the CRU and other stakeholders to determine the appropriate funding approach.

4. Conclusion

Since establishment in 2014, IW has demonstrated the capability to deliver on the cost and service mandate of a national water services utility. While we are on track to largely meet the CRU's efficiency targets, we are also incurring essential additional expenditure to address urgent compliance, service and growth needs.

Due to a legacy of historic underinvestment, IW's asset base still suffers from serious deficiencies. Crucially, there is a major compliance deficit across water and wastewater which has resulted in EPA sanction and European Court of Justice action against Ireland. At the start of 2018, there are 77 schemes on the EPA's Remedial Action List, and there are 43 agglomerations around the country where wastewater is entering the environment without adequate treatment. Significant mains burst in Drogheda (water) and Limerick (wastewater) in 2017 further highlight the operational vulnerability of the existing infrastructure and the risk of serious customer impact. Appropriate regulatory allowances are a crucial requirement to address these critical needs.

IW's IP2 2017-2021 Capex programme continues to be rolled out to address these and other serious issues. This programme will continue to be adapted in response to changing policy obligations and emerging requirements.

IW is now at an important transition as it commences implementation of one of the most ambitious transformation programmes in the history of the State. Work delivered through the LA partnership accounts for the large majority of IW's operational costs. As a result, successful implementation of the Single Public Utility through the WIOF Programme will be the key enabler of future efficiency. While we are pursuing rollout as quickly as possible, the programme is of enormous scale and complexity and must be carefully managed in close co-operation and engagement with all involved stakeholders. Ultimately, WIOF Programme delivery timelines will determine how quickly IW can reach peer levels of performance across both cost and service.

In the interim period until the Single Public Utility is fully delivered, IW continues to pursue the CRU's efficiency target across areas such as procurement, energy usage, and contractor management. The scope for such efficiencies is limited and is diminishing over time. Once these savings are achieved, further cuts in the absence of the Single Public Utility would have a detrimental effect on IW's core operations and compliance and service targets. IW remains committed to attaining peer efficiency levels but cost reductions must be carefully managed to ensure that they are sustainable. Savings must be enabled by, and aligned to, underlying transformation of industry structures and ways of working.

In 2019, IW is seeking the necessary Opex and Capex allowances to protect and enhance existing service levels, progress critical compliance requirements across both water and wastewater, and continue WIOF Programme progress towards a Single Public Utility.