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Re: CRU/19/091 Consultation on IW Revenue Control 3 (2020 - 2024)

Dear Sir/Madam,

Irish Water (IW) wishes to acknowledge the work completed to date by the Commission for Regulation of Utilities (CRU) on the Revenue Control 3 (RC3) review. Being the first full five year revenue cycle since our establishment, RC3 is of crucial importance to IW. Within the limits of the Strategic Funding Plan (SFP) approved by the Minister in November 2018, the CRU's decision will determine IW's funding capacity to implement national Water Services policy over the 2020 to 2024 period.

IW has reviewed the CRU's draft proposals which have been published for public consultation and we have very serious concerns which we set out in detail in this response.

Summary Overview:

The key rationale for the establishment of a national water utility in 2014 was to drive savings and efficiencies, while at the same time improving the quality of services provided to customers nationwide. IW has made clear progress in this regard and, among many other achievements, we have eliminated long term Boil Water Notices affecting over 75k people, removed 155 water supplies from the EPA's Remedial Action List, and secured sustainable cost efficiencies over the first two Interim Revenue Controls (IRC1 and IRC2). These are listed in detail in Appendix 1.

Building on this progress, IW has put forward a very ambitious opex efficiency programme for RC3 (totalling €319m), however the CRU is proposing to cut our submission by a further 3% in 2020 (€22m), rising to an 18% (€118m) cut by 2024. This is shown in figure 1 below. The magnitude of these additional reductions is completely untenable and, if enforced, will lead to an unacceptable deterioration in service levels for customers over the coming years.

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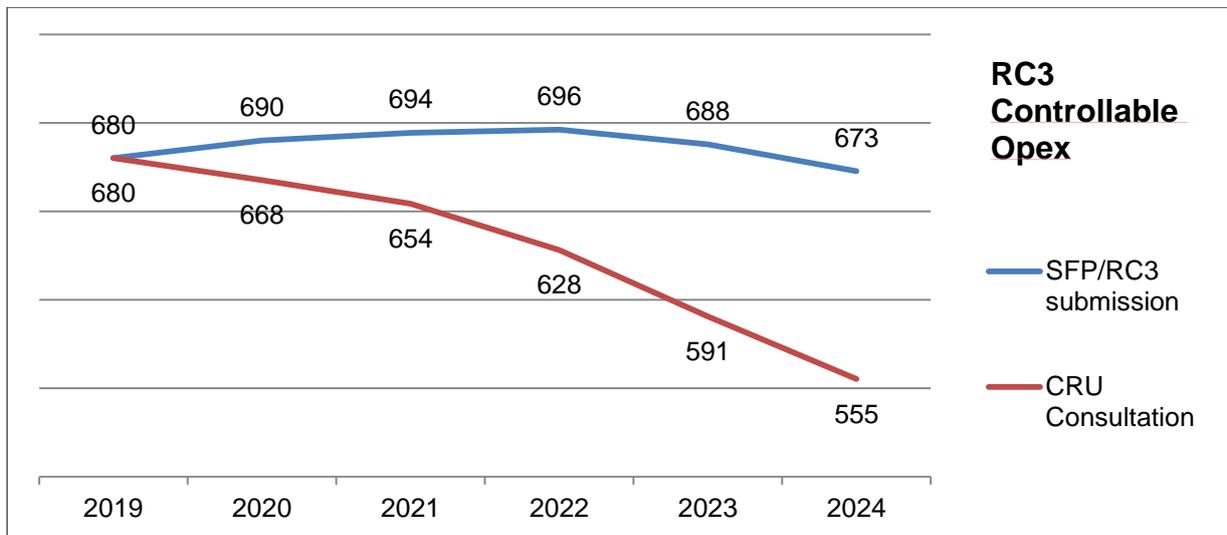


Figure 1: SFP/RC3 submission vs CRU Consultation Controllable Opex

The proposals would place IW in an unsustainable funding position, inherently damaging the operating and regulatory model. Furthermore, they would seriously impact the stakeholder engagement process on sectoral transformation which is currently underway. The success of this engagement process is vital to delivering the sustainable efficiencies that are so essential to improving the water services sector in Ireland.

The major disparity between IW's submission and the CRU's proposals is that the CRU applies a year-on-year cut from IW's 2019 Opex, without taking into account any provision for growth above base opex, i.e. essential additional operating expenditure which we must incur during RC3 to meet growth and policy needs and to close critical service and compliance gaps. Our RC3 submission to the CRU outlined, in detail, a total requirement in this respect of €360m.¹ The CRU has not proposed an allowance for any element of this expenditure.

IW is operating in a growing economy, and with a rapidly expanding capital programme. It is not possible to deliver Water Services effectively without sufficient additional opex to operate the new assets, meet compliance standards, accommodate economic growth, and implement national policies. IW's RC3 efficiency estimate is already extremely challenging and the CRU gives no indication of where it believes further cuts can be made to offset these essential growth requirements.

IW has assessed the impact of the CRU's proposed cuts and it is clear they would lead to unacceptable service impacts for customers. IW urges the CRU to instead allow the essential additional opex requirement set out in our RC3 submission as this will enable us to set, and deliver, 'stretch' service improvements. This additional opex is available within the limits of the SFP approved by the Minister and it is in customers' best interests to apply this funding to maximise service improvements.

¹ All monies in this submission are in 2017 prices, unless otherwise stated.

In relation to Capital Investment, IW's RC3 programme of c.€5.2bn capital investment represents the first five-year portfolio developed by IW and aligns with the SFP limits. This investment, across network and non-network assets, is guided by the overall framework provided in the Government's Water Services Policy Statement (WSPS) and IW's Water Services Strategic Plan. Its delivery will be a key enabler of national policy objectives for water and wastewater services across the three WSPS themes of Quality, Conservation, and Future Proofing.

There are a number of key challenges facing the water services sector that our investment portfolio will address. These include the need for improved compliance with regulatory standards, reduced leakage, increased capacity to support growth, and enhanced resilience to extreme weather events. Our investment portfolio will also face economic and market pressures, which are now widely acknowledged across the construction sector.

We welcome the CRU's recognition that construction cost inflation is expected to be higher than HICP. IW has undertaken a review of the Capital Investment Plan to assess the projected impact of the CRU's proposed inflation adjustment. We have also reviewed the portfolio to address other change drivers since the original data freeze point in March 2018. These include new emerging needs, scheduling updates (e.g. statutory planning process timelines), and the identification of additional requirements as initial project scoping progressed and developed.

A revised projection of outputs and outcomes which can be delivered within the SFP limit in RC3 is included within this response paper. Given the constraints on funding, it is vital that the regulatory framework is sufficiently flexible to accommodate such adjustments.

The remainder of this paper sets out our detailed response to the CRU's proposals under each major expenditure category.

RC3 Operating Expenditure

IW cannot function within the operating expenditure allowance proposed by the CRU – the impacts of resulting cutbacks would be unacceptable

In our RC3 submission, IW outlined a controllable opex requirement of €3,441m for RC3 controllable costs, post a challenging efficiency target of €319m.

The CRU proposed allowance of €3,096m applies a further reduction of €345m (c.10%) from our RC3 submission. This level of operating expenditure reduction is simply unachievable and, if enforced, would involve unacceptable service cutbacks. In the first two years of 2020 and 2021 alone, the cutbacks necessary to meet the CRU's proposals would include the following:

- New and upgraded plant operations - Deferring full operation of some 67 plants to be built over 2020 and 2021, and only commissioning in order of priority; this would have direct impacts on compliance standards and water services policy;
- Water Services Headcount – Given that the majority of opex costs are labour related, a reduction of staff in both 2020 and 2021 would be unavoidable. This would create serious challenges for LA relations and lead to the cancellation of IW work programmes;
- Non-contracted overtime - Eliminating various services such as night-time work on leakage reduction and emergency responses out of hours. The resulting prioritisation of responses to asset failures would increase potential risks to environmental and public health;
- Reactive maintenance - Reducing jetting, mechanical & electrical repairs, civil works, road reinstatements, and other related works, leading to service impacts and potential safety risks;
- IW Call Centre Activity - Reducing the opening hours of the IW Customer Call Centre, with consequent service impacts;
- Community engagement - Focusing solely on statutory mandated communication and ceasing all non-essential communication and sponsorship activities, including the national leakage reduction campaign, Clean Coasts, Green Schools; and
- Transactional Services - Reducing the number of staff with access to critical systems, e.g. Maximo and Syclo, resulting in delayed transactions and reduced productivity.

These cutbacks would clearly have a very serious impact on services to customers and on our ability to meet critical environmental standards. Given our responsibility to implement national Water Services policy, IW considers these impacts to be unacceptable.

In contrast to other regulated utilities, IW cannot exceed the CRU allowances as we have no means of funding any additional expenditure – Government funding is clearly limited to the CRU's RC3 decision. Even if additional income was generated from other sources (such as Trade Effluent), this cannot be used to fund additional operating expenditure. As a result, it is critical that the RC3 decision provides sufficient opex allowances to enable IW to function as an effective utility, with the capacity to respond to any unforeseen issues or events (e.g. major outages, safety risks, or severe weather) which may arise over the course of RC3. Under the CRU's current proposals, IW's funding position would be unsustainable, and its inevitable failure would undermine the regulatory framework.

Without the funding to operate effectively as a utility, there would also be a serious risk to the current stakeholder engagement process on water sector transformation. SLA opex accounts for c. 75% of IW's current cost base. As outlined in our RC3 submission, and all subsequent correspondence, transformation to a single public utility is essential to deliver the sustainable efficiencies required of the water services industry in Ireland. In failing to provide sufficient operating allowances for a sustainable, viable national utility, the CRU's current proposals would jeopardise this process.

Expenditure on new assets, compliance, demand growth, and water services policy is essential, fully justified, and must be funded in RC3

Additional operating expenditure (€360m cumulative) will be required over the RC3 period to operate new assets, address compliance issues, meet rising demand for services, and implement national policy requirements. This projected growth in operational costs is unavoidable and, as set out later in this response, cannot be offset by additional efficiency.

The annual incremental requirement is included in detail in our original RC3 submission and is set out again in the table below for ease of reference.

Growth drivers	2020 €m (in year)	2021 €m (in year)	2022 €m (in year)	2023 €m (in year)	2024 €m (in year)	Total €m
Compliance	9	14	12	19	16	71
Externally Driven Costs (incl. Economic Growth)	4	4	3	3	4	18
Government Policy	5	6	6	4	4	25
Industry Transformation	3	2	2	-	-	7
Annual Increase	21	27	23	27	24	122
Cumulative Total	21	48	71	98	122	360

Table 1: RC3 Growth drivers (in year) for RC3 period.

Our opex growth categories can be defined as follows:

- **Compliance:** This category relates to additional 'delta' Opex required to operate and maintain new assets which address the compliance deficit in water and wastewater treatment; increasing costs arising from further lead and sludge management; and the costs of standardising a national approach to process safety, Fats, Oils, Greases (FOGs), and Trade Effluent (TE).
- **Externally Driven Costs:** These costs arise from economic and population growth which drives increased domestic and non-domestic service demand; market driven increases to energy prices; and costs associated with the impact of climate change.
- **Policy:** Policy driven Opex cost increases are related to the Taking in Charge of residential estates, group schemes and Developer Provided Infrastructure; excess usage charging to address conservation requirements; and the implementation of the General Data Protection Regulation.

- **Industry Transformation:** These costs relate to additional operations sites which may become the responsibility of IW during single public utility implementation.

These factors clearly differentiate our operating costs from more mature international comparators. In the benchmarking analysis undertaken to support our RC3 submission, the impact of these cost drivers is explored in greater detail. Of particular note is the precedent established by other regulators in allowing enhancement opex to address quality deficits. This approach is of direct relevance to IW given the extent of our compliance challenge and the significant capital investment in new assets.

In its 2019 revenue rollover decision, the CRU acknowledged the significant challenge facing IW in managing costs as the asset base and workload grows. An additional allowance was provided to enable IW to meet essential compliance and policy requirements. This additional allowance was vital in enabling IW to operate and maintain new and upgraded assets and to progress critical work programmes. These compliance, growth, and external cost pressures will continue into RC3.

The extent of the challenge facing IW is evidenced by the emergence of further additional compliance requirements since we made our RC3 submission in November 2018. We have recently identified serious process safety issues relating to electrical, pressure and lifting equipment compliance across all assets transferred to IW. The resolution of these issues requires both capital and ongoing operational interventions. These have not been included in our RC3 cost projections but must be addressed due to the safety risks involved. Given the poor state of legacy assets, it is inevitable that other expenditure needs will be identified over the course of RC3.

We strongly urge the CRU to allow the essential additional expenditure we have outlined in our RC3 submission. We have provided substantial analysis to justify our opex requirement and we are happy to engage further to provide any additional information required. Considering the CRU's stringent efficiency challenge on base 2019 opex, it is certain that IW will not be able to function effectively without a sufficient additional growth allowance in RC3.

The CRU's efficiency challenge is extremely demanding and does not take sufficient account of IW's unique context and constraints

IW recognises the importance of an appropriate efficiency target. However the efficiency challenge set by the CRU on base 2019 opex in RC3 is overly onerous, rising year-on-year from 2% in 2020 to 6% in 2024. This is largely based on a theoretical benchmarking assessment against UK peers. IW fully accepts that there remains a gap to the performance levels of these companies however this cannot be attributed entirely to a disparity in efficiency. There are other important factors which help to explain why IW's cost base is different to that of UK utilities and why the gap cannot be closed through efficiency alone.

Ageing and poor-quality inherited infrastructure is a key differentiating factor that limits the efficiency IW can achieve during RC3, and inhibits comparison to the benchmarked peer group. For example, the average age of the water mains infrastructure in Ireland is estimated at 65 to 85 years, well above the EU average of 36 years. The limited resilience of ageing infrastructure ultimately leads to higher opex due to repeated asset failures.

There are numerous additional factors that affect IW costs but are, to a large extent, longer term structural issues. The CRU's consultants, NERA, acknowledge that IW is an outlier in multiple respects. These include our large number of water treatment plants (three times more than our nearest comparator); the length of our network (30% more than the closest comparator), and our high level of leakage. While we are targeting significant improvements in leakage reduction, issues such as plant rationalisation are by necessity longer term programmes. Opportunities to address smaller plants are being taken where feasible, but this issue can only be tackled on a larger scale once more urgent needs are addressed. With constrained funding, the achievement of mandatory compliance standards remains IW's investment priority.

Other areas where we differ from the UK include policy and environmental regulation. For example, IW is faced with more stringent licensing conditions compared to those in UK. The higher standard of wastewater treatment required significantly increases expenditure at our treatment plants in comparison to our benchmarked peers.

Equally, it is important to consider economic regulatory factors which positively differentiated the UK comparators and which have contributed to their current performance levels. For example, we have previously provided the CRU with analysis which demonstrated that all of these companies were initially provided with increased opex allowances in order to deliver compliance and service improvements for customers. Later, challenging efficiency targets were clearly linked to transformation programmes which were fully within the control of the utilities. In contrast, IW has faced onerous year-on-year opex reductions from the point of establishment. These had to be delivered while simultaneously establishing a fully functioning utility from inception and pursuing major compliance and service improvements.

Clearly, the major factor which continues to differentiate IW from UK comparators is our operating model, whereby 75% of our current costs are driven by the Service Level Agreement with 31 separate Local Authorities. Approximately half of our opex costs are relatively fixed through SLA payroll, administrative charges, and DBO contracts. Until transformation is delivered through a single public utility model, IW will continue to be constrained in our ability to streamline processes, enhance customer service, and deliver a step change in efficiency.

IW's RC3 submission is based on a detailed bottom up analysis, but is dependent on single public utility timelines

In contrast to CRU's heavy reliance on benchmarking analysis, IW's proposed RC3 efficiencies target of €319m (cumulative) is based on a detailed bottom-up analysis of what savings are realistically achievable within the period, assuming the single public utility is delivered on schedule. This represents a very ambitious target and is driven by our commitment to reaching the efficiency levels of international peers as soon as possible.

There continues to be significant risk and uncertainty around the implementation of the single public utility. The complexity of the stakeholder engagement process is exceptionally challenging and the programme is currently running behind our original estimated schedule. Any delay in the timing of the SPU will have a substantial impact on our ability to deliver efficiencies within RC3. We estimate that a one year delay has already significantly impacted our opex efficiencies projection over the period to 2024.

If the transformation programme does not proceed at the pace required to deliver the RC3 targets, IW will engage with the CRU to set out the expected impact on both expenditure profiling and efficiency delivery. This may require both parties to examine the implementation timelines throughout the RC3 process. A review process is required which can provide the flexibility to accommodate any material changes in the transformation programme during RC3. Failure to ensure such flexibility would impose an unacceptable funding risk on IW, linked to a highly complex transformation programme with multiple external stakeholders, and beyond IW's full, direct control.

Customers' interests are best served by challenging IW to maximise service improvements within available funding limits

Over the IRC2 period IW developed a Performance Assessment Framework with the CRU that currently reports on 19 metrics across customer service and environmental performance. We have submitted four such reports to the CRU to date, all of which show steady progress in standards.² We are aware that the CRU intends to consult on the continued appropriateness of the metrics and target performance commitments.

The CRU's RC3 Consultation Paper considers that *"there is significant scope to make performance commitments by IW more stretching over time, so that customers benefit from better service"* and the CRU will *"include challenging target levels of performance that IW should deliver by the end of the RC3 period"*.³

IW is committed to continuously improving service and performance levels for customers and we will engage with the CRU on the Framework review. However, it is essential that IW is

² Please see the following link [here](#) on CRU for Performance Assessment reports published to date.

³ See page 20 of IW Revenue Control 3 (2020 – 2024), CRU/19/091 (CRU consultation paper) [here](#).

provided with sufficient regulatory allowances to meet current objectives and any additional targets set by the CRU. As outlined earlier in this paper, the CRU's current proposals are wholly inadequate to enable effective operation and will impact IW's ability to meet existing service, compliance, policy, and economic growth demands.

In contrast, the allowance by the CRU of opex up to the available funding limit in the Strategic Funding plan would enable IW to maximise the delivery of service and environmental improvements and would be in customers' best interests. IW urges the CRU to consider this option, with the additional assurance that IW would be open to a claw-back of funding should the agreed targets not be delivered by the end of the RC3 period. IW's primary concern remains the implementation of national Water Services policy and delivery for customers as efficiently as possible.

RC3 Network Capex

Our RC3 Investment Plan represents the first five-year portfolio that contains projects and programmes wholly developed by IW. It incorporates the principles, themes and specific policy objectives identified by the Government's WSPS for 2018-2025, and the Water Services Strategic Plan published in 2015. These themes, reflected in IW's SFP, address the key areas of quality, conservation, and future proofing.

Following significant stakeholder consultation, IW set out a c.€4.8bn forecast Network Investment Plan for RC3. One of the key risks we identified related to construction inflation and its continued trending above the HICP inflation index. We welcome the CRU's acknowledgment of this impact, and the proposed inclusion of a Real Price Effects (RPE) adjustment of 1% above HICP (€257m). However, we do not concur with the CRU's analysis and we project that construction inflation will have a substantially higher impact on capital costs over the RC3 period.

IW commissioned an independent study on the current economic situation in regards to forward cost profiles in the construction industry, specifically regarding infrastructure costs. This study, which was provided to CRU, incorporated published construction indices and their correlation against HICP. The report estimates that construction inflation could exceed HICP by 3% per annum (central scenario), or even as high as 4.5% per annum (upper scenario) over the RC3 period.

The CRU's RC3 consultation acknowledges that its proposed RPE adjustment cannot be accommodated within the limits of the SFP approved by the Minister. IW has undertaken a review of the Capital Investment Plan to assess the projected impact of the CRU's proposed inflation adjustment. We have also reviewed the portfolio to address other change drivers since the original data freeze point in March 2018. These include new emerging needs, scheduling updates (e.g. statutory planning process timelines), and the identification of additional requirements as initial project scoping progressed and developed.

Below, we set out our revised projection of outputs and outcomes which can be delivered within the Strategic Funding Plan limit in RC3.

Given the constraints on IW's funding, it is important that the regulatory framework is sufficiently flexible to accommodate necessary adjustment within the period. IW wishes to engage with the CRU to agree an appropriate change control mechanism as part of RC3 implementation.

RC3 Outcomes		
Outcomes	Unit	Revised Target 2020-2024
Leakage Reduction	ML/day	176
Water Supply Zones (WSZ) removed from RAL	No. removed	13.0
Treatment provided at agglomerations previously receiving no treatment	No. removed	33
Agglomerations in the ECJ UWWTD case (Nr Agglomerations)	No. completed	10
Drinking Water Chemical (Nr Properties)	No. removed	209,435
Reduction in risk of THM non-compliance	No. removed	132,122
Reduction in risk of microbiological non-compliance	No. removed	561,915
Number of lead services replaced	No. replaced	13,231
Number of WTPs with Orthophosphate Dosing	No. completed	27
Additional water supply treatment capacity	ML/day	45.5
Number of agglomerations removed from EPA's Priority Urban Area Action List (PAL)	No. removed	41
Additional Wastewater treatment capacity	PE	1,158,984
River Basin Management Plan	No. completed	94
Energy Efficiency Improvement (GWh/yr)	(GWh/yr)	22

RC3 Outputs		
Outputs	Unit	Revised Target 2020-2024
Number of new treatment plants (W&WW)	No. completed	42
Number of upgraded treatment plants (W&WW)	No. completed	73
Water Treatment plant capacity	Ml/day	606
Wastewater treatment plant capacity	PE	3,440,034
Number of reservoirs upgraded	No. completed	132
New watermains	Km completed	424
Rehabilitated or relined mains	Km completed	461
Meters installed	No. completed	50,815
New Sewer	Km completed	236
Rehabilitated Sewer	Km completed	333

Note: The revised 2020-2024 targets take into consideration earlier than expected project completions pre 2020, removal of ECJ cases and data corrections to the consultation document.

Table 2: Revised Outputs and Outcomes of RC3 Capital Investment Plan

Non Network Capex

Investment in Non-Network Capex (NNC) and industry transformation is critical to the drive for efficiency. Non-Network assets, such as the national telemetry and Leakage Management System, are vital to working towards international performance levels.

IW has identified an overall NNC investment requirement of €425m for the RC3 period. The CRU has proposed a reduction of €48m (11%), down to €377m. The majority of this €48m proposed reduction is comprised of contingency adjustments – fully disallowing any contingency on IT, Business Change or Facilities projects and reducing the contingency provision on the programme (WIOF) to deliver the single public utility.

This approach to NNC is inconsistent with the CRU's own Network Capex analysis and is wholly at odds with best-practice project management. IW applies an appropriate element of contingency on all capital projects, both network and non-network. This ensures a prudent provision for unknown future events or circumstances. Contingency may be required at any stage during a project. We have reviewed previous CRU revenue control decisions across all sectors, together with precedent from UK water regulators, and we have not identified any circumstances where contingency has been completely removed from capex allowances. This would be a step change in approach by the CRU if adopted for RC3 and would have implications for future investment plan development and management.

In the case of the WIOF, the CRU has acknowledged the extent of challenge and uncertainty in the timing of the industry transformation programme. The establishment of a single public utility is of the highest priority for IW as it is a fundamental enabler of our efficiency targets in RC3. It is essential that WIOF contingency be allowed in full. IW will be able to provide the CRU with a more defined cost estimate once the current engagement process has reached a conclusion.

As with network capex, inflationary pressure will also impact on NNC expenditure in RC3, particularly in the area of Facilities. Any RPE adjustment applied to Network Capex should also be acknowledged by the CRU in relation to NNC. We note that the CRU proposals for RC3 include a penalty of €1.8m applied to two projects that carryover from IRC2. We reject the assertion that no information or outputs were provided for these projects in our RC3 submission or in the follow-up Q&A process and we are happy to provide further supporting documentation to confirm our position.

CRU Capex Lookback

A number of detailed points in relation to the CRU's proposals on 'Lookback' (IRC2) capex are included in Appendix 3.

WACC

It is important that IW's WACC is set at an appropriate level that reflects the company's risk and ensures appropriate cost recovery. Having reviewed the CRU's proposals, and the supporting paper by Europe Economics, we have concerns in relation to the proposed approach to estimating the cost of debt and cost of equity, and the lack of consideration given to asymmetric risk. We set out our detailed response on the WACC proposals in Appendix 2 of this paper.

RC3 Change Control Management

We are committed to fully engaging with the CRU during RC3 where external events impact our opex and capex projections. A hard Brexit, changes to the Government funding model, climate change, and new or amended legal requirements are clear examples of such events. There is also uncertainty around the timing of SPU implementation over the RC3 period given the complex engagement process with multiple stakeholders. IW wishes to engage with the CRU on an appropriate change control mechanism which would provide the flexibility to review allowances where necessary, enabling IW to effectively manage RC3 delivery within available funding limits.

In conclusion

IW appreciates the opportunity to review and respond to the CRU consultation paper. RC3 is the first long term revenue cycle for IW and is the period in which we are aiming for

transformation to a single public utility. It is crucial that the allowances decided by the CRU are sufficient to support the effective functioning of water services in Ireland.

IW is clear that if the CRU's current proposals are unchanged, there would be unacceptable impacts on services to customers and on our ability to meet critical compliance requirements. An unsustainable funding position would threaten the viability of the regulatory framework and jeopardise the current engagement process in relation to transformation of the sector.

Through the approved SFP, IW has been given a mandate to implement government policy as set out in the WSPS. IW cannot exceed the CRU allowances as we have no means of funding any additional expenditure – Government funding is clearly limited to the CRU's RC3 decision. It is therefore essential that the CRU decision provides IW with the requisite opex allowances to address compliance, service, growth, and policy needs.

We have set out ambitious targets in relation to efficiency delivery and we will pursue these with rigour. There remains some uncertainty in relation to the timelines for transformation but we will keep the CRU fully updated on progress as stakeholder engagement progresses. An appropriate change control mechanism to monitor and manage necessary adjustments during RC3 would ensure that the overall objectives can continue to be delivered within available funding limits.

With sufficient allowances, IW's commitment to delivering stretching performance targets can be effectively monitored by the CRU through a revised Performance Assessment framework. A claw-back mechanism can be agreed whereby funding which is not efficiently deployed can be recovered at the end of the period. This will ensure that IW bears the risk of performance while customers will continue to benefit from the improvements which we have planned for RC3.

IW urges the CRU to give careful consideration to our consultation response before finalising the RC3 decision. We are available to discuss the issues raised and to provide any additional analysis required to support the CRU's review.

Yours sincerely,

Brendan Murphy

Commercial and Regulatory Director

Appendix 1: Highlights of IW achievements in the first two regulatory periods

Since establishment in 2014, IW has delivered significant operational cost efficiencies, while improving the quality of services provided to customers. Some of the notable achievements include (as of the end of June 2019):

- Delivery of a single national harmonised connection policy;
- Delivery of a national harmonised non-domestic tariff structure for implementation;
- The migration of all non-domestic customers from the 31 LA billing systems to one single IW billing system;
- Delivery of significant operational efficiencies – c. €70m in IRC1 and c. €90m in IRC2. These efficiencies peaked at 7% in 2017, with efficiencies of c. 4% in 2018 and 2019.
- Removal of long term Boil Water Notices (BWN) through targeted investment for 75,939 people;
- Completion of work at 155 water supplies removing them from EPA's remedial action list (RAL);
- Upgraded a total of 228 sites through the Disinfection Programme representing a significant investment in protecting public health;
- Commissioning/upgrading of over 40 water treatment plants and 90 wastewater treatment plants;
- Installed new or upgraded Coagulation, Filtration and Clarification (CFC), Filtration and Sludge Programme installations at 50 sites;
- Replaced a total of 5,620 backyard and 21,838 public side lead services through the Lead Mitigation Plan;
- Assessed 41,588 hazardous events at 545 supply zones not previously assessed;
- Removed 104 wastewater agglomerations identified by EPA for improvement;
- Removed 14 wastewater agglomerations previously discharging untreated wastewater;
- Delivered a gross leakage savings of 264.9MI/day through public side leak repairs and customer repairs;
- Delivered 189km of new/rehabilitated sewer network; and
- Delivered 1,702km of new/rehabilitated watermains.

Appendix 2: WACC – IW Response to CRU Proposals and Europe Economics approach

This appendix sets out IW's response to Europe Economics' WACC paper and the WACC section of CRU's consultation document.

Careful consideration needs to be given to ensure that IW's WACC is set at an appropriate level that reflects the company's risk and ensures that appropriate cost recovery is demonstrated in the pricing of water. The Water Framework Directive requires that water pricing policy complies with the principles of cost recovery including that of resource costs. Furthermore, the WACC needs to be set at a level that avoids cross subsidisation between domestic and non-domestic customers, and is at a level where IW can evidently demonstrate its financeability. If the WACC is set below a level that is appropriate this may raise issues around demonstrating appropriate cost recovery and could lead to non-domestic customers effectively being subsidised by domestic customers.

In this note we discuss:

- the appropriate approach to calculating the cost of debt, and in particular an assessment of the appropriate way to implement Europe Economics' proposed approach that is based on weighting 'historic' and 'new' debt costs;
- the approach to cost of equity estimation;
- the approach to estimating notional gearing; and
- the treatment of asymmetric risk.

The majority of our comments relate to our concerns about the approach to estimating the cost of debt. We noted fewer methodological concerns in relation to estimating to cost of equity.

Cost of debt

In developing the cost of debt estimate, CRU and Europe Economics set out three estimation approaches:

1. A traditional debt premium approach (this informs the top end of the cost of debt range);
2. An all-in cost of debt based on short-term spot market data (this informs the bottom end of the cost of debt range); and
3. An all-in cost of debt estimate modified by the past history of debt raising (this informs the point estimate cost of debt).

In the sections below, we focus our comments on methods 2 and 3. In particular, we set out why, in our view an approach based entirely on short-term spot market data is inappropriate and out of line with regulatory precedent. We then consider option 3, which while better than option 2, in that it places considerable weight on long-term historic data (IW's preferred approach), is subject to a number of significant implementation concerns.

The appropriate approach to the cost of debt estimation

In our view, taking a long-term historic approach to estimating the cost of debt is more appropriate than a shorter-term approach for the following reasons:

- Due to the nature of long-term investment in the utility sector, longer-term debt capital is typically the most efficient way to raise debt financing, once transaction cost, interest rate volatility and the term curve is taken into account. As a result, an efficient operator will typically have long-dated debts on its balance sheet raised at various points in the past needing to be serviced at historic rates. A long-term historic averaging approach to estimate the cost of debt therefore provides the best match to the typical debt profile of an efficient operator.
- A long-term approach promotes stability and predictability in regulatory decisions and provides companies with clear signals as to how they should finance themselves. This in turn provides companies with strong incentives to finance themselves efficiently. It also reassures investors that Regulators are not going to engage in opportunistic decision making, based on prevailing short-term trends. Over time this reduces the cost of capital of the entire sector, to the benefit of customers.
- A long-term approach is based on actual market data, while a short-term approach relies on a forecast of the current spot rates into the future (the price control period). This introduces forecasting errors, especially when implied forward rates are used as a way to predict future interest rate movement. There is little evidence that forward rates are a reliable predictor of future interest rates for a regulatory settlement.
- A stable long-term approach sufficiently corrects for any short-term volatility with a delay, so that over a longer period of time the peaks and troughs even out, and the company and customer is left no better or worse off compared to the counterfactual of having the estimate exactly right every time (assuming this was ever possible). By contrast, an approach focused on short-term data exposes companies (and customers) to substantial volatility.

We note that CRU has previously stated that it is “mindful of regulatory precedent and the value of regulatory stability and has sought in its assessment of the WACC to generally minimise the extent and magnitude of changes in regulatory policy within a short time frame”. We suggest that this approach is critical. We are particularly concerned about any suggestion that weight is given to an approach that is based solely on short-term data. This is because a move to relying solely on short-term spot market data to set the cost of debt, at a time when spot rates are at historically low levels, risks investors (in utilities regulated by the CRU) perceiving the CRU as being opportunistic in its regulatory decisions. A perception of opportunism could, in turn, undermine perceptions around the stability of the regulatory regime in Ireland.

If investors consider that they would be more exposed to risk and volatility – as regulatory decisions are based on volatile spot markets, rather than actual expected borrowing costs of efficient utilities – then this will ultimately impact borrowing costs to the long-term detriment of consumers and Ireland more generally. Similarly, this could impact on the credit ratings outlook for other Irish utilities, which again would impact on borrowing costs.

Finally, we note that Europe Economics have stated that “under an all-in cost of debt it is better to use spot values for the forward-looking cost of new debt”. However, Europe Economics have provided no evidence to support their assertion that the spot rate prevailing on the 30th of April provides a better forecast of rates for the next five years, than does the average cost of debt over the long-term. Their proposed approach is based on spot nominal yield rates for Irish utility bonds, at a time when such rates are at historic lows.

Using spot rates in this way means that the timing of decisions is crucial. Regulated utilities should not be exposed to such “luck”. For example, since the start of 2019 the spread between the minimum and maximum yields for the bonds that Europe Economics considered is 145 bps.⁴ In our view, exposing companies to this level of randomness in the setting of a regulatory allowance is entirely inappropriate.

We, therefore, consider that the CRU should place no weight on an all-in cost of debt approach based on short-term spot market data, which takes no account of historic debt costs or robustly forecasts future debt costs. Removing this approach from the three approaches put forward by Europe Economics would result in a cost of debt range, according to Europe Economics’ report, of 1.69% to 2.79%. Europe Economics’ current point estimate of 2.0% for the cost of debt fits within this range. However, as discussed below, the all-in approach to debt with a blend of historic and new debt may underestimate the low end of the range.

Europe Economics’ all-in cost of debt estimate based on a blend of ‘historic’ and ‘new’ debt costs

Europe Economics’ also present an ‘all-in cost of debt estimate modified by the past history of debt raising’. Under this approach Europe Economics produce a cost of debt range of 1.69% to 2.15%.

First, from a principles perspective, we note that this approach places the majority of weight on a long-term average of the cost debt, and places far less weight on short-term spot data. We therefore consider, for the reasons outlined above, that such an approach is likely to be significantly preferable to the approach which focuses purely on volatile short-term market data.

However, we consider that there are a number of concerns with the estimation approach Europe Economics have taken. In particular:

⁴ Based on BID yield to maturity data sourced from Bloomberg.

- **Weighting of ‘old’ and ‘new’ debt:** Europe Economics provides no justification for the proposed 75:25 weighting. It appears to be based on an averaging of a number Ofwat suggested, but ultimately did not use (i.e. 70:30 in PR19 early view publication), and a number Ofwat did use (i.e. 80:20 in PR19 draft determination). It is not clear to us why Europe Economics have not just taken the most recent number that Ofwat used, that is, an 80:20 split.
- **Choice of index for the estimation of the historic cost of debt:** Europe Economics considers both the iBoxx European Utilities Index and yields on Irish Government bonds. We note that the European Utilities Index produces an average yield that is considerably lower than that from the iBoxx Non-fin 10+yr indices. Europe Economics does not appear to have considered these indices, even though they are considered elsewhere in the paper, and are the indices that RAs typically use. Europe Economics also considers the long-term average yields on Irish government bonds. We are concerned that this may under-estimate costs, given that Irish utility bonds have typically traded at a premium to Irish government debt. We note that IW’s debt has never been guaranteed by the State.
- **Methodology for calculating ‘new’ debt costs:** Europe Economics use an estimate based on spot nominal yield rates for Irish utility bonds for a single day. In our view, it would be appropriate to consider taking an average of a recent period (e.g. 12 month period). Using spot rates for a single day, particularly when such rates are at historically low levels, means that the timing of decisions is crucial. Regulated utilities should not be exposed to such “luck”. For example, as we noted above, since the start of 2019 the spread between the minimum and maximum yields for the bonds that Europe Economics considered is 145 bps.⁵ In the context of an estimate of just 94bps for the cost of ‘new’ debt, such volatility is unreasonable, and taking an average of a longer period to smooth out such volatility would appear to be more appropriate.
- **Inflation assumption:** Europe Economics has used an inflation rate of 1% for expected inflation. This is substantially higher than outturn inflation over the last number of years, which has averaged 0.27% since 2013. While we note that forecast inflation for 2020 is 1.2%⁶, we also note that the central bank inflation forecast has systematically over-estimated inflation for the Irish economy.
- **Transaction costs:** Europe Economics has allowed 10 bps for transaction costs. We note that while this is line with the recent Ofwat PR19 decision, it is below the allowance provided by UR in relation to recent NI price controls.

⁵ Based on BID yield to maturity data sourced from Bloomberg

⁶ Irish Central Bank, Quarterly Bulletin No.3 2019

From a principles perspective, as this approach places the majority of the weight on long-term data, it is significantly preferable to the approach which focuses purely on volatile short-term market data. However, care needs to be taken when completing this estimation, as noted by the methodological concerns that we have identified above.

Cost of equity

The CRU proposes a cost of equity in the range of 4.0% to 5.6%, with a point estimate of 5.0% (post-tax, real) for RC3. The cost of equity is estimated following two approaches – the CRU name these approaches the ‘IRC2-approach’ and the ‘Market-Evidence-Approach’.⁷

We note that the ‘IRC2-Approach’ is similar to the approach CRU followed in previous determinations as the TMR element of the cost of equity is based on long-term historic average estimates published in the DMS Yearbook. However, the second approach – the ‘Market-Evidence-Approach’ – estimates the TMR using a dividend growth model (DGM).

Estimating the TMR using a DGM is a departure from CRU precedent, and more importantly, we are of the view that DGMs are particularly susceptible to uncertainty as the result is largely driven by the underlying assumption that is chosen (i.e. the long-term dividend growth). Both the CMA and UKRN have expressed their concerns about the DGM estimation approach. For example, the CMA expressed this concern in the NIE determination in 2014:

*“A limitation of this [DGM] approach is that it is necessary to make an assumption about future long-term growth of dividends (which has a major effect on the calculation since dividends beyond year 4 or 5 account for a large part of present value at plausible discount rates). We think such approaches, since they are based on current market data and short-run forecasts, are likely to be **more suitable for estimating the short-run ERP** and less so for estimating the long-run equilibrium ERP. Since we are concerned with the latter, we **place less weight** on results derived from this approach.”⁸*

We also note that the UKRN paper confirmed that the preferred approach is to estimate the TMR using a long-term historic average approach and expressed concerns with using a DGM estimation:

We can illustrate the difficulties that may arise here with reference to one recent application of the DDM [i.e. DGM]: PWC’s 2017 report to Ofwat, although we note Ofwat referred to a wide evidence base and placed limited weight on DDM [i.e. DGM]. PWC’s Figure 26 is reproduced below (Figure 4.9). This shows sensitivities of their EMR (here denoted TMR) estimates to changes in assumptions feeding into their model. These are

⁷ We note that Europe Economics refer to this approach as the ‘UKRN approach’. However the UKRN paper recommended that ‘regulators should continue to base their estimate of the EMR on long-run historic averages’.

⁸ Competition Commission, Northern Ireland Electricity Limited Final Determination, March 2014, p.13.30.

*very wide ranges indeed: considerably wider than the range of long-run historic average returns.*⁹

We therefore suggest that CRU should not rely on DGM to estimate the TMR, and at most it should only be used as a cross-check. We suggest that the CRU continues to set the TMR using the long-term historic average approach. We note that while discounting the DGM approach would not significantly change the cost of equity range, it is important that the CRU establishes the appropriate principle for estimating the TMR.

Notional gearing

The CRU proposes a gearing rate of 50% in the RC3 consultation. This is based on a gearing range of 50% to 55%, identified by Europe Economics. The lower end of this range is based on Europe Economics analysis of the average net debt to enterprise value for four water companies (i.e. Pannon, Severn Trent, United Utilities and Veolia), and the higher end of this range is based on the average value for the two ‘pure-play water companies’ (i.e. Severn Trent and United Utilities). The point estimate is set at 50%, as CRU wanted to “minimize change” from gearing level set for IRC2 of 45%.

We are of the view that just considering gearing estimated using the net debt to enterprise value formula is not appropriate and risks underestimating the notional gearing level for IW. CRU should consider alternative estimations such as net debt to RAV, which would better reflect the notional gearing of IW. Although we note that this doesn’t materially impact the final WACC, it is important that CRU establishes the appropriate principle for estimating notional gearing.

Lack of consideration of asymmetric risk

Europe Economics WACC proposal provides no headroom or consideration of asymmetric risk. It is common practice to include either sufficient headroom in a WACC estimate, or a specific aiming up allowance. As Europe Economics have previously identified, the extent of aiming up depends on¹⁰:

- the extent to which the consequences of setting the WACC too high or too low are asymmetric; and
- the degree of uncertainty surrounding the “true” value of the WACC.

First, we note that given IW’s funding model there is a question on the extent of the impact of setting the WACC too high or too low. However, we note that if WACC is set too low then IW will not receive sufficient revenue from its non-domestic customers to appropriately fund

⁹ Wright S. et al (2018) Estimating the cost of capital for implementation of price controls by UK Regulators, An update on Mason, Miles and Wright (2003).

¹⁰ Europe Economics, “Consultancy Support for Water Division”, 2 December 2016.

related investment activities. This would either lead to reduced investment spend – with associated negative impacts on the long-term water and wastewater quality in Ireland – or taxpayers cross-subsiding non-domestic customers through them being the funding source for domestic customers.

Second, Europe Economics has estimated a WACC range of 2.79% to 4.50%. This indicates that there is significant uncertainty in relation to the true value of WACC. While Europe Economics point estimate is slightly above the mid-point, it provides no additional aiming up allowance. In our view, therefore, there is a real risk that the WACC proposed by Europe Economics is an under-estimate of the true WACC.

Conclusions

This note outlines our concerns in relation to the Europe Economics and CRU's approach to estimating the cost of debt and cost of equity for the RC3 period. We have also noted our concern that Europe Economics and CRU have not considered asymmetric risk.

As outlined above, we have particular concerns about the change in methodology regarding the cost of debt calculation, and any suggestion that weight is given to an approach that is based solely on short-term data. In fact, as far as we know, no other utility regulator in Europe uses this approach for an ongoing utility. If such an approach is discounted, then the cost of debt range estimated by the CRU would range from 1.69% to 2.79%.

Moreover, for the reasons outlined above, we suggest that the lower end of this range (based on the blended new and old debt approach) is highly likely to under-estimate the cost of debt. Consequently, we consider that based on CRU's analysis, the likely cost of debt estimate is likely to lie between 2.15% and 2.79%. This range lies above CRU's proposed cost estimate. We note that if the cost of debt range was amended to 2.15% to 2.79%, this results in a WACC range of 3.93% to 4.25%¹¹, which is above the WACC point estimate of 3.86% proposed by CRU in the consultation.

On this basis, we suggest that CRU either amend its proposed cost of debt range or adjust its proposed point estimate. We also suggest that CRU should consider an aiming up allowance to provide for asymmetric risk.

¹¹ Using the CRU point estimate cost of equity (pre-tax) of 5.71%.

Appendix 3: IW Response to CRU proposals on 'Lookback' (IRC2) Capex

Network Capex

We acknowledge that the IRC2 capex forecast figure (including 2019 estimate), reported to the CRU in the RC3 submission, includes customer contributions in respect of new connections revenue. When this is deducted, IW's projected outturn for the IRC2 period is €2,012m. In line with regulatory principles and precedent, the RAB should reflect net capex and we ask the CRU to make this amendment in the RC3 decision.

Non Network Capex

IW is concerned by the CRU's proposal to disallow €5m of the full IRC2 non-network capex of €158m. The variance above allowance which has been identified by the CRU relates to Run Mandatory investment. This category of IT capex provides our systems with platform stability, security, and essential maintenance. It is also central to supporting and optimising the execution of IW business processes.

This particular element of IT capex was invested in the replacement of the Data Centre Hardware platform (VBlock), which would typically be replaced on a five year cycle. The current platform was deployed with the IW establishment programme and has been in operation since December 2013. It reached its end of life cycle in November 2018, and a 1 year extended support/warranty was granted from the supplier to November 2019. Deferring the project into 2020 would have placed the business at unacceptable risk, and therefore it was accelerated into 2019. The project is scheduled to commence in Q4 2019 and complete in Q1 2020. This new platform will also provide a future proofing benefit to the single public utility programme as the hardware chassis allows for scalability to support an increased user base.

We note that the estimated €5m variance above allowance is c.3% of the CRU's allowed expenditure of €153m. We also note the statement made by the CRU's consultants, NERA, in their RC3 Opex look back report in reference to the CRU's approach to ESB Networks in PR3 (2011-2015):

On the capex side, ESN had a net overspend of around 5 per cent relative to the (revised) allowance. The CRU recognised the overspend, in the absence of any advice from its technical experts that it was inefficiently incurred.

We have not been advised by the CRU that it considers our IT investment to have been either inefficiently incurred or not required. IW has effective IT frameworks and procurement structures in place to manage IT costs as efficiently as possible. This was discussed in detail during the RC3 Q&A phase. We request that the full IRC2 non-network capex of €158m be allowed in the RC3 decision paper.

Note: IW also wishes to engage with the CRU regarding a small number of technical issues relating to the CRU model.