



Water & Sewerage Services Price Control 2021-27

PC21 Draft Determination – Main Report September 2020



About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs, Markets and Networks. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.



- · Be a collaborative, co-operative and learning team.
- · Be motivated and empowered to make a difference.





Abstract

This draft determination sets out our proposals for outputs tariffs for NI Water during the six year period 2021-27. We have determined efficient levels of operational and capital expenditure and the costs of financing this expenditure. This will require revenue of £2.8bn over the PC21 period. A key objective of the Price Control is to address the capacity of the sewerage network and treatment works which result in environmental pollutions and act as a constraint on development. These issues will not be addressed in full in PC21 and further investment will be required in subsequent Price Controls before they are fully resolved. We have included additional revenue in PC21 to ensure that today's consumers make an balanced contribution towards the repayment of this investment. We are consulting on these proposals until 16 December 2020.

Audience

Regulated utilities, regulatory community, consumers, their representatives and representative and statutory bodies.

Consumer impact

The PC21 price control sets targets for improvements in service to consumers and the environment over the six year period 2021-27. It provides a framework for sustainable service delivery by NI Water and supports the investment necessary to allow the planned development of housing and industry economic development which underpins the economy and wellbeing of our society. It continues to set challenging efficiency targets for NI Water and the return on capital necessary to finance investment has been reduced to an average of 1.7%. The weighted average price limit (K factor) are zero in real terms relative to RPI. Within this average price limit, prices will rise in real terms for some groups of consumers and fall for others.





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Executive Summary

The PC21 price control will determine NI Water's price limits and the outputs to be delivered during the six-year period from April 2021 to March 2027. Our price control review protects the interest of consumers by scrutinising and challenging the NI Water to deliver high quality, value for money services.

It is recognised that much of NI Water's business plan and this PC21 draft determination reflects the company's core business related to the operation and maintenance of the water and sewerage network and responding to the needs of consumers. However, there are three strategic and linked issues which will define the development of water and sewerage services over the medium- to longer- term:

- Development constraints. In PC21 NI Water will begin to address a lack of capacity in sewerage networks and wastewater treatment works. A lack of capacity causes unsatisfactory spills from overflows and treatment works cannot comply with the statutory consents issued by NIEA to protect the environment. It impacts on the planned development of housing and industry which underpins the economy and wellbeing of our society. NI Water's PC21 plans will only begin to address current development constraints and further investment will be required in future price controls. This presents a wider challenge as to how economic development can be supported while the necessary investment is delivered.
- Increasing capital investment. The outputs NI Water plans to deliver in PC21 will require investment of £1.7bn, an increase of 74% compared to PC15. This will place a further pressure on public expenditure budgets. Without this investment NI Water will continue to breach statutory environmental obligations and our society will to have to choose between environmental protection and economic development. An increase of investment of this magnitude can only be delivered successfully if there is a commitment to medium term funding.
- Long term tariff stability. We recognise that investment in water and sewerage services network infrastructure is not just for today but is also about the long-term. By setting the total sum of all NI Water tariff's to zero (excluding inflation) over this price control period we are ensuring greater tariff stability while also providing for NI Water's long-term capital development needs. Tariffs therefore reflect the need to recover NI Water's costs in PC21 while better reflecting the long term cost of delivering the service. This creates a more balanced position by reducing potential tariff increases for future consumers. We will continue to engage with both NI Water and Dfl on longterm sustainable funding issues.

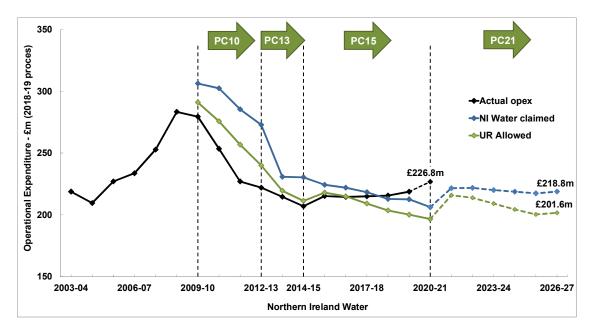


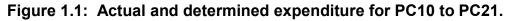
Operational expenditure

NI Water has reduced the efficiency gap with similar companies in England & Wales from 22% at the time of our PC15 determination to 8% today.

This draft determination requires NI Water to close the remaining efficiency gap to upper quartile performance in England and Wales by the end of 2025-26. We also expect the company to deliver productivity improvements of 0.8% per annum. Opex efficiency is equivalent to 2.11% per annum compared to 0.78% proposed by the company and this saves consumers £73m over the PC21 period.

Figure 1 shows the profile of operational costs since our first price control PC10. Additional costs at the start of PC21 (such as increased business rates) means costs will increase in the first year of PC21 before being reduced again by improvements in efficiency over PC21.





Capital expenditure

Our determination includes capital investment of £1,681m in PC21 (2018-19 prices) including £425m of investment as part of the Living with Water Programme.

We challenged NI Water's costs using a combination of econometric benchmarking, historical costs and an assessment of the company's costing systems undertaken by the independent Reporter. Our determination of capital expenditure is 11.9% lower than the company's proposals.

£683m (41%) of capital investment is required to maintain the existing assets and the service they deliver. The remainder will enhance capacity and service including addressing development constraints.





Revenue and bills

We have determined a cost of capital of 1.7% (average) over PC21. This is lower than the company's Business Plan and saves £184m in billed revenue (nominal).

The increase in capital investment in PC21 is financed through debt and equity which will be paid for by all consumers over the long term. To ensure that today's consumers make a balanced contribution towards the repayment of this investment we have included additional revenue of £272m in PC21.

Determined revenue for PC21 is £2.8bn which is the same as the level of revenue included in the company's Business Plan. The weighted average price limit (K factor) are zero in real terms relative to RPI. Within this average price limit, prices will rise in real terms for some groups of consumers and fall for others as shown below.

Table 1: Impact on typical consumer bills.								
	Actual 2020-21	Average bill over PC21	Change from 2020-21					
Average notional household	420	425	5					
Typical unmetered	298	325	27					
Typical small metered	397	375	-22					
Typical large metered	3647	3452	-195					

Key benefits and outputs

Our proposals will result in:

- Increased investment in water and wastewater services: NI Water will begin to address a lack of capacity in wastewater services and start to relieve development constraints.
- Lower costs of financing investment: A reduction in the cost of financing investment will saves consumers £184m.
- **Improved efficiency:** By the end of PC21 NI Water will operate at an equivalent level of efficiency to the upper quartile of similar companies in England & Wales today.
- Improved service: Existing performance measures for pressure, interruptions to supply, flooding pollution incidents will improve. New consumer service measures will drive incremental and continuous improvement in consumer service.

A summary of key outputs delivered in PC21 is included in Table 2.



Table 2: Key outputs delivered in PC21

- Investment of £683m to maintain the performance of the existing assets and the service they provide, delivering stable serviceability.
- Further reductions in the number of properties at risk of sewer flooding, and properties with low pressure. Further reductions in interruptions to supply and pollution incidents.
- Improving consumer service driven underscored by new consumer measures with targets for net promoter score, first point of contact resolution and unwanted calls.
- Investment in 18 schemes at 16 water treatment works to maintain and improve water quality.
- Construction of 14 water trunk-main schemes to maintain security of supply and improve the resilience of supply in areas severely affected by major incidents in the past.
- Delivery of 3 new water storage tanks at treatment works and in distribution to balance flows in the network and improve resilience in the event of pipe burst or work outage.
- Replacement or renovation of 788 km of water mains to control interruptions to supply address low pressure and improve water quality. Replacement or renovation of 61 km of sewers which are collapsing or a cause of frequent blockage.
- Investment to enhance treatment at 45 wastewater treatment works serving a population equivalent greater than 250 and upgrades to 36 small wastewater treatment works to secure compliance with environmental discharge standards and accommodate development.
- Investment to improve the quality of 136 intermittent discharges to comply with environmental standards and accommodate development.
- As a result of improvements in wastewater treatment works and intermittent discharges development constraints in 12 larger conurbations and 37 towns and villages.
- Proactive replacement of 11,064 lead communication pipes at consumers properties in addition to lead pipe replacement as part of the water mains rehabilitation programme ad in response to sample failures.
- Measures to improve sustainability and reduce the impact on climate change including: continuing sustainable catchment management (SCAMP); moving to 100% renewable energy consumption by the end of PC21 and investment in renewable energy generation.
- Completion of sewerage drainage area plans to inform and optimise investment in the sewerage network and inform development decisions.
- On-going investment in management and general facilities to support the delivery of service, improve interactions with consumers, improve efficiency and make the service more sustainable.

1. Introduction

Introduction

- 1.1 This document sets out the Utility Regulator's draft determination for the PC21 Price Control for NI Water covering the six year period 2021-27. It describes our assessment and challenge of NI Water's business plans and includes proposed the price limits and outputs for the PC21 period.
- 1.2 Our draft determination has been published for consultation. The details of how to respond to this consultation are set out in Chapter 7. We ask that consultation responses are provided by the 16 December 2020. We will consider the responses received in our final determination for PC21 which will be published by the 16 March 2021.

Our role and duties

- 1.3 The Utility Regulator role is to protect the interest of consumers in relation to the supply of water and the provision of sewerage services. Our primary duties are to:
 - Protect the interests of consumers;
 - Ensure that NI Water carries out its functions properly; and
 - Ensure that NI Water is able to finance its functions.
- 1.4 One of the ways we discharge these primary duties is to undertake price controls. Each price control ensures that consumers receive value for money through a challenging and achievable determination of the future revenues and charges necessary to deliver a defined set of outputs. PC21 is our fourth price control for NI Water. As a six year price control it follows the pattern of six year price controls established in PC15 encouraging the company to plan and deliver efficiently over the long term.

Social and Environmental Guidance

1.5 When carrying out our duties we have regard to Social & Environmental Guidance issued by the Department for Infrastructure (DfI). The Department issued Social and Environmental Guidance for Water and Sewerage Services (2021-2027) in August 2020. This guidance builds on guidance published for the PC15 price control which covered the six year period 2015-21. It continues to reflect the themes of the "Sustainable Water, A Long Term Water Strategy for Northern Ireland 2014-2040" published in March 2016. Our draft determination has taken account of the guidance issued.

NI Water's governance arrangements

- 1.6 NI Water is a government-owned company. The NI Assembly policy is that domestic consumers do not pay directly for the services provided and this funding is provided by government. This creates a reliance on the company for government funding for the majority of its revenues. This classifies NI Water as a non-departmental public body, reliant on public expenditure and therefore it is subject to the rules that govern public expenditure. This creates a hybrid arrangement that adds complexity to NI Water governance.
- 1.7 We have developed our approach and determination to PC21 on the assumption that the current arrangements for governance and funding will continue. The fundamental building blocks of our price control are clear outputs, a determination of efficient expenditure, a robust plan for delivery and a focus on consumer service supported by robust benchmarking. These building blocks continue to be essential components of any good governance model.
- 1.8 We are challenging the company to take a long term view of planning and delivery. It is worth acknowledging there are areas where current governance arrangements, impact on the decisions made by NI Water as it delivers investment, outputs and improves services. We consider that the establishment of medium to long term budgets for the company would have a positive impact on the company performance and decision making.

Our Approach to PC21

- 1.9 We published our overall approach to PC21 in June 2018. In addition to our overall approach we also published documents providing more detail on our approach to asset maintenance and our approach to efficiencies.
- 1.10 We consulted the Principal Stakeholders for the water sector, the Consumer Council (CCNI), the Department for Infrastructure (DfI), the Drinking Water Inspectorate (DWI), the Northern Ireland Environment Agency (NIEA) and NI Water to reach agreement on the overall approach and timetable.
- 1.11 PC15 has developed in four phases, broadly in line with the approach we set out:
 - Phase 1 Our approach to PC15. We carried out preliminary engagement with key stakeholders and published our Overall Approach to PC15 in June 2018;
 - Phase 2 Developing the building blocks for the PC15 Business Plan. We developed our approach to PC21 in detail and published information requirements in May 2013. Surveys and deliberative

research were carried out to understand consumers' preferences for improvements in service and priorities for investment. Dfl provided initial planning assumptions and stakeholders worked together to prioritise investment. NI Water developed an outline capital submission in June 2019 which allowed the Principal Stakeholders understand scale of investment necessary and to inform the development of the Social and Environmental Guidance.

- Phase 3 NI Water's business plan. NI Water developed its business plan which was submitted at the end of January 2020; and
- Phase 4 Price Control Determinations. We have now assessed the company's plans. Our draft determination is open for consultation until the 16 December 2020. Following consideration of the consultation responses, we plan to publish our final determination on the 16 March 2021.
- 1.12 Unfortunately our work on the draft determination was delayed by the outbreak of COVID19 in March 2020. As a result, the publication of the draft determination has been delayed and this has had a knock on impact on the publication date of the final determination.
- 1.13 A key part of our approach to PC21 has been to work closely with the Principal Stakeholders – CCNI, DRD, DWI, NIEA and NI Water. An established structure of formal working groups was continued from previous price controls with much of the detailed work necessary to support the price control undertaken in individual working groups and Output Review Group (ORG).
- 1.14 We wish to acknowledge the efforts of the many stakeholders who contributed to the development of the PC21 Price Control. We also wish to recognise the work undertaken by NI Water's staff and suppliers in developing its PC15 Business Plan and the company's continued efforts to maintain and improve the essential services it provides.

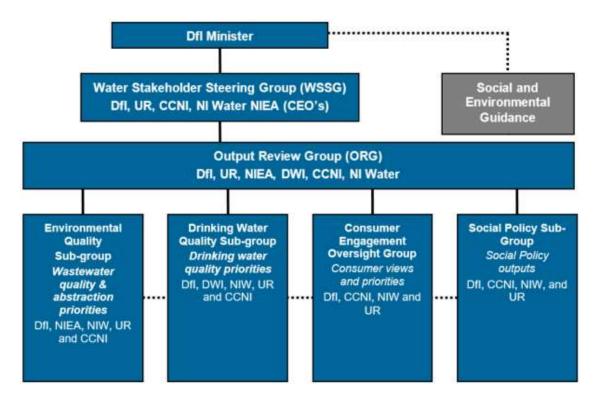


Figure 1.1: PC21 working group structure.

Key themes and areas of focus

- 1.15 Our plan for PC21 is to build on previous price controls and embeds a cycle of long term planning to address three themes:
 - Valuing consumers.
 - Safeguarding the future.
 - Owning delivery.
- 1.16 We have summarised how the company's Business Plan and out draft determination have addressed these themes below.

Valuing consumers

- 1.17 Our common purpose is to deliver the water and sewerage services consumers need efficiently. Our aim for PC21 was to clearly identify what consumers want and identify their priorities for water and sewerage services and show how these will be delivered and over what timescale. The outcome of PC21 should be consumer centred with clear performance commitments.
- 1.18 NI Water developed and led consumer engagement for PC21 in conjunction with CCNI, Dfl and the UR through the Consumer Engagement Oversight Group. This has resulted in a move away from consumer measures based

on asset performance (although we will continue to monitor these to ensure there is no loss of performance). The company is introducing new consumer measures and targets based on first point of contact resolution, reduction in unwanted calls and net promoter score. These measures are not an end in themselves. The collection and analysis of data from continuous engagement with consumers should be a driver for incremental improvement in consumer service in response to actionable data. In addition to monitoring the new consumer service measures we will ask the company to report on the initiatives and service improvements delivered as a result.

- 1.19 We have continued to use a range of service outputs, nominated outputs and activities to define what the company is committed to deliver for consumers in PC21. The key changes to the output measures in PC21 are:
 - The introduction of new consumer measures described above.
 - The introduction of an output measure for development constraints which will demonstrating how investment is addressing capacity constraints to allow development to take place without compromising environmental quality.
- 1.20 Over our previous price controls NI Water has delivered significant improvements in operational efficiency. It has done much to close the efficiency gap relative to water and sewerage service providers in England and Wales. The company has also set out plans to deliver further capital and opex efficiency in PC21. Using econometric benchmarking we have concluded that the efficiency gap has reduced 7.8% compared to upper quartile performance. We expect the company to close 100% of this gap in the first five years of PC21 and we have also challenged parts of the new opex which the company included in its plan.
- 1.21 The company developed a new structured costing system which was used to price its PC21 Business Plan and then assessed the potential to deliver further efficiency. In the determination we have focused on challenging estimated costs to ensure that they were reflective of current costs. Based on the work of the Reporter and our own challenge of historical cost rates we have identified a reduction in estimated capital expenditure of 11.9%.

Safeguard the Future

1.22 The price control must be based on a long term vision and each price control should support planning and delivery over the longer term. The development objectives necessary to improve capability and to deliver sustainable solutions should be clearly identified. Our price controls must be flexible enough to deal with emerging issues, allowing for managed change and the opportunity to innovate.

- 1.23 NI Water has continued to develop its approach to delivering integrated, sustainable solutions developed by a range of stakeholders. It has continued to develop Sustainable Catchment Management which aims to improve the quality of water abstractions while also delivering wider environmental improvements. Work on the Living with Water Programme and in the Dundrum catchment has allowed it to develop an integrated catchment approach to find the best way to manage wastewater and storm water in the urban environment and improve receiving water quality. However, the company has not yet completed upgrades to its Drainage Area Plans and models to build this type of assessment into its plans for PC21. Since much of the investment on these improvements is planned for the end of PC21, there is an opportunity to complete further assessments and improve the costing of these solutions before they are committed. We expect the company to provide a programme for this further development work in advance of the final determination and we will consider amending the determination through the Change Control process once the work is complete.
- 1.24 In the run-up to PC21 NI Water prepared an assessment of its asset maintenance capability using the Global Forum on Maintenance and Asset Management Asset Management Landscape. It also undertook a bottom up assessment of asset management need using modelling deterioration, risk and reliability. While we have supported investment proposed by the company to improve asset management, we have concluded further work is required to give confidence in the bottom up risk based approach used by the company to determine investment. We have continued to use top down techniques including econometric modelling to determine asset maintenance investment including an allowance for additional base maintenance required as a consequence of an increased level of capital investment.
- 1.25 Lack of capacity in the wastewater system resulting in development constraints are a key issue for NI Water and the community it serves. NI Water has worked to inform stakeholders where a lack of capacity is constraining current or planned development. In its outline capital submission the company estimated that it would take £3.35bn of investment in PC21 to address all these constraints. However, its Business Plan submission recognises that this level of investment could not be delivered over a 6 year period and it has proposed a plan based on £1.9bn of investment in PC21. The company has suggested that it will take a further two price control periods to address all development constraints. We have provided more information on this key issue in below.
- 1.26 NI Water has continued to work to improve the resilience of its services. Our determination includes work to enhance water resources following the completion of a Water Resource and Supply Resilience Plan. Reinforcement

of trunk mains and pumping stations in rural areas will reduce reliance on individual water treatment works and the consequent risk of supply failure in the event of a works being out of service or contamination of a water source.

1.27 The company's business plan included plans for innovation and trial projects. This builds on initiatives developed by the company in PC21 such as its work on 'calm networks' and work on a strategy to reduce interruptions to supply. We consider the scale of the company's plans to be moderate and proportionate while recognising the risk that innovation projects might not deliver the desired outcome We have concluded that the company should do more to develop these projects as ' development objectives' before they are committed. This should address the criteria set out in our overall Approach to PC21 and show how the trial or innovation project will be designed to either demonstrate how it can be rolled out successfully or show that it is not worth pursuing further.

Owning delivery

- 1.28 While stakeholders all have a part to play in the development of the price control, it will only be successful if the development and delivery of the Business Plan is owned by NI Water.
- 1.29 As noted above, NI Water has developed and led consumer engagement in conjunction which underpins its Business Plan for PC21 and the development of new consumer measures. We welcome the on-going move from periodic surveys to assess consumer expectations to a continuous response to issue identified through the analysis of day-to day consumer contacts.
- 1.30 In its Business Plan submission for PC15, the NI Water identified the need for further investment to improve the capacity of wastewater services to address development constraints. Through PC15 the company has provided more information to consumers and local government of the location and extent of these constraints. The company has built its Business Plan on the need to address these capacity issues and has taken a practical view on what can be delivered in PC21 taking account of the need to complete further study work and future investment.

Addressing the capacity of the sewerage system

1.31 The key issue which NI Water must address in PC21 and subsequent price controls is the lack of capacity in sewerage networks and wastewater treatment works which has become a constraint on development and economic growth.

- 1.32 Most consumers experience good service from NI Water in both quality and reliability so that many of us take the services we receive for granted. We all expect water to flow on demand when we turn on our taps and we expect the sewerage network to remove our wastewater when required. However, this experience masks a lack of capacity in the sewerage network which results in unsatisfactory intermitted discharges from over-flows and treatment work which either exceed their consent standards or operate close to these statutory limits. This lack of capacity places a constraint on development. A good service must also include capacity for new consumers to connect so that economic development can occur without compromising environmental standards which are determined by NIEA in line with its statutory duties.
- 1.33 The Social and Environmental Guidance recognises that NI Water has been unable to invest adequately for the future sustainability of water and sewerage services in Northern Ireland and notes that continued underinvestment would fail to meet the needs of citizens, the economy and society as a whole.
- 1.34 In previous Social and Environmental Guidance planning assumptions were provided for a capital investment budget. This was used to identify outputs which could be delivered while accepting that this might be less than what was necessary. For PC21 the Social and Environmental Guidance asked that NI Water:
 - prepare a Business Plan which sets out what is essential for the company to meet its obligations and the requirements of the Guidance, along with the associated costs; and
 - formulate a deliverable investment plan which meets established needs and is affordable from a tariff perspective.
- 1.35 In an outline capital submission the company estimated that it would cost £3.35bn to address all development constraints. It recognised that this level of investment would not be affordable or deliverable over a 6 year period and its Business Plan proposed investment of £1,907m (in 2018-19 prices) to maintain and improve its existing service and begin to address development constraints. It will be necessary to undertake further investment over other price controls to alleviate all development constraints. In addressing the issue of affordability the company assumed that that improvements in Belfast and other catchments draining to Belfast Lough would be funded by a direct grant from government. This work has been developed as part of the Living with Water Programme (LWWP) which takes an integrated view of drainage including rivers and road drainage. This assumption of grant funding for LWWP investment allowed the company to propose a zero increase in the weighted average charge increase (WACI) for PC21. This zero weighted

average charge increase does not mean that all tariff remain constant. Within this proposal some categories of consumers see prices rise and other will see prices fall.

- 1.36 The company plans to carry out much of the work proposed to address development constraints in PC21 towards the end of the price control period. This reflects the fact that the company has not completed the integrated modelling work necessary to identify and optimise solutions. Additional time will also be required to design and procure the works. As a result, few development constraints will be addressed until the end of PC21 and further work will be required in subsequent price controls. This presents a challenge to society on how economic development can be supported while waiting for NI Water to complete this work.
- 1.37 Our draft determination is based on the outputs which NI Water included in its Business Plan submission. We have concluded that the company could deliver these outputs for less money than it estimated in its Business Plan. We have also concluded that the return on capital necessary to finance its investment is lower than the company had estimated. This has allowed us to include funding for the LWWP in the PC21 period within tariffs rather than assume a separate source of grant funding. This aligns with the Social and Environmental Guidance provide by the department. For future price controls it may be necessary to have separate grant funding of for parts of the LWWP if tariffs are not to rise in real terms in the future.
- 1.38 This draft determination proposes tariffs at the zero increase in weighted average charge increase (reflecting the company's Business Plan proposals). This will ensure that today's consumers pay a reasonable contribution towards capital invested today and will not pass on those costs to future generations.

Outline of the document

- 1.39 The following sections of this document describe the approach we have taken in more detail and set out the decisions we have taken in our draft determination:
 - Section 2: Price Limits

- Section 4: Capital Investment and Efficiency
- Section 5: Operational Costs and Efficiency
- Section 6: Monitoring Delivery & Managing Change
- Section 7: Next Steps
- 1.40 Further detailed information on our methodologies and supporting information underpinning the draft determination are included as annexes which are listed in the contents pages

2. Price Limits

Introduction

2.1 This chapter sets out NI Water's overall revenue allowance and associated price limits. Compared to NI Water's Business Plan, our draft determination will see bills and subsidy together being £9.8m (nominal prices) lower over the six-year period 2021-22 to 2026-27.

Allowed revenue

2.2 The revenue and price limits we have determined for NI Water cover the sixyear period from 1 April 2021 to 31 March 2027. The overall revenue requirement is informed by the operational running costs, the level of capital investment and the return on capital which come together to form the 'building blocks' approach for determining revenue. This approach follows standard regulatory practice and is the same approach we used at previous price controls.

Building Blocks of Revenue

- Return on the regulatory capital value, plus
- Return of the RCV (via depreciation and IRC), plus
- Allowance for operating costs and PPP, plus
- Taxation
- 2.3 Under the building blocks approach, NI Water receives a rate of return on its Regulatory Capital Value (RCV), i.e. the value of the company's asset base. The rate of return on the RCV is the cost associated with financing the asset base.
- 2.4 It is therefore necessary for us to update the company's RCV at the start of each price control and produce a forecast throughout the price control period. Investment in new assets is added to the RCV. Depreciation (reflecting the cost of using the existing assets) reduces the RCV.
- 2.5 Table 2.1 below sets out the calculation of the RCV for each year of this regulatory control period.

Nominal prices	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Closing RCV (previous year)	2,668.5	2,798.6	2,962.3	3,172.8	3,452.3	3,764.3
Indexation	80.1	84.0	88.9	95.2	103.6	112.9
Opening RCV	2,748.6	2,882.5	3,051.2	3,267.9	3,555.9	3,877.3
Capital expenditure	219.3	265.6	313.9	392.0	420.4	379.4
Grants and contributions	-13.5	-13.7	-13.8	-14.3	-14.5	-15.0
Depreciation	-119.3	-127.2	-132.0	-149.5	-154.3	-141.2
Infrastructure renewals charge	-35.9	-44.2	-45.8	-43.1	-42.3	-41.3
Disposal of Assets	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8
Closing RCV	2,798.6	2,962.3	3,172.8	3,452.3	3,764.3	4,058.5
Note: Figures may not add up due to rounding.						

Table 2.1 – Calculation of RCV (£m).

Allowed rate of return

- 2.6 In setting price limits we also need to consider the appropriate rate of return that NI Water should earn on its RCV.
- 2.7 We asked our advisers First Economics to recommend an appropriate rate of return for PC21 and have accepted and used it within this draft determination. First Economics report is included as Annex O.
- 2.8 In a shift from previous determinations we have provided for year specific costs of debt and therefore overall cost of capital as there was some confusion in the NI Water business plan about the point in time of its headline rate which was found to be the rate at 31 March 2027 and not the average for the period.
- 2.9 Table 2.2 summarises the determined rate of return.

Components of the allowed rate of return	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Gearing	50%	50%	50%	50%	50%	50%
Post-tax cost of equity	2.71%	2.71%	2.71%	2.71%	2.71%	2.71%
Cost of debt	1.08%	0.91%	0.76%	0.61%	0.48%	0.39%
Vanilla WACC	1.89%	1.81%	1.74%	1.66%	1.59%	1.55%

Table 2.2 – Proposals on the weighted average cost of capital (WACC).

- 2.10 The report was prepared at the end of March 2020, when the draft determination was due to be published on 1 July and also pre COVID-19 lockdown. The analysis and assumptions would have been considered for the Final Determination in any case so we have used it unchanged at this stage for the draft determination and will revisit it along with consultation responses.
- 2.11 The proposed return of 1.89% declining to 1.55% compares to a rate of return of 3.53% used by the Utility Regulator in PC15. The circa 165-200 basis points reduction is attributable to both:
 - a reduction in NI Water's actual cost of debt, driven by falling interest rates; and
 - a reduction in NI Water's estimated cost of equity, attributable to the selection of a lower risk-free rate, a lower Rm and a lower beta.
- 2.12 Our proposed return is below the return of 2.43% that NI Water sought in its business plan. Our calculation of NI Water's cost of debt aligns almost exactly to NI Water's own calculations, except that we have provided for year-specific costs of debt rather than use the 2026/27 cost of debt to fix the return that NI Water receives throughout the PC21 period. Our estimate of the cost of equity is significantly lower than NI Water's calculation and is attributable to a lower risk-free rate, a lower Rm and a lower beta.

Allowed Revenue

2.13 Together with the other parts of the building block discussed in depth throughout this determination we have calculated an allowed revenue requirement of £2807.7 m. This delivers a saving of £9.8m, when compared with NI Water's business plan submission as shown in Table 2.3.

Nominal prices	NI Water's PC21 business plan	PC21 draft determination	Difference over PC21				
Closing RCV (previous year)	2817.5	2807.7	-9.8				
Indexation	2130.2	2145.3	15.1				
Opening RCV	687.3	662.4	24.9				
Note: Figures may not add up due to rounding.							

Table 2.3 – Draft determination revenue proposal.

- 2.14 The way we have calculated the overall revenue requirement compared with NI Water's PC21 Business Plan is shown below in Table 2.4.
- 2.15 Significant savings have been made in the amount allowed for return and also operating costs. These have been largely offset by an increased allowance for depreciation.

	NI Water's corrected PC21 Business Plan	Our PC21 draft determination
Allowed for return	511.3	327.1
Depreciation incl IRC	817.4	1076.0
Operational expenditure	1201.1	1118.3
PPP costs	324.8	323.8
Taxation	19.2	26.1
Pension finance	8.6	0.0
Revenue requirement	2882.5	2871.3
PC15 over recovery	-68.1	-68.1
Revenue before smoothing	2814.4	2803.3
Smoothing Adjustment	3.1	4.4
Overall revenue (smoothed)	2817.5	2807.7
Note: Figures may not add up due to	o rounding.	-

Table 2.4 – Revenue requirement for PC21 (nominal).

2.16 The level of depreciation included in the allowed revenue exceeds the determined level of capital maintenance investment by £272 m. This will ensure that today's consumers make a balanced contribution towards the repayment of the increased level of investment necessary to address development constraints over the medium term. The additional revenue is used to limit the increase in the regulatory capital value. This reduces the

allowed return included in current tariffs and makes provision for the costs of replacing the new assets in the future.

Financial sustainability

- 2.17 We have a primary duty to ensure that NI Water is able to finance its functions. We also believe that NI Water's financial strength should be appropriate to the governance framework within which it operates.
- 2.18 As a yardstick for financial sustainability we have adopted a series of ratios, an approach used by other regulators, the investment community and rating agencies. The requirement for NI Water to obtain a credit rating has been set aside in light of the absence of a secure revenue source, a consequence of the decision to defer domestic water charges. However, we still see merit in assessing NI Water's financial strength.
- 2.19 In Table 2.5 we set our calculation of each ratio considered based on this based on this draft determination.

Financial Ratio	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
FFO Interest Cover	3.1	3.3	3.5	3.7	3.8	3.9
PMICR	0.8	0.8	0.9	0.9	1.0	1.3
FFO / Net Debt	9.9%	10.4%	10.9%	11.1%	11.1%	10.9%
Gearing	49.9%	49.9%	49.9%	49.9%	49.9%	49.9%
Gearing adjusted for PPP	56.2%	55.5%	54.8%	54.1%	53.3%	52.6%

Table 2.5 - Financial performance 2021-27.

- 2.20 While observing that adjusted cash interest cover (PMICR) may cause some concern if NI Water was operating outside of Government, we consider the value along with other ratios achieved to be appropriate for the governance framework within which NI Water is currently operating.
- 2.21 Excluding the PC15 over recovery which is being returned to customers in PC21 also improves the position further.
- 2.22 We will continue to monitor any changes to the governance framework and associated implications for financeability in advance of PC27.

Price limits and charges

2.23 We allocate the revenue between revenue groups and these are then summarised further into tariff baskets. This method ensures that each group

pays for the services they receive and are not being subsidised by, or subsidising, other customer groups.

2.24 We have to determine the price limits (referred to as K factors) to be applied over the price control period. The K factors are the annual percentage increase or decrease in tariff basket charge caps above or below inflation (as measured by RPI). We set separate K factors for each of the five tariff baskets so that the correct revenue is raised from each customer group. The K factors for this draft determination are set out in Table 2.6, please refer to Annex B for additional detail.

Tariff basket	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Unmeasured water supply	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Unmeasured sewerage service	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%
Measured water supply	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
Measured sewerage services	-1.4%	-1.4%	-1.4%	-1.4%	-1.4%	-1.4%
Trade effluent	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Overall K factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2.6 – K Factors by Tariff Basket.

2.25 K factors can also be viewed on a revenue group basis as shown in Table 2.7.

Revenue Group	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Domestic unmeasured water	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
Domestic unmeasured sewerage	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Non-domestic measured water	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%
Non-domestic measured sewerage	-1.4%	-1.4%	-1.4%	-1.4%	-1.4%	-1.4%
Non-domestic unmeasured water	1.3%	1.2%	0.7%	0.8%	0.9%	1.0%
Non-domestic unmeasured sewerage	4.1%	3.9%	3.3%	3.5%	3.6%	3.7%
Trade effluent	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Overall K factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2.7 – K factors by Revenue Group.

- 2.26 This presentation of the numbers shows that although the overall K factor is 0.0% as with the tariff baskets that non-domestic unmeasured customers are disproportionately seeing increases well above other revenue groups.
- 2.27 Tariff increases had been supressed in PC15 as NI Water limited increases to a maximum of inflation when further increases would have been possible. For this draft determination we have applied the same processes to revenue allocation as used in previous price controls. K factors for this group could therefore be considered to be returning charges to the correct level.
- 2.28 Metering is an option along with assessed charges which are linked to measured tariffs. This is also a small group of customers and it would be possible to adjust the increase without any significant impact on other revenue groups.

Average notional household charges

2.29 Our price control process does not differentiate between customer groups, but seeks to deliver lower charges and better services for all. We have assumed that there will be no direct charging for domestic customers over the period of this price control. However, in order to provide full information, we have reproduced the notional average household charge over the PC21 period in Table 2.8 below.

	Average notional household charge (2020-21 prices)									
	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27			
NI Water's business plan	420	420	419	419	418	418	417			
Our PC21 draft determination	420	422	423	425	426	427	429			

Table 2.8 - Average notional household charge.

2.30 As noted previously these figures have been calculated using different customer projections and are therefore not prepared on a like for like basis. Our draft determination assumes that domestic customers will bear a higher share of revenue compared to the business plan due to both higher consumption and also a higher proportion of the overall revenue requirement with business demand being impacted by COVID-19.

Typical business customer charges for water and sewerage

2.31 We have provided indicative bills for water and sewerage services for a small and large metered customer and an indicative unmetered non-domestic bill for water and sewerage services. These indicative bills are for information purposes only and are based on a number of assumptions that may not apply to each water and / or sewerage customer.

		Typical bill (2020-21 prices)									
	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27				
NI Water's business plan	397	395	394	392	391	389	388				
Our PC21 draft determination	397	390	384	378	372	366	361				

Figures may not add due to rounding.

Represents combined bill for water and sewerage services after deduction of subsidy element for domestic allowance. Domestic allowance available to non-domestic customers that pay full business rates.

Calculated based on assumed usage of 285m3 a year and assuming a customer supply pipe size diameter of <20mm.

Based on 95% return to sewer.

 Table 2.9 - Typical small metered business bill.

		Typical bill (2020-21 prices)									
	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27				
NI Water's business plan	3,647	3,605	3,563	3,521	3,480	3,439	3,570				
Our PC21 draft determination	3,647	3,590	3,534	3,478	3,424	3,370	3,318				

Figures may not add due to rounding.

Represents combined bill for water and sewerage services after deduction of subsidy element for domestic allowance. Domestic allowance available to non-domestic customers that pay full business rates.

Calculated based on assumed usage of 1,306m3 a year and assuming a customer supply pipe size diameter of over 25 up to 40mm.

Based on 95% return to sewer.

Table 2.10 - Typical large metered business bill.

		т	ypical bi	ill (2020-:	21 prices	\$)	
	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
NI Water's business plan	298	308	319	330	341	353	370
Our PC21 draft determination	298	305	313	320	328	337	345

Figures may not add due to rounding.

Represents combined bill for water and sewerage services before after of subsidy element (currently corresponding to 50% of unmetered water and sewerage services)

Based on an annual Net Annual Value of £8,000.

Table 2.11 - Typical unmetered business bill.

- 2.32 A typical unmeasured business customer bill is projected to increase during PC21 in both the NI Water business plan and this draft determination. The draft determination uses updated customer projections so is not directly comparable on a like for like basis. However the increase is still significant over the PC21 period compared to a typical bill at the end of PC15.
- 2.33 Tariff increases had been supressed in PC15 as NI Water limited increases to a maximum of inflation when further increases would have been possible. For this draft determination we have applied the same processes to revenue allocation as used in previous price controls. K factors for this group could therefore be considered to be returning charges to the correct level.

2.34 Metering is an option along with assessed charges which are linked to measured tariffs. This is also a small group of customers and it would be possible to adjust the increase without any significant impact on other revenue groups.

The infrastructure charge

2.35 When NI Water connects a household premises to the water and sewerage network for the first time it can levy an infrastructure charge, as well as charging the direct costs of making the new connection. The infrastructure charge provides a contribution towards the cost of developing local networks to serve new consumers.

Under NI Water's Licence Condition C we set limits on the infrastructure charge. We have determined a draft infrastructure charge limit of £350 for 2021-22 (2020-21 prices).

Working alongside a Public Expenditure (PE) regime

- 2.36 As part of the PC10 price control process and in order to provide a clearer framework for future price controls we worked with the DRD to develop a Memorandum of Understanding (MOU) to set out how the regulatory regime would work alongside public expenditure. A copy of this can found in annex C.
- 2.37 Following on from the MOU a 'Consequent Written Agreement' (CWA) was drawn up. This sets out the procedures for dealing with alterations to funding to be agreed between the Department and the UR. The agreement also details the processes and assumptions that will apply at each price control and resulted in new clauses being inserted to licence condition B to deal with price reviews during the period when public expenditure remains relevant.
- 2.38 We updated the CWA as part of PC13 and PC15 and are continuing to work with the Department to update it again for PC21. At this stage it has simply been updated with PE figures consistent with the draft determination. The latest draft of the CWA can be found in annex D.
- 2.39 We will continue to work with officials from the Department and the Department of Finance (DoF) to ensure transparency and understanding of our determination.

3. Outputs and Outcomes

Introduction

3.1 This Chapter provides a summary of the outputs which will be delivered in PC21. It sets outs how we classify and measure outputs and benefits. A summary of key benefits being delivered in PC21 is also provided.

Definition of outputs

- 3.2 The purpose of investing in water and sewerage services is to maintain and improve the services that consumers receive. Ultimately consumers experience service as a series of outcomes, including:
 - Whether tap water is safe to drink and is acceptable in terms of taste, odour and appearance;
 - Whether the supply of tap water is reliable, including during extreme operating conditions such as severe weather;
 - Whether surface and foul wastewater is drained effectively and consumers are not affected directly by flooding or a reasonable fear that they might be affected by flooding from sewers;
 - Whether the impact of water and sewerage services on the environment is limited (including the impact of water abstraction and the pollution that can be caused by intermittent and continuous discharges of wastewater); and
 - Whether the company responds quickly when things go wrong, is able to resolve the underlying problem satisfactorily and keeps the consumer informed while doing so.
- 3.3 In practice, a water and sewerage company will deliver a series of outputs which aim to secure the outcomes consumers' want. We have assessed the outputs for PC21 in line with the level of investment. These outputs form part of an overall package which the company must deliver.
- 3.4 We categorise outputs under three headings:
 - Service level outputs: service level outputs measure the impact of investment on the level of service experienced by consumers. This includes, for example, the number and duration of interruptions to supply and overall compliance with water quality parameters. This type of output is preferred as it maximises the company's freedom to determine the best way to deliver the required level of service at

minimum cost. It encourages innovation and cost savings that benefit consumers in the longer term;

- **Nominated outputs**: these are specific items, often identified by the quality regulators such as improvements to a discharge standard to meet mandatory legislative requirements. We have also included a number of specific improvements that NI Water identified as nominated outputs in its business plan. This includes trunk main schemes and the provision of additional water storage capacity; and
- **General activities**: we include activities (such as the rate of replacement of water mains or the replacement of sewerage) as outputs where it was not possible to establish a clear link between activity and service level outputs in the short term. This ensures that NI Water will put forward robust plans for each price control period against which it can be monitored. Activity rates can be reviewed at subsequent business plans and increased or reduced to reflect experience and the levels of service that consumers require in the future.
- 3.5 The summary outputs for PC21 are set out in Table 3.1 and Table 3.2. This includes some additional output measures introduced for PC21 to reflect additional priorities within the programme.
- 3.6 The output tables include projected performance for the final year of PC15 to show how the outputs planned for PC21 compare with the current period. Further commentary on these outputs is given in Annex E.
- 3.7 These tables will form the basis of the monitoring plan we will ask NI Water to publish following our final determination. They will be supported by a detailed list of nominated outputs which will be subject to a formal change control protocol throughout the PC21 period. The nominated output list can be found in Annex G and the Change Control Protocol in Annex M.
- 3.8 The outputs included in Table 3.1 and Table 3.2 are targets which the company is expected to meet or exceed. Performance against some targets can be affected by external factors such as weather conditions, by the statistical impacts of sampling or by the quality of the assets. This can create variability in performance which the company cannot control or can only partially control. This is true for water quality measures, wastewater quality measures and leakage.
- 3.9 In the outputs tables we have set targets for these measures at the lower end of the likely level of performance. We have provided further information on the expected range of performance in Annex I. Exceeding the targets

should not be seen as out-performance. The company will only out-perform when it is consistently operating at the upper end of the expected range.

- 3.10 In PC13 we introduced a process of serviceability monitoring to help ensure that investment targets consumer outcomes in the short term and that the right level of capital maintenance investment is maintained in the medium to long term. Serviceability has been monitored during PC15 through our annual information return and this will continue in PC21. Our current assessment of serviceability is provided in Annex F and summarised in beginning at paragraph 3.63. Annex F explains how we have established the performance range limits that will be used for monitoring performance for individual measures in PC21.
- 3.11 In addition to monitoring individual outputs we have also previously assessed the company's performance and progress against a composite OPA score. This combines a wide range of service measures to provide a broad indicator of the service being provided to consumers. For PC21 we plan to move from targeting OPA to monitoring OPA. Further details of our approach and proposed treatment of OPA in PC21 are provided below beginning at paragraph 3.53.
- 3.12 For PC15 we identified that many of the targets included in our monitoring plan tables did not adequately reflect the things which were found to be most important to consumers. For example:
 - Company-wide targets can mask local hotspots of poor service;
 - Targets for service measures such as interruptions to supply are only meaningful if the company has the information necessary to develop challenging targets which drive improvement; and
 - Consumers expect the company to answer the phone. What is important is the quality of the response and the ability of the company to resolve the issue quickly.
- 3.13 In conjunction with other stakeholders, we have taken a number of steps to address this issue during PC15:
 - New consumer service measures have been developed and introduced through the work of the Consumer Measures and Satisfaction Working Group (CM/SAT) which reports back to the Consumer Engagement Oversight Group (CEOG). This work is described in further detail below beginning at paragraph 3.21;
 - Additional output measures have been included in Table 3.1 and Table 3.2 to provide activity measures which chart progress towards

longer term outcomes. For example, proactive lead pipe replacement or the completion of catchment management plans;

- Serviceability measures, including sub-threshold indicators and consumer complaint measures, have been introduced, which will alert us to possible emerging service issues before failure occurs; and
- Development outputs have been introduced to monitor progress of the work NI Water undertakes to develop its planning capability and introduce new techniques to support the long term development of the services it provides to consumers (see below, beginning at paragraph 3.59).

Summary of PC21 Outputs

3.14 The key outputs included in our PC21 determination are summarised in Table 3.1 and Table 3.2 below.

Line	description	Units	PC15	PC21							
A	Consumer Service		2019-20	2021-22	2022-23	2023-24	2024-25	2026-2			
1	DG2 Properties at risk of low pressure removed from the risk register by company action	nr	115	147	145	143	139	137	135		
2	DG2 Properties receiving pressure below the reference level at end of year	nr	626	492	427	365	306	250	195		
3	DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	0.088	0.133	0.126	0.120	0.113	0.107	0.101		
4	DG3 Supply interruptions (overall performance score)	nr	0.79	0.57	0.55	0.53	0.51	0.48	0.46		
5	DG6 % billing contacts dealt with within 5 working days	%	99.97	99.9	99.9	99.9	99.9	99.9	99.9		
6	DG7 % written complaints dealt with within 10 working days	%	99.95	99.5	99.5	99.5	99.5	99.5	99.5		
7	DG8 % metered customers received bill based on a meter reading	%	99.5	99.0	99.0	99.0	99.0	99.0	99.0		
8b	Unwanted contacts	nr	67,013	74,000	73,000	72,000	71,000	70,500	70,000		
8d	First Point of Contact Resolved (FPOCR)	%	90	84	84	84	85	85	85		
8e	Net Promoter Score	nr	42	32	33	34	34	35	35		
9	DG9 % Calis not abandoned	%	99.5	99.0	99.0	99.0	99.0	99.0	99.0		
10	DG9 % calls not receiving the engaged tone	%	100.0	99.9	99.9	99.9	99.9	99.9	99.9		
11	Overall Performance Assessment (OPA) score (11 Measures)	nr	246	Not used	Not used	Not used	Not used	Not used	Not used		
12	Total Leakage	MI/d	161	155	154	153	152	151	150		
13	Security of supply index	nr	100	100	100	100	100	100	100		
14	Percentage of NI Water's power usage derived from renewable sources	%	44	45	45	50	50	75	100		
в	Quality Water										
15a	% overall compliance with drinking water regulations	%	99.90	99.83	99.83	99.83	99.83	99.83	99.83		
15b	% compliance at consumers tap	%	99.84	99.74	99.74	99.74	99.74	99.74	99.74		
16	% iron compliance at consumers tap	%	98.89	98.62	98.62	98.62	98.62	98.62	98.62		
17	% Service Reservoirs with coliforms in >5% samples	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
С	Water Outputs			, () ()	27. 27	-	r s				
18	Water mains activity - Length of new, renewed or relined mains	km	149	131	131	131	131	131	131		
19	Completion of nominated trunk main schemes	nr	0	0	4	0	3	1	6		
20	Completion of nominated water treatment works schemes	nr	1	1	2	2	3	1	9		
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tank	nr	1	0	0	0	0	3	0		
D	Serviceability			1 14	ř	,			10		
22	Water infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stabl		
23	Water non-infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stabl		
E	PC15 Additional Output Measures			1	10		-	7			
25	Number of lead communication pipes replaced	nr	1,781	1,844	1,844	1.844	1,844	1,844	1,844		
26	Number of school visits	nr	229	176	176	176	176	176	176		
27	Number of events	nr	143	57	57	57	57	57	57		
F	PC21 Additional Output Measures		2 0		-	2		1 D			
29	Number of catchments where management plan recommendations have been delivered	nr	n/c	0	3	4	5	5	3		
30	Number of treatability studies completed	nr	n/c	0	0	0	12	0	0		

 Table 3.1: Customer service and water quality outputs for PC21.

ine	description	Units	PC15	PC21							
A	Consumer Service Sewerage		2019-20	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27		
1	DG5 Properties at risk of flooding - number removed from the 2 in 10, 1 in 10 and 1 in 20 risk register by company action	nr	1	o	o	20	6	10	21		
2	DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year	nr	119	120	123	106	103	96	78		
в	Quality Sewerage										
3	% of WwTWs discharges compliant with numeric consents	%	94.90	92.44	92.02	92.44	93.00	93.28	94.54		
4	% of total p.e. served by WwTWs compliant with numeric consents	%	99.50	98.35	94.94	95.17	95.46	95.6	95.41		
5	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	89.29	90.76	91.09	93.07	95.05	97.03	99.01		
6	Number of high and medium pollution incidents attributable to NI Water	nr	13	12	11	10	9	8	7		
С	Sewerage Outputs										
7	Sewerage activity - Length of sewers replaced or renovated	km	18.5	10.1	10.1	10.1	10.1	10.1	10.1		
8	Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	3	4	18	17	16	22	59		
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	2	4	0	1	9	13	18		
10	Small wastewater treatment works delivered as part of the rural wastewater investment programme	nr	9	6	6	6	6	6	6		
D	Serviceability										
11	Sewerage infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable		
12	Sewerage non-infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable		
E	PC15 Additional Output Measures						8				
13	Number of CSO and EO discharges at which event and duration monitoring equipment is installed/fully optimised, and meet NIEA requirments	nr	37	66	67	117	166	166	162		
14	Number of qualifying Wastewater Treatment Works delivered as part of the defined programme of improvements to comply with PPC Regulations	nr	7	0	0	4	3	4	4		
15	Impermeable surface water collection area removed from the combined sewerage network (such as roads and pavements, roofs and hardstandings)	m2	59,586	364,540	364,540	364,540	364,540	364,540	364,540		
16	Number of 'sustainable solution' WWTW serving a PE ≥	nr	0	0	0	o	1	1	2		
17	Number of 'sustainable solution' WWTW serving a PE < 250	nr	0	0	0	0	1	1	1		
F	PC21 Additional Sewerage Output Measures										
18	Number of Economic Constraint Areas Removed	nr	n/c	0	0	0	2	1	9		
			-		Contraction of the local division of the loc	0	8	9	16		

Table 3.2: Sewerage service outputs for PC21.

- 3.15 We have calculated performance ranges for the following measures in Table3.1 and Table 3.2 due the potential variability of performance for the measure.
 - DG3 Overall Performance Score.
 - Water quality compliance: Overall, Customers tap and Iron.
 - Wastewater treatment compliance % Works.
 - Wastewater treatment compliance % PE excluding UT.
- 3.16 We have accepted NI Water's targets for the water quality compliance measures as they lie towards the middle of our assessed range of operational performance.

3.17 For the other measures, NI Water's targets were below our assessed minimum level of performance. We have therefore set the PC21 targets for these measures at the lower bound of our range. We consider these targets to be the minimum level of performance that the company should achieve. Variation within the range around our central estimate would generally be expected. Specific details of the performance ranges established for these measures can be found in Annex E.

Delivery of nominated outputs

- 3.18 Table 3.1 and Table 3.2 summarise the annual targets for the delivery of nominated outputs during PC21. The delivery profiles reflect those submitted by NI Water in its business plan and we note that the majority occurs towards the end of the price control period. This is particularly evident for water treatment works, wastewater treatment works and unsatisfactory intermittent discharges. This has been raised as a concern by the Quality Regulators as this will delay the delivery of compliance with regulatory standards and consents and the associated benefits to consumers and the environment.
- 3.19 Although we recognise that some of this profiling will be driven by the need to complete investigations and develop solutions, we share the Quality Regulators concerns. We will therefore engage with NI Water, NIEA and DWI in the period between the draft and final determination to establish whether any investment can be forward in the programme, particular for priority sites. Further information on the nominated outputs the company plans to deliver in PC21 is included in Annex E.
- 3.20 The nominated outputs submitted for PC21 take account of progress in PC15 and include for the delivery of PC15 nominated outputs which have carried forward into PC21 price control period. Information on how we have assessed and treated the carry-over of nominated outputs and associated expenditure from PC15 is included in Annex H. Our approach is consistent with the approach we have taken to adjusting the financial determination for PC15. This approach ensures that consumers are not required to pay a second time for outputs which have been delayed.

Consumer views and Customer Service Measures

Consumer Engagement Oversight Group (CEOG)

3.21 The Consumer Engagement Oversight Group (CEOG) met in good time to facilitate NI Water's procurement of PC21 consumer research to help influence and inform their Business Plan. We have continued our partnership approach, including CCNI and Dfl representation, helping to

augment both Ipsos-MORI's approach to and the CEOG's interpretation of PC21 consumer research findings from same.

- 3.22 Through many months the CEOG with its proven expertise of consumer engagement efforts from PC10 onwards, input to the choice of research topics, approach and final Ipsos-MORI reports.
- 3.23 Overall the consumer engagement workstream at PC21 has been beneficial to all parties and should enable improved delivery of services to the consumer.
- 3.24 A precise replication of some key questionnaire questions from previous price controls was not possible at PC21 given certain Intellectual Property Rights around questions deployed by a previous market research company over PC10 and PC15.
- 3.25 At inception of the PC21 consumer engagement workstream, the CEOG agreed there was sufficient available evidence to suggest consumer priorities had not changed markedly from those identified in previous research attempts at PC15 and PC10. As a result there was little appetite for the CEOG to deploy traditional Willingness to Pay (WTP) type evidence gathering given the group felt this lacked relevance to PC21.
- 3.26 Of much greater concern to the company was its present communications strategies and information campaigns, especially around water efficiency and reducing our relatively high per capita water consumption locally (compared to comparator companies in GB).
- 3.27 From more recent evidence presented the CEOG by Ipsos-MORI, there was limited to weak evidence recent company campaigns had changed behaviours.
- 3.28 Identifiable service delivery issues from PC21 research included:
 - developers' relatively poorer ratings of NI Water's connections service; and
 - lack of awareness amongst the public of NI Water's information campaigns at time of surveying (the company had invested in a large scale billboard campaign before turning to TV and radio advertising later in 2020).

Consumer Measures / Satisfaction Working Group (CM/SAT)

3.29 Further discussion of consumer measures of satisfaction, trust and advocacy has advanced at the Consumer Measures / Satisfaction working groups

(CM/SAT) we chair, beyond that detailed in the company's PC21 Business Plan.

- 3.30 The latter was largely a restatement of the new consumer metrics (FPOCR trialled, refined and incorporated into company annual returns during PC15 period) alongside some welcome new targets from NI Water for the new PC21 6year price control period.
- 3.31 The fact NI Water feel confident enough to offer up real and improving KPIs around the various new consumer focused measures introduced through discussion and subsequent refinement at CM/SAT is to be applauded.
- 3.32 Taken with the additional steps NI Water has introduced regarding real-time consumer feedback, we are minded to accept NI Water's new KPIs and targets for PC21, especially as this will mark the first time NI Water is targeting such new consumer focused metrics.
- 3.33 The consumer targets NI Water have set themselves are repeated below from their PC21 Business Plan:

1.3.2. PC21 Proposed outputs						
	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Unwanted contacts	74,000	73,000	72,000	71,000	70,500	70,000
FPOCR (%)	84	84	84	85	85	85
NPS	32	33	34	34	35	35

In PC21, we will introduce these measures and propose to discontinue reporting on some of the DG measures, such as DG6 and DG7, which measure response times. However, timely response to our customers will remain very important and response times are embedded in our internal targets. During PC21, we will strive to reduce these whilst focusing on the quality and personalisation of response to our customers.

Figure 3.1: Consumer measures and targets from PC21 Business Plan.

- 3.34 Whilst we accept these new targets for PC21, we reserve the right to both challenge, refine and set different targets and/or new consumer KPIs at Mid-Term Review of PC21.
- 3.35 Revised targets and/or new KPIs are likely to be required at Mid-Term Review of PC21 as a result of either:
 - actual revealed performance from NI Water, chasing an even higher reputation amongst consumers and stakeholders, is markedly higher than original PC21 KPIs and targets; or
 - any outworking by the Utility Regulator regarding what is 'Best Practice' delivery by utility companies (a workstream of our Consumer

Protection Programme) reveals new metrics, KPIs and/or targets for consumers, especially those who may find themselves vulnerable, which are relevant to NI Water's consumer base.

- 3.36 With many of the company's existing customer service contracts coming to an end during early PC21 period, there are also opportunities for NI Water to re-focus delivery on KPIs and metrics which may be better aligned to existing consumer needs, including those which may improve and/or broaden the reach of services available to consumers who are vulnerable.
- 3.37 In doing so, CM/SAT will continue to work towards new PC21 developmental objectives, picking up where we have left off at PC15. As such, CM/SAT can be expected to breathe life into the company's intention to focus, "on the quality and personalisation of response to our customers".
- 3.38 The CM/SAT working group, chaired by the Utility Regulator, will work with NI Water on the two development objectives identified in the PC21 Business Plan:
 - Consumer Engagement; and
 - Consumer Protection / Customer Care Register.
- 3.39 More specifically, for example, CM/SAT as recently as May 2020 debated NI Water proposals to re-focus away from their "blue light service" of answering 96% calls within 30 seconds (faster than the NIFRS and PSNI). NI Water would prefer to move to a "standard of 80/20, saving circa £70k per year, which we would use to re-invest for our customers, offsetting against costs to extend Social Media and introduce webchat as a permanent feature. Costs for these services are in the region of £150k-£200k". The term 80/20 is used by NI Water to mean 80% of calls answered in 20 seconds.
- 3.40 The company foresee no immediate or material reduction in their customer experience from such a move. We have confidence the company has adequate systems which now provide "actionable data" to identify any reductions in customer satisfaction to enable remedial action(s) to take place, including:
 - NI Water's 'Voice of the Customer' (VoC) real-time feedback scores (a text question directed at consumers who have had cause to contact NI Water with a 24hr turnaround); alongside
 - PC21 Customer Measures.
- 3.41 Of note are current company dashboard KPIs (PC21 Customer Measures) which are communicated across all levels of NI Water as an organisation, as

well as their own Board and Shareholder. The following are taken from NI Water's most recent Quarterly Report:

- FPOCR (%) or 'First Point of Contact Resolution' target 82% versus June actual of 92%.
- Reduction in number of customers reporting service fault target 18,750 versus June actual 15,934.
- NPS (Net Promoter Score) or 'More customers singing our praises' target +15pp versus June actual +49pp.
- 3.42 More recent CM/SAT meetings post PC21 Business Plan submission have revealed NI Water's desire to include more consumer friendly online offerings for consumers. They would hope to incorporate more digital communication channels over time and we can as a result expect further reductions in contact costs to finance further provision of more timely, consumer relevant service offerings.
- 3.43 Furthermore, the company has also now expressed a desire to further enhance the timely delivery of information to consumers through enhanced use of its High Volume Call Answering (HVCA) system. HVCA was a new system for NI Water, brought in some years previous and not without significant cost, introduced at the time help ensure no repeat of the peak of calls abandoned during the adverse Freeze Thaw event.
- 3.44 The HVCA system to date has largely been left as an emergency system which kicks in when the current call centre is ever swamped with calls. NI Water are now investigating how NIE Networks uses a very similar system with tailored messages to the consumer, especially where the HVCA system can identify a caller as residing in an area where there is a known water disruption or other type of incident, for example.
- 3.45 Such tailored messaging ought to reduce customer effort (in finding ought how and when their issue might be resolved i.e. within 6hours of ringing their water ought to be back on) as well as increase customer satisfaction (whole company approach to call management means the 6hour rectification window is informed by NI Water on the ground at operational level AND the message provided a consumer in these circumstances is followed through and achieved).
- 3.46 Further lessons from other regulated sectors have been facilitated by the Utility Regulator introducing new, annual workshops where CEOG for example might meet with their counterparts with regards NIE Networks (=Consumer Engagement Advisory Panel or CEAP) and Gas GDN companies (=Consumer Engagement Working Group or CEWG).

- 3.47 NI Water are also liaising and sharing lessons learned on a bilateral basis with NIE Networks as regards use of the HVCA and ought to already be identifying how their real-time VoC might allow comparison between consumers who have experienced the more usual 'warm voice' of a call agent of NI Water compared to the experiences of consumers going through the HVCA system. NIE Networks do so each time they survey consumers and there is little appreciable differences over time between 'warm voice' and HVCA contacts. This ought to be considered as perhaps part of a broader developmental objective for PC21 consumer metrics, KPIs and targets.
- 3.48 For clarity, we retain the two Omnibus Survey Questions 1 and 2 (representative sample surveys across all NI Water consumers) to ensure we can gauge overall satisfaction and advocacy of NI Water through annual reporting by the company via the AIR:
 - QUESTION 1: 'I am satisfied with the services provided by NI Water' (1 = 'strongly agree' and 5 = 'strongly disagree').
 - QUESTION 2: 'How likely would you be to recommend your water company to a friend or colleague?' (1 = 'not at all likely' and 10 = 'extremely likely').
- 3.49 The second question is a form of customer advocacy measure akin to the NPS (Net Promoter Score) which NI Water has targets for PC21. The latter is taken from real-time feedback of consumers who have had reason to contact the company whereas QUESTION 2 is derived from a representative sample of all NI Water consumers. The company term these the "Silent Majority" since most of consumers never have cause to contact NI Water so long as our the "tap works", so to speak.

Development Objectives

- 3.50 Given the preceding, we are setting all parties to the CM/SAT process a new PC21 developmental objective to identify opportunities for new consumer metrics and KPIs, especially those relevant for consumers who find themselves vulnerable.
- 3.51 This is similar to the one we introduced previously and which has now led to the incorporation of new consumer focused metrics and KPIs for same within the PC21 Business Plan and our acceptance of these at this draft determination.
- 3.52 To this end, the CM/SAT should set out an agreed, new PC21 programme (including milestones) for the development of same and to inform the Mid-Term Review in sufficient time to (i) advance new metrics and KPIs, in a

robust enough manner to allow (ii) consideration as potential targets, for the latter half of the PC21 period.

Overall performance assessment

- 3.53 In PC10 we introduced an Overall Performance Assessment metric as our primary measure of the service delivered by the company.
- 3.54 We have maintained the OPA as a time series that extends back to before the PC10 price control. The OPA time series provides comparison to England and Wales companies' average performance level from 2009/10 and tracks NI Water's efforts to catch up to this level.
- 3.55 The history of NI Water's OPA performance is shown in the graph below, from the original Strategic Business Plan (SBP) just after incorporation of NI Water, up to the reporting year 2019/20.

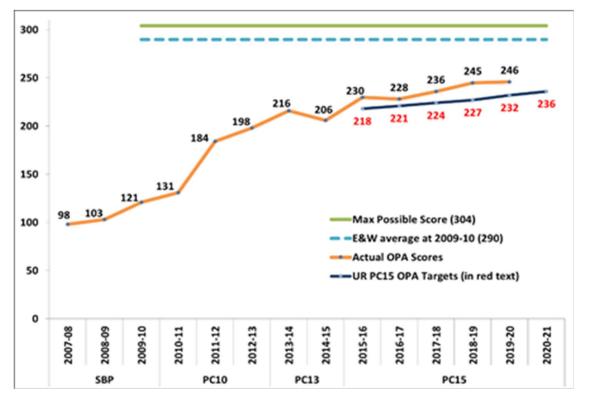


Figure 3.1: NI Water OPA score from incorporation to present day.

- 3.56 In PC21 we propose to retire the OPA and use two new metrics as our primary means of monitoring and reporting the performance of the company and the delivery of PC21:
 - The new consumer service measures described above.
 - The release of development constrains which is the primary driver for increased investment.

- 3.57 During PC21, we plan to continue monitoring the company's Overall Performance Assessment (OPA) for information purposes. This will ensure transparency and allow comparison as we move to new consumer measures. We do not propose to set OPA targets for PC21. Key service measures which underpin the OPA (such as water and wastewater quality compliance, pressure, interruption to supply and property flooding) will continue to be monitored and targets have been set for these aspects of consumer service.
- 3.58 However, we are aware that the OPA has been used as a means of communicating the performance of NI Water and was incorporated as a measure in the draft Programme for Government. Therefore we would welcome the views of consumers and stakeholders on our proposal to retire the OPA having continued to monitor performance through PC21.

Development outputs

- 3.59 Not all of the outputs which NI Water must deliver can be measured against numerical targets in the short to medium term. The work which NI Water undertakes to develop its capability and introduce new techniques is equally important for the long term development of the services it provides to consumers and the cost of those services.
- 3.60 In PC15 we identified the need for the company to be more specific in defining the steps it will take over the long term to improve planning and the delivery of improved service. We identified key areas where we expected the company to provide additional information on its plans to develop capability. To ensure a continued focus on key development areas which could not be monitored by numerical targets, we included 18 development outputs in our draft determination which the company was required to report progress on through our annual information return during PC15.
- 3.61 The principle of establishing and reporting on development outputs has also been incorporated into the PC21 process and NI Water has proposed a list of 23 outputs which it believes should be categorised in this way. These are set out in Table 3.3 below.

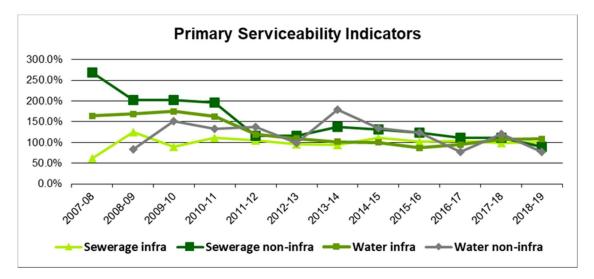
Ref	Development Objective	Sub-Prog
01	Consumer Engagement	N/A
02	Consumer Protection / Customer Care Register	N/A
03	NI Water Alpha Ltd - WTWs Treatability Improvements	SP04a
04	DWD Recast & Emerging Issues Study	SP04z
05	Refresh of DG2 Register	SP08z
06	Targeted Mains Renewals in High Leakage Areas	SP08z
07	Leakage Innovation	SP09z
08	Smart Networks – ITS Strategy	SP09z
09	WwPS / CSO Quality (UID) and WwPS (Capacity increase)	SP12b & 12c
10	Event Duration Monitors WwPS/CSOs	SP12b
11	Cranfield Catchment, Kilkeel Storm Separation	SP12g
12	Storm Water Separation	SP12g
13	Real Time Network Modelling	SP12z
14	Urban Drainage Modelling - Live Models for IOC	SP20g
15	Innovation Initiatives	SP20g
16	Urban Drainage Modelling - Studies to Inform PC27 - Top 271 Priority Drainage Areas	SP20g
17	Raw Water Trunk Main Rehabilitation	SP20 & 23c
18	Culmore DA KL554 - Skeoge Link Road	SP24a
19	LWWP Networks	SP12b & 12d
20	LWWP Wastewater Treatment Works	SP16b
21	AD - Asset Strategy - Wastewater Asset Performance Modelling	SP20g
22	AD - Asset Strategy - Water Asset Performance Modelling	SP20g
23	Facilities H&S Compliance	SP20e

Table 3.3: NI Water proposals for development outputs for PC21.

3.62 We have commented on some of these outputs in our draft determination capital investment annex (Annex I). For the final determination we will review the supporting information provided by the company on each output to establish which of them should be taken forward as development outputs in PC21. We will also set out our expectations with regard to delivery, monitoring and reporting so that progress and the associated benefits can be assessed.

Maintaining serviceability

- 3.63 Serviceability is the capability of an asset to provide a service. It is a broad measure based on a mix of service indicators, asset performance indicators and sub-threshold indicators which balance consumer experience and the underlying performance of the assets. Focusing asset maintenance planning on serviceability, rather than the condition or performance of the assets, will ensure that investment targets consumer outcomes in the short term and the right level of capital maintenance investment is maintained in the medium and long term.
- 3.64 Serviceability is monitored by trending a series of defined asset performance indicators (such as the frequency of pipe bursts) and service indicators (such as the frequency of interruption to supply). Data trends are used to determine whether asset serviceability is improving, stable, marginal or deteriorating. Sub-threshold measures and consumer complaint measures are included to help reveal emerging service issues before failure occurs
- 3.65 As well as monitoring what has been delivered, serviceability indicators provide a basis for planning asset maintenance investment to maintain a reference level of service to consumers and the environment now and into the future.
- 3.66 Annex F contains our current assessment of serviceability and sets out:
 - Our approach to assessing serviceability;
 - Our assessment of the serviceability reference levels and control limits we consider appropriate for monitoring performance of individual measures in PC21; and
 - The regulatory action we would take in respect of serviceability.
- 3.67 Our current assessment is that serviceability is stable, as indicated by the trend in the primary indicators used to assess serviceability in each service area presented in Figure 1.1 below.





Delivery of the PC21 Social & Environmental Guidance

- 3.68 In addition to the outputs described above, the Social and Environmental Guidance (S&EG) issued by Dfl, requires the company to meet various general regulatory requirements and contribute to the delivery of wider government policy objectives.
- 3.69 Many of these outline how NI Water should approach its work rather than the work it should carry out. The company develops its business plan within the framework and context of the policy aims and objectives included within the S&EG and our determination includes for the company delivering the broader policy objectives identified.
- 3.70 We introduced annual reporting against Social and Environmental Guidance aims and objectives following our PC15 mid-term review as a consequence of feedback received from key stakeholders. We plan to continue the approach of monitoring delivery against the PC21 S&EG requirements as part of our annual information return and cost and performance report process during the price control period.

Summary of key benefits to be delivered in PC21

3.71 The following table summarises the key outputs and benefits that the PC21 investment will deliver.

Table 2: Key outputs delivered in PC21

- Investment of £684m to maintain the performance of the existing assets and the service they provide, delivering stable serviceability.
- Further reductions in the number of properties at risk of sewer flooding, and properties with low pressure. Further reductions in interruptions to supply and pollution incidents.
- Improving consumer service driven underscored by new consumer measures with targets for net promoter score, first point of contact resolution and unwanted calls.
- Investment in 18 schemes at 16 water treatment works to maintain and improve water quality.
- Construction of 14 water trunk-main schemes to maintain security of supply and improve the resilience of supply in areas severely affected by major incidents in the past.
- Delivery of 3 new water storage tanks at treatment works and in distribution to balance flows in the network and improve resilience in the event of pipe burst or work outage.
- Replacement or renovation of 788 km of water mains to control interruptions to supply address low pressure and improve water quality. Replacement or renovation of 61 km of sewers which are collapsing or a cause of frequent blockage.
- Investment to enhance treatment at 45 wastewater treatment works serving a population equivalent greater than 250 and upgrades to 36 small wastewater treatment works to secure compliance with environmental discharge standards and accommodate development.
- Investment to improve the quality of 136 intermittent discharges to comply with environmental standards and accommodate development.
- As a result of improvements in wastewater treatment works and intermittent discharges development constraints in 12 larger conurbations and 37 towns and villages.
- Proactive replacement of 11,064 lead communication pipes at consumers properties in addition to lead pipe replacement as part of the water mains rehabilitation programme ad in response to sample failures.
- Measures to improve sustainability and reduce the impact on climate change including: continuing sustainable catchment management (SCAMP); moving to 100% renewable energy consumption by the end of PC21 and investment in renewable energy generation.
- Completion of sewerage drainage area plans to inform and optimise investment in the sewerage network and inform development decisions.
- On-going investment in management and general facilities to support the delivery of service, improve interactions with consumers, improve efficiency and make the service more sustainable.

4. Capital Investment and Efficiency

Introduction

- 4.1 The provision of water and sewerage services is an asset intensive business. Continuous capital investment is necessary to maintain the asset base, cater for growth, secure compliance with environmental and drinking water quality standards and improve services to consumers.
- 4.2 In its Business Plan for PC21 the company set out plans to invest £1,907m (all costs in the chapter are stated in 2018-19 prices). This is more than double the investment in PC15, where £835m was spent over a six year period. The increased level of investment will begin to address a lack of capacity in sewerage networks and wastewater treatment works. This constrains the planned development of housing and industry which underpins the economy and wellbeing of our society. The company has indicated that similar levels of investment will be required in at least two further price control periods to address all development constraints.
- 4.3 Investment in sewerage networks and wastewater treatment plants in Belfast and other communities draining directly to Belfast Lough are being developed through the Living with Water Programme (LWWP). NI Water proposed investment of £455m in the LWWP in PC21. It concluded that this could not be afforded within stable prices and proposed an equal amount in grant funding be provided so that tariffs would not include this investment. Because our draft determination identifies further reductions in costs, increased efficiencies and a lower return on capital, we have concluded that LWWP work can be included within stable tariffs in PC21 without grant funding. Given the potential scale of investment required in future price controls, it is possible that tariffs will have to increase in real terms in the future unless some form of grant funding is provided.
- 4.4 Our detailed assessment and challenge of the capital programme is set out in Annex I. In this chapter of the draft determination we provide a summary of our assessment and conclusions. Our draft determination concludes that the outputs the company plans to deliver in PC21 requires investment of £1681m, which is 11.9% less than the company's estimate.
- 4.5 Table 4.1 provides a high level comparison of investment proposed by the company and our draft determination for the PC21 period. It distinguishes between investment necessary to maintain the assets (capital maintenance) and investment used to enhance the assets including meeting new consent standards and increasing capacity. It includes capital grants and contributions to arrive at a net cost of investment.

	Investment £m 2018-19 prices				
	NI water submission	UR draft determination	Difference		
Capital maintenance	763	683	-80		
Enhancement expenditure	1144	998	-147		
Total investment	1907	1681	-226		
Grants and contributions (excluding LWWP)	-72	-72	0		
LWWP grant funding	-455	0	455		
Total investment net of contributions	1380	1609	229		

Table 4.1: Summary of capital investment in PC	J 21.
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PC15 Out-turn

- 4.6 Our determination for PC15 included capital investment of £845m in 2012-13 prices to maintain serviceability and deliver a defined set of outputs and outcomes. In this section, we describe the action we have taken to protect both consumers and NI Water in respect of changes in capital investment and delivery of outputs relative to our final determination for PC15.
- 4.7 All costs are presented in 2012-13 prices, consistent with the PC15 final determination.
- 4.8 We assess the outcome of the price control in terms of the outputs delivered for consumers rather than the amount of money spent. Expenditure in PC15 was lower than expected in real terms due to constrained public expenditure budgets. In principle, we would expect a reduction in real expenditure to result in an equivalent reduction in the value of the outputs delivered. However, the company may still out-perform and deliver more outputs than expected, or under-perform and deliver fewer outputs than expected.
- 4.9 To determine whether the company continued to deliver value for the investment made in PC15, we assessed the changes in outputs through a process of logging up and logging down and adjusted the opening balance of the RCV at the start of PC21 accordingly. As a result, future charges to consumers will reflect the value of the outputs that have been delivered. Where an additional output is delivered, the efficient cost of delivery is logged up. Where an agreed output is not delivered, the value of the output is logged down.
- 4.10 In our assessment we have logged up additional outputs which have been funded by external grants and contributions from consumers related to new

development. Where this is the case we have logged down the associated grants and contributions to ensure that the RCV reflects these additional contributions.

- 4.11 We have made a further adjustment to the RCV to recover the return on capital included in the PC15 final determination to support capital investment which has subsequently been logged down. We have assessed this on the net position over PC15.
- 4.12 Our assessment of logging up and logging down is presented in more detail in the technical Annex H and the outcome is summarised in Table 4.2.

Item description	RCV adjustment (£m)		
Outputs logged up	94.8		
Outputs logged down	-138.2		
Additional grants and contributions logged down	-38.4		
Net position over PC15 -81.8			
In 2012-13 prices consistent with the 'base year' for the PC15 final determination.			

Table 4.2: PC15 Logging up and logging down (2012-13 prices).

4.13 Our assessment is based on the company's business plan submission which was itself based on information available in 2019. We will update this assessment for the final determination based on the latest information available at that time.

Capital inflation

4.14 All costs in this chapter are stated in 2018-19 prices. The calculation of tariffs and the statement of public expenditure Capex DEL below is in nominal terms. Where necessary we have adjusted for inflation using the Retail Prices Index (RPI) as published by ONS. For the draft determination we have used the forecast figures which NI Water used when preparing its Business Plan. We will update these figures for the final determination taking account of the latest projections of inflation and, in particular the impact which the response to COVID19 has had on inflation in the short term. The inflation indices used for the draft determination are shown in Table 4.3.

	Base Year 18-19	21-22	22-23	23-24	24-25	25-26	26-27
RPI (year average)	283.308	308.892	318.159	327.703	337.534	347.661	358.090

Table 4.3: Inflation indices.

4.15 We will monitor delivery in PC21 using RPI to deflate nominal capital costs.

Capital maintenance investment

- 4.16 Capital maintenance investment is necessary to maintain and replace existing assets so that they continue to deliver the level of service received today. NI Water's Business Plan estimated that £763m of capital maintenance investment would be required in PC21 (an average of £127m per annum). This formed 40% of the total capital investment proposed and represents an increase of 37% from PC15.
- 4.17 Our assessment of capital maintenance investment for PC21 is included in Annex I. The key components of our assessment are summarised below:
 - We reviewed trends in serviceability and confirmed that it had been maintained at current levels of investment.
 - We reviewed trends in capital maintenance investment and noted that capital maintenance investment has remained at constant levels in real terms since 2007 while serviceability was stable or improving.
 - We commissioned an econometric assessment of capital maintenance investment using data from water and sewerage service providers in England and Wales to identify efficient levels of investment for NI Water.
 - We considered the impact that an increase in overall capital investment in PC21 would have on capital maintenance investment and included an additional allowance for "consequential" capital maintenance.
 - We applied an allowance for growth and an on-going efficiency adjustment over the PC21 period.
 - Finally we used the detailed challenge to individual sub-programmes to prepare a bottom up estimate of base maintenance and compared this with our top-down assessment.

4.18 The outcome of our assessment of capital maintenance is summarised in Table 4.4. The determined capital maintenance is £683m over PC21 (an average of £114m per annum). This is a reduction of £80m (10.5%) compared to the expenditure proposed by the company.

	£m/a
NI Water current capital maintenance expenditure	96.5
Upper quartile econometric estimate	91.4
Target cost at the end of PC21 after closing 80% of the gap to current upper quartile performance in England and Wales.	92.4
Average expenditure over PC21 (average current and target)	94.4
Adjusted for growth net of frontier shift (+1.2%)	95.6
Add consequential capital maintenance allowance	18.3
Determined average capital maintenance for PC21	113.9

Table 4.4: Draft determination of capital maintenance expenditure.

- 4.19 As indicated above, we considered capital maintenance expenditure in our detailed bottom up assessment of total capital expenditure set out in the company's Business Plan. We have not relied on our bottom up assessment to determine capital maintenance as it does not benchmark NI Water's costs against comparator companies. However, we note that our bottom up analysis provided an estimate of £684m for capital maintenance, similar to the assessment described above.
- 4.20 Our determination of capital maintenance includes £18.3m per annum of "consequential" capital maintenance to reflect the impact of the overall increase in total capital investment, including the LWWP. If the overall increase in capital investment proposed for PC21 cannot be supported within public expenditure regime, we will amend the "consequential" component of the capital maintenance allowances to reflect the revised programme of work.

Assessment of the capital investment programme

4.21 NI Water provided a capital programme broken down by individual projects and sub-programmes of work. These individual projects and subprogrammes were supported by outline business cases which were in varying degrees of development. Our assessment and challenge of the capital programme is described in Annex I. Our approach to the assessment and the key issues identified are summarised below.

- 4.22 To challenge the programme and ensure that a reasonable cost allowance was included in our draft determination we:
 - Undertook an econometric assessment of capital maintenance expenditure described above, benchmarking the costs proposed by the company against water and sewerage service providers in England & Wales.
 - Reviewed and challenged the scope of works proposed by the company for individual projects to determine whether it was reasonable.
 - Used historical run-rates and historical unit rates of investment in PC15 to benchmark run rates and unit rates included in PC21.
 - Commissioned an audit by the independent Reporter of the Business Plan including the capital programme.
- 4.23 The Reporter highlighted some issues in respect of capex estimates. The most material relates to the Tender Outturn Risk adjustment. The Reporter informed the company where material issues were identified and considered further representations from the company before reaching a final conclusion. In respect of the Tender Outturn Risk, the Reporter concluded that *the evidence provided by NI Water does not directly address the audit material issue on the double counting of risk. Therefore, it has no effect on our fundamental audit finding concerning the use and magnitude of the applied ToR uplifts i.e. that the ToR effectively double counts the coverage of risk in the Company's PC21 Capex costing and that there is insufficient justification for including it.*
- 4.24 The Reporter's summarised the impact of the issues identified in audit by providing impact and confidence level as follows:
 - Low potential, high confidence £45m.
 - High potential, low confidence £246m.
- 4.25 Much of the low potential, high confidence adjustments identified by the Reporter relates to specific items and we have been able to make specific adjustments to the capital programme to reflect these.
- 4.26 The range between the low and high potential adjustments is dominated by the Tender Outturn Risk. Taking account of the Reporter's comments on Tender Outturn Risk and the range of potential confidence, we have reduced the company's cost estimates by 60% of range between the low and high potential adjustments identified by the Reporter. This was applied as a 6.7% reduction to pre-efficiency costs. This adjustment has not been applied to

items of work which have been determined using historical run-rates and unit rates because the historical costs already account for scope risk and tender to out-turn risk. Nor has it been applied to our determination of capital maintenance expenditure based on econometric benchmarking which already reflects efficient costs.

- 4.27 The definition of the scope of work used to prepare the costings in NI Water's Business Plan and our determination still carries a significant degree of uncertainty in the following areas:
 - The scope of water treatment works improvements to address quality standards is being reviewed by the Drinking Water Inspectorate. We understand that this review will be complete in time to incorporate the outcome in the final determination.
 - NI Water recognises the need to develop its Drainage Area Plans which underpin the solutions and costings for sewerage projects. The company is also developing an integrated catchment approach to drainage and treatment solutions which should allow it to optimise investment. Our review of a sample of sewerage projects confirmed that the scope of many has not been finalised. Experience of previous price controls has shown that these major sewerage projects are likely to be delayed and subject to cost increase as detailed solutions are developed. Since many of these schemes will be delivered in the second half of PC21, there is an opportunity for the company to undertake further analysis and assessment before we finally determine an efficient cost for these projects.
 - The same is true, although to a lesser extent, for wastewater treatment works upgrades. Future consents have yet to be confirmed and, in some cases, catchment studies must be completed before issues such as on-site storage and the need for disinfection can be determined. Again, many of these schemes will be delivered in the second half of PC21 and there is an opportunity for the company to undertake further analysis and assessment before we finally determine an efficient cost for these projects.
 - The sewerage and wastewater treatment solutions and costings for the LWWP reflect the issues identified above. The Business Plan submission is described as a 'straw-man' solution based on a schedule of assumptions agreed with Dfl and NIEA. The 'straw man' solution does not represent a final decision on these issues and each assumption must be further tested and assessed in ongoing detailed appraisals. Appraisal work for the Drainage Area Plans, Integrated Environmental (eco-system) modelling and WWTW feasibility studies

are still ongoing. These may result in solutions which can be delivered at a lower cost or is may identify further work or increased standards which result in additional costs.

- 4.28 In view of need to undertake further work to confirm the scope and costs of sewerage and wastewater treatment schemes, we expect NI Water to provide the following by the end of November 2020:
 - A statement of the sewerage and wastewater treatment schemes whose scope is sufficiently well developed to allow them to be included in the final determination with confidence, with an explanation of why this is the case.
 - A programme of further study and development work necessary to confirm the scope and costs of the remaining sewerage and wastewater treatment works schemes included in its Business Plan.
 We plan to use this programme to define a 'development objective' for PC21 which will allow costs and outputs to be confirmed or redetermined through the Change Control process in time for the work to be incorporated in the last three years of PC21.

Capital efficiency

- 4.29 NI Water's Business Plan included an assessment of capital efficiency for PC21 which considered a range of process and procurement opportunities. The aggregate outcome was an efficiency challenge rising from 1.8% in 2021-22 to 10.1% in 2026-27.
- 4.30 The independent Reporter reviewed the company's capital efficiency proposals. No issues were found in relation to the development of the capital delivery strategy which underpinned the company's assessment and the Reporter concluded that the strategy represented good industry practice. The audit conclusions highlighted two issues which might have improved the assessment: separation of efficiencies delivered in PC15 from future efficiencies to be delivered in PC21; and the potential for a more granular assessment at resource level. The Reporter also noted that the inputs to the efficiency model came from an expert panel approach (supported by local knowledge and industry experience in England & Wales). Notwithstanding these comments the Reporter did not challenge the outcome of the company's analysis.
- 4.31 Our initial assessment of efficiencies for PC21 concluded the approaches we had used in the past to assess efficiency of enhancement expenditure was no longer available to us. We therefore focused on bottom up challenge of costing systems through the Reporter audit, scope challenge and the

assessment of historical unit rates and unit costs to establish an efficient cost baseline for PC21.

4.32 We expect all regulated companies to deliver on-going efficiencies which reflect improvements in general productivity in the economy. Our assessment of productivity improvements are included in the calculation of the capex frontier shift which is described in Annex K. Our assessment of frontier shift is shown on Figure 4.1, where it is compared to the efficiency adjustments proposed by the company. The company's proposals go further than the frontier shift.

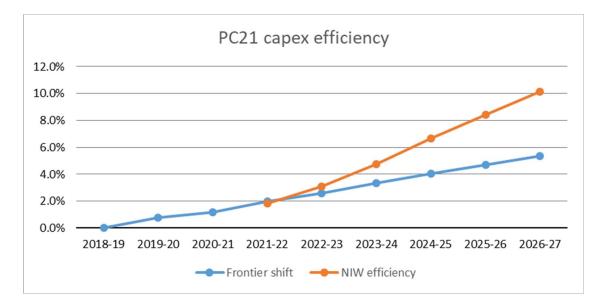


Figure 4.1: Capital efficiency.

4.33 Taking account of the Reporter's audit of the company's efficiency proposals and the scale of efficiency proposed by the company relative to the frontier shift, we have accepted the level of efficiency proposed by the company for PC21. This has been applied to our determination of pre-efficiency costs which take account of the challenges described above.

Capital expenditure profile

4.34 NI Water's Business Plan proposed a stepped increase in investment at the start of PC21. Our draft determination of the capital programme is based on the company's planned profile as shown on Figure 4.2.

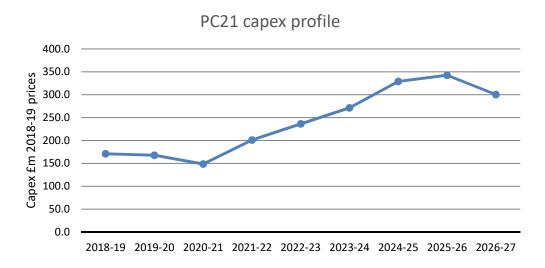


Figure 4.2: PC21 Capital expenditure profile.

- 4.35 The planned increase in the capital programme is 35% (£53m) in the first year of PC21 and between 15% and 21% in the three subsequent years. The scale of the increase proposed for the first year is challenging and can only be delivered if there is a clear plan with well-defined solutions and procurement in place. In turn, this requires a reasonable understanding of the budget which will be available including the resource necessary to allow NI Water to plan and procure the works.
- 4.36 In view of the challenge of delivering the planned increase in investment, we ask that NI Water reviews the profile and confirms that it remains realistic in light of the current status of scheme development and procurement. If necessary, the company should provide a revised profile of investment including key milestone dates. We propose to monitor the delivery of key milestone dates in PC21 as a lead indicator of successful delivery of the capital programme.

Capital expenditure budget

4.37 Table 4.5 sets out the capital expenditure budget for PC21 required to deliver the outputs and outcomes set out in the company's Business Plan. It includes a comparison of the company's estimates and the draft determination in 2018-19 prices. It also includes an estimate of public expenditure Capex DEL in nominal terms, taking account of capital grants and contributions and the allocation of capital to PPP projects.

	21-22	22-23	23-24	24-25	25-26	26-27	PC21
PC21 gross capital budget in 2018-19 prices							
NI Water Business Pan	233.2	272.0	310.6	371.5	383.9	336.3	1907.6
PC21 draft determination	201.1	236.5	271.4	329.0	342.5	300.2	1680.8
Difference £m	-32.0	-35.5	-39.2	-42.5	-41.4	-36.1	-226.7
	-13.7%	-13.1%	-12.6%	-11.4%	-10.8%	-10.7%	-11.9%
Public	c expend	liture Ca	pex DEL	in nomi	nal price	S	
PC21 DD gross capital budget	219.3	265.6	313.9	392.0	420.4	379.4	1990.6
Capital grants and contributions transferred to deferred credits	1.6	1.6	1.6	1.7	1.7	1.7	9.9
Capital grants and contributions	-13.5	-13.7	-13.8	-14.3	-14.5	-15.0	-84.8
Alpha PPP maintenance	2.9	3.0	1.1	1.2	1.2	1.6	11.1
Residual interest in off balance-sheet PPP	4.1	4.2	4.3	4.3	4.2	4.3	25.5
PE Capex DEL	214.4	260.7	307.2	384.9	412.9	372.2	1952.3

Table 4.5: PC21 capital budget.

4.38 The delivery of the outputs and outcomes included in NI Water's Business Plan is dependent on the availability of public expenditure Capex DEL to support the necessary investment.

5. Operational Costs and Efficiency

5.1 Chapter 6 sets out our approach to assessing the scope for additional operational costs and efficiency. This includes how we have established a baseline, assessed adjustments to the baseline, special factors, the operational efficiency gap and proposed efficiency targets.

Background

- 5.2 Each price control ensures that consumers receive value for money. This is achieved through setting a challenging and achievable determination of the future revenues and charges necessary to deliver a defined set of outputs.
- 5.3 PC21 is our fourth price control which follows a similar PC15 period which was subject to a Mid-Term Review. Each successive price control from PC10 onward delivered improvements in service and greater efficiency. The result is lower costs and bills for non-domestic consumers.
- 5.4 It is important to emphasise that by 'efficiency' we mean delivery of the same (or better) levels of service for less money.

Scope for operating cost efficiency

- 5.5 In determining the efficiency challenge, we undertake a number of steps to ensure it is appropriate going forward. These include:
 - Establish NI Water's baseline opex;
 - Adjustment(s) to base costs for any additions / (reductions) to baseline opex. For example, NI Water's claimed additional opex for planned IT investment at PC21 and the company's Opex from Capex;
 - Pensions assess NI Water's claimed additions to baseline opex for future pensions costs;
 - Transformation costs assess NI Water plans for Business Improvement (BI) and Voluntary Early Retirement / Voluntary Severance (VER/VS) and consider their regulatory treatment;
 - Relative efficiency gap establish the efficiency gap between NI Water and comparator companies; including decisions on special factors, atypical expenditure, benchmark company(ies) and our rate of catch-up to benchmark across PC21;
 - Frontier shift including our assumptions for Real Price Effects and ongoing efficiency or productivity;

- Treatment of public private partnerships / private finance initiative (PPP / PFI) their costs and how these should be treated;
- Review of NI Water proposals; and
- Overall efficiency challenge at PC21 considering the overall impacts from the preceding.

Establish NI Water's baseline opex

- 5.6 Baseline expenditure is an assessment of the 'true' opex cost of providing water and sewerage services in the base year. For PC21 the base year is 2018-19. Baseline costs are then rolled forward through into yr1 (across the two prior years to PC21 of 2019/20 and 2020/21) of PC21 and then across the six years of the PC21 period.
- 5.7 In order to establish a baseline, a number of adjustments must be made. For instance, PPP / PFI costs must be removed as these are not subject to the same level of efficiency challenge. Once an efficient allowance for PPP / PFI is determined elsewhere in our analyses, we add an allowance for PPP / PFI back into the opex total.
- 5.8 Atypical costs should be accounted for separately. These costs are excluded from baseline opex as they are non-recurring in nature. For example, we excluded severe weather atypical costs from our efficiency modelling given their sporadic nature from year to year.
- 5.9 As announced in PC13, we do not treat business improvement programmed (BIP) costs as atypical anymore. These are recurring annual costs based on a management decision, so do not merit atypical status for purposes of efficiency modelling going forward. This means that BI costs are included in the relative efficiency modelling and subject to our efficiency challenge as any other BAU opex expenditure categories.
- 5.10 Likewise fairly low value but continual VER/VS costs have become a feature of NI Water's cost profile from year to year and from price control to price control. Similar to BIP we have at PC21 included these costs as part of the efficiency modelling and made subject to our efficiency challenge.
- 5.11 BIP and VER/VS remain activities at PC21 which are subject to the company obtaining Departmental approval and cover from Dfl. We are content to support in principle until such time as the company's under-spend from PC10 is exhausted.
- 5.12 As stated in previous price controls, we would be content to consider such business cases, quality assure and offer advice to NI Water prior to their

submission to DfI, in the hope same would expedite their approvals process. The UR has a number of staff with DoF Economist Profession experience and who are both experts in the NI Preface to the Green Book as well as regulatory economics.

	NI Water Approach	Regulator Allowed
Total opex in 2018-19	£215.52m	£215.52m
Less all PPP costs	£48.820m	£48.820m
Less BIP	£0.90m	£0.90m
Less VER/VS	£0.23m	£0.23m
Less atypical costs	£1.29m	£1.29m
Baseline Cost	£164.27m	£164.27m

5.13 The company's baseline and that adopted by us is set out in the table below:

Table 5.1: Claimed versus allowed baseline costs (2018-19 prices).

- 5.14 The baseline refers to the 2018-19 year, but PC21 does not begin until 2021-22. For the interim period, the company's opex across 2019-20 and 2020-21, as submitted to us as actuals under AIR20 and in response to our PC21 Query Log question on their full year estimate of 2020-21 opex based on recent Quarterly Reports, is greater than that assumed by the company at time of submission of their PC21 Business Plan.
- 5.15 That being the case, we have adjusted their PC21 opex profile for this worsening performance in opex which, as a consequence, requires slightly higher efficiencies throughout the remainder of PC21 to ensure the company catches up with our original PC21 catch-up efficiency target. Simply put, without such a worsening picture in opex, our PC21 annual efficiencies would have been lower had the company achieved the opex efficiencies it assumed would occur in these two prior years at time of their PC21 Business Plan submission.

Adjustment(s) to base costs

- 5.16 We have considered claims for new opex arising out of changes to the company's operating environment. These changes might include requirements to meet new legal standards or improve drinking water and / or treatment standards etc.
- 5.17 We also requested information on additions to and any reductions to opex. These reflect changes to baseline costs not due to efficiency. The table below details the amounts claimed and the proposed allowance.

- 5.18 In determining whether or not to allow additional opex, we apply the two regulatory tests as adopted at PC10:
 - Newness is the expenditure related to any new obligation or specified improvement in service levels e.g. new compliance standards; and
 - Exogeneity does NI Water face an exogenous (i.e. outside its management control) increase in cost in relation to current activities e.g. new tax levy etc?

Additional opex by area	NI Water Claimed (2012-27)	UR Allowed (2021-27)
Pensions service cost	£12.22m	£0.00m
Capitalisation	-£1.69m	-£1.69m
Consultants fees (PC21/PC27)	£0.60m	£0.50m
Rates	£33.00m	£26.24m
Leakage	£2.74m	£2.74m
Mature Compliance (WW)	£11.24m	£11.24m
Digital, cyber and move to cloud	£19.14m	£4.78m
Kinnegar operating costs	£3.24m	£3.24m
Additions to opex	£80.49m	£47.05m

Table 5.2: Claimed versus allowed additional costs (2018-19 prices).

- 5.19 Consideration is further given as to whether each cost category is additional to baseline opex and has not been taken account of elsewhere. For instance, no allowance would be necessary if the cost is already accounted for in either the efficiency analysis or the frontier shift; or whether such a cost might already be accounted for in the baseline opex incorporated into efficiency modelling.
- 5.20 The table below details the rationale behind the proposed determinations for *Additions to Opex*:

Additional opex claimed by NI Water	Criteria Met	Comment
		Through a GAD review of NI Water's pension costs there was evidence to support a reduction (decrement or negative deduction) to the company's opex throughout PC21. This might otherwise have warranted a deduction to opex in addition to our catch-up and continuing productivity efficiencies at PC21.
Pensions – service cost	No	Since such further reduction to pensions would have been tantamount to a "double-dipping" on efficiencies, we determine that our benchmarked opex at upper quartile performance includes sufficient allowance for an efficient company to manage pension costs.
		We have therefore allowed nil addition to opex for pensions and consider the allowance sufficient for NI Water. How the company manages its pension costs, on back of our GAD advice, remains properly a matter for the company and its shareholder.
Capitalisation	Yes	Through a review of its capitalisation policy NI Water had identified additional costs in 2019-20 and 2020-21 which met their capitalisation criteria. We have accepted that it is appropriate to reflect this capitalisation over the course of PC21.
Consultants' Fees (PC21/PC27)	Partially	The company's claimed amounted has been partially disallowed to bring it in line with expenditure incurred/forecast in PC15 (in 2018-19 prices). We note that evidence has not been provided supporting the increase in PC21 forecast expenditure compared to PC15.
Detec	Dertially	Negotiation continues between NI Water and Land and Property Services (LPS) on valuations arising out of LPS's "Reval 2020" exercise. The latest estimate reduces the claimed increase to £4.4m p.a. from the company's original business plan submission of £5.5m p.a. on the basis of reduced valuations of both water and wastewater assets.
Rates Pa	Partially	In its submission the company has applied an efficiency challenge to rates expenditure based on its assessment of the rate of productivity growth. We note this is a departure from the company's approach in PC15. However, we continue to apply the same rate of efficiency to rates as to the remainder of opex (excluding PPP expenditure). This is the same approach adopted in previous NI Water price controls.
Leakage	Yes	Enhanced targets for the reduction of leakage have created a need for additional staffing to undertake leakage detection. We approve the company's claim to fund the recruitment of an additional 11 FTE.

Additional opex claimed by NI Water	Criteria Met	Comment
Mature Compliance (WW)	Yes	NI Water has noted on-going work with NIEA to inform the development of a mature wastewater compliance model, which will align the reporting of wastewater compliance at the treatment works and in the sewer network with the rest of the UK. This may include changes to sampling regimes, flow monitoring and data collection and analysis. This new regime will be developed during PC21 but the timing of implementation has yet to be confirmed. In the interim the company has prepared an initial assessment of targeted opex interventions to improve the normal operation of all wastewater treatment works and support the work of NIEA in developing the mature compliance model. The company's estimate was based on desktop exercise carried out in April 2018. It is currently refining its assessment and will share an update from this project later in the year. We continue to work with the company to gain assurance over the quantum of its claim and the timing of the introduction of new mandatory reporting requirements. At draft determination we have allowed the company's full claimed amount pending receipt and challenge of additional supporting evidence which NI Water has promised for later in the year, to inform our final determination. We reserve the right to reconsider our assessment in light of this updated information. The mature compliance model is intended to align NI Water with GB practice. Over the long term the full cost of the system will be reflected in our benchmark costs and would cease to be treated as an additional cost.
Digital Services, Cyber Resilience and Move to Cloud	Partially	We determine a partial allowance for claimed expenditure on the Cyber Resilience programme where costs are appropriately evidenced as efficient. Deductions to the claimed amount were made reflecting a lack of justification for non-staffing elements of opex. Expenditure on the Digital Services and Move to Cloud programmes has been disallowed at present, subject to the company's provision of further evidence prior to the final determination. The former is considered to be already provided for within baseline opex, on the basis of similar activities by comparator companies. The latter lacked detail on the bulk of systems transitioning to the cloud and is also subject to an ongoing tender process.
Kinnegar operating costs	Yes	The Kinnegar PPP contract expires in May 2024, after which NI Water will be responsible for operation of the treatment works. The full amount of the company's claim has been allowed based on an average of operating costs throughout 2014-19, with appropriate weighting of costs in 2024-25.

Table 5.3: Rationale for additional opex allowances.

Opex from Capex

- 5.21 This reflects new expenditure arising from the capital programme. Besides additional obligations and transformation costs, baseline opex will be impacted by capex spend.
- 5.22 As in previous price controls this can either have a positive or negative effect. Opex could increase as a result of more power consumption

associated with better treatment. Alternatively, costs could fall as a capex solution may reduce the manpower requirement.

5.23 NI Water's claim and the proposed allowances are provided below.

Additional opex by area	NI Water Claimed (2012-27)	UR Allowed (2021-27)	
Opex from capex	£17.25m	£15.01m	

Table 5.4: Claimed versus allowed Opex from Capex cost (2018-19prices).

5.24 We plan to seek further clarification from the company on the justification for the Opex from Capex figures submitted and may adjust the allocation further in the final determination based on the information provided.

Pensions

Pensions – Background

- 5.25 This section details our approach to pension allowances for NI Water for the PC21 period. It provides an overview of our decisions and proposed allowances for PC21. We commissioned the Government Actuary's Department (GAD) to provide expert advice on pension areas. This Draft Determination section is complemented by a Technical Annex produced by GAD (Annex P) which deals with more detailed pension aspects and may be read in conjunction with this document.
- 5.26 NIW has two pension schemes in place: The Defined Contribution scheme (DC Scheme) and the NIWLPS which is a Defined Benefit Scheme (DB Scheme). We have primarily reviewed the defined benefit scheme. The DC Scheme has been reviewed as part of the work of GAD and compared against suitable comparators, but no assessment for allowances have been made.

Pension - Business Plan Proposal by NIW

- 5.27 The NI Water requested pension allowances for PC21 are shown in Table
 5.5. For PC15 NI Water requested pension allowances of £72.7m (2018/19 prices) and this was accepted by the Utility Regulator.
- 5.28 For PC21 NI Water has requested pension cost allowances of £89.84m or around £2m pa increase from the base year. NI Water have explained that the increase in requested allowances reflects the 'roll forward' of the most recent assessment to year end measurement dates allowing for interest on the liabilities, the accrual of benefits by active members, the actual benefits

£m (nominal)	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Service Cost	11.94	12.70	14.50	15.40	15.80	16.30	16.8	17.40	17.90
Admin Costs	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
One off Costs ¹	-	-	3.00						
Net Interest Costs	0.46	0.70	1.10	1.30	1.30	1.40	1.50	1.50	1.60
Total Defined Benefit Cost	13.40	14.40	19.60	17.70	18.10	18.70	19.30	19.90	20.50
Less: One Off Costs			(3.00)						
Less: Net Interest Costs	(0.46)	(0.70)	(1.10)	(1.30)	(1.30)	(1.40)	(1.50)	(1.50)	(1.60)
Total Regulatory P & L cost (nominal)	12.94	13.70	15.50	16.40	16.80	17.30	17.80	18.40	18.90
Total Regulatory P&L cost (2018/19 prices)	12.94	13.31	14.64	15.04	14.96	14.96	14.94	14.99	14.95
Increase from base year	-	0.37	1.71	2.10	2.02	2.02	2.00	2.06	2.02

paid out and an estimate of the effect of any changes in the actuarial assumptions.

Table 5.5: NI Water PC21 Pension Cost Request (Accounting basis).

- 5.29 NIW's requested pension allowances for PC21 in relation to the NIWLPS are split between service costs, administration costs and interest costs.
- 5.30 On reviewing the allowances requested by NI Water, it was initially unclear how the requested allowances had been calculated. It only became apparent, after making a request for information that NIW clarified that its submission was made on the Accounting Assumption basis. This uses the International Accounting Standard 19 (IAS19), which is different to the

¹ One Off Costs refer to costs associated with remedies under the McCloud Judgement that NIW had submitted in the 2020/21 year

normal actuarial assessment referred to as the Technical Provisions. For instance it requires the assumptions used for interest cost, to be disclosed separately. We will now review each area in turn.

Pension - Service Costs

- 5.31 Following the 2017 valuation results the employer's standard contribution rate increased from 23.3% of pensionable pay to 29.2% of pensionable pay. The projected pension contributions contained within NIWLPS Scheme Funding Report appear reasonable to the extent we have been able to verify them. However, the request for contributions in the PC21 business plan does not align with the standard contribution rate (SCR) from the most recent schedule of contributions, as the request is based on accounting assumptions and not funding assumptions, which is estimated to be around 39.2% of pensionable pay.
- 5.32 At the 2017 scheme valuation there was a deficit shown for the pension scheme. The current recovery plan following the 2017 valuation requires contributions payable by NIW from April 2021 to March 2023. The Interim Funding Test, which took place after the 31 March 2020 valuation date required an updated recovery plan which is being negotiated between the employer and Trustees and is likely to be superseded following the results of the valuation as at 31 March 2020 position.
- 5.33 NI Water have requested allowances based on the International Accounting Standard (IAS19) basis, including costs associated with the deficit recovery plan, which does not align to the actual payments required to be paid into the scheme under legislation. Legislation requires actual contributions to be calculated at least every 3 years at an actuarial valuation. This provides more judgement on the long term nature of the scheme, with appropriate investment choices and the strength of the covenant of the scheme taken into consideration. The IAS19 assessment for NIWLPS leads to a higher assessment of costs as it uses a lower discount rate based on a prescriptive set of standards which do not reflect the scheme's investment strategy or covenant strength.
- 5.34 Given this, we consider that Technical Provision/Cash Contributions basis, to be an appropriate benchmark to review the likely level of allowances needed to fund the scheme. We also consider the following points as validation of this approach:
 - It is reflective of Scheme's investment strategy and covenant strength.
 - It is robustly negotiated as a part of the valuation process and leads to amounts actually required to be paid into the scheme, by legislation.

 It is less volatile, as set as a part of triennial valuation cycle, rather than assessed annually and subject to market conditions (the drivers of which recently have acted to put a higher value on the accounting liabilities and cost of future service). For funding valuations, flexibilities can be explored (discount rates, length of recovery plans) in setting contribution payments which take into account sponsor circumstances. The incentive for companies to negotiate funding outcomes at a valuation is clear (whereas IAS19 is an accounting exercise based on prescribed assumptions).

Pension - Administration Expenses

- 5.35 The level of expenses incurred within the NIWLPS is higher than average according to data published by The Pensions Regulator. The annual level of investment expenses appears reasonable as a proportion of the overall value of the fund.
- 5.36 GAD have compared the average annual level of expenses incurred by the NIWLPS over the past three years of published accounts (1 April 2016 to 31 March 2019) with data published by the Pensions Regulator². The expenses data is classified according to scheme size to enable a more informative comparison (larger schemes are expected to have lower per member expenses charges due to economies of scale). Accordingly the NIWLPS expenses are compared with expenses incurred by schemes of a similar size; that is with large schemes (between 1,000 and 5,000 members) and given the expected size of the scheme is expected to continue to grow, with very large schemes (over 5,000 members). Further information on this analysis can be found in Annex P.

Pension - Net Interest Costs

5.37 In the PC21 business plan NI Water set out the net interest costs under IAS19 in relation to the NIWLPS. However, this appears to have been offset and not requested as part of PC21, therefore we have not reviewed these costs in detail. Net interest costs are a feature of NIW using the IAS19 approach to request pension costs

Pension - Our Draft Determination Decision

5.38 On consideration of the Business Plan Proposal and the assessment of the individual components, 2 approaches were valid in setting the allowances. Either a bottom up assessment as advised by GAD, which would have made an assessment based on the Technical Provisions basis, including additional

² <u>https://www.thepensionsregulator.gov.uk/en/trustees/managing-db-benefits/db-scheme-costs-comparison-tool/your-db-scheme-costs</u>

funding for the deficit and an allowance for the McCloud judgement, which would be estimated to be around c£73.00m (2018/19 prices). Alternatively using the existing base year opex cost and rolling forward for the duration of the control, which would come to £77.62m (2018/19 prices).

5.39 On balance, there is sufficient headroom within the base year opex to cover service costs based on a bottom up assessment of Technical Provisions, administration costs and the repair of the current pension deficit. Therefore we have not allowed the additional opex and have included pension costs within the total opex allowance which is subject to the efficiency challenge. The allowance granted for pensions is £77.62m compared to the request of £89.84m.

Additional opex by area	NI Water Claimed (2021-27)	UR Allowed (2021-27)	
Pensions	£12.22m	£0.00m	

 Table 5.6: Claimed versus allowed Pensions costs (2018-19 prices).

Other Observations on NIW Pensions

- 5.40 NIWLPS undertook a valuation of their pension scheme as at 31 March 2020. This report has considered the results and assumptions from the 31 March 2017, which have been used to inform the pension costs requested in PC21. NIWLPS have not finalised the results of the valuation as at 31 March 2020. NI Water has highlighted that the final workings of the 2020 valuation may be available in time for the PC21 Final Determination.
- 5.41 The COVID-19 pandemic will have affected the actual returns of the investment strategy for the NI Water pension scheme, particularly when they are considered for the final valuation as at 31 March 2020. NIWLPS is more heavily invested in return seeking assets and are less matched to the liabilities than for a typical DB scheme. Therefore, we would expect the returns experienced by the NIWLPS to be more volatile than those of a typical DB Scheme. However, it is important to note that the valuation assumptions and discussions around a deficit recovery plan should be focussed on the expected long term returns and strategy for the scheme.
- 5.42 We may carry out further analysis of NI Water PC21 requested pension allowances prior to the PC21 final determination, for example in relation to any issues arising from the 31 March 2020 Actuarial valuation.

Transformation costs

- 5.43 Since 2007-08, NI Water has been allowed transformation costs. BI projects and VER/VS were both funded across previous price controls with no efficiencies applied.
- 5.44 The funding was granted in recognition that significant change was required to modernise the company. It was also provided to help reduce the sizeable efficiency gap, which stood at 49% in PC10.
- 5.45 NI Water was allowed opex in PC10 to fund BI and VER/VS in recognition of the significant transformation it proposed itself. This was expected to deliver reduced head count, improved efficiency and close the gap with peers in England, Wales and Scotland.
- 5.46 Actual spend has been confirmed by NI Water in their PC21 Business Plan. This supports an overall under spend across PC10, PC13 and PC15 of £23m.
- ^{5.47} The table below sets out the profile of allowed, actual and proposed BIP and VER/VS for PC10 through PC21.

	PC10	PC13	PC15	PC21
BIP allowance	£13.51m			
BIP actual or forecast expenditure	£5.43m	£0.51m	£5.02m	£5.40
VER/VS allowance	£37.47m			
VER/VS actual or forecast expenditure	£10.71m	£2.28m	£3.83m	£2.70m
Funding balance carried forward	£34.84m	£32.04m	£23.19m	£15.09m

Table 5.7: BIP and VER/VS funding (2018-19 prices).

- 5.48 NI Water therefore contend there is scope for future public expenditure bids to fund BI and VER/VS up to £23m. After this point is reached, any new BI or VER/VS bids would be wholly new from the consumer (and taxpayers) viewpoint. The UR might then consider an allowance that would not have previously been funded by consumers (and taxpayers).
- 5.49 The significant level of VER/VS funding was previously passed onto all customers in charges; non-domestic consumers via bills and domestic consumers via the government subsidy. The substantial in year under spend was handed back to government and therefore the taxpayer was credited.

- 5.50 To ensure the non-domestic customer is not charged twice, we proposed in PC13 that any extra funding sought by NI Water should be raised through outperformance or if necessary through PE funding.
- 5.51 We supported the company in taking forward its proposals for same through the normal PE processes. This included the submission of business cases to the relevant funding bodies.
- 5.52 Given the preceding, we remain committed to ensuring consumers are not charged twice for business transformation, whether BI or VER/VS.
- 5.53 The PC21 costs claimed and the proposed revenue allowance are set out in the table below. This represents the revenue implications which consumers can expect to pay as a result of PC21.
- 5.54 To avoid double funding of BI and VER/VS, the amounts here are nil. These costs were previously funded and paid for in PC10, having been underspent and handed back to DRD (now Dfl), its shareholder, by the company.
- 5.55 PE funded BI and VER/VS is included as a separate and additional line input towards the total PE requirement across PC21.

Additional opex by area	NI Water Claimed (2021-27)	UR Allowed (2021-27)	
Business improvement programme	£5.40m	nil	
VER/VS	£2.70m	nil	
Total Transformation costs	£8.10m	nil	

Table 5.8: Claimed versus allowed transformation costs (2018-19prices).

Relative efficiency gap

5.56 The catch-up targets and scope for improvement for NI Water are determined by the size of their relative efficiency gap. We also consider what has been achieved by companies in other utilities as well as the extent to which NI Water has closed its efficiency gap from 2007.

Cost Assessment Working Group (CAWG) at PC21

5.57 Our assessment of operational costs and efficiency have been developed in partnership with the company and their consultants to discuss and agree a way forward for (i) data issues, so we might agree a common or agreed modelling dataset at the outset and (ii) modelling issues, where there appears any clear, identifiable difference in approach between parties. This work was undertaken though the Cost Assessment Working Group (CAWG).

- 5.58 We have used econometric benchmarking to assess the relative efficiency of NI Water to England and Wales companies, which has led to a range of efficiency gap estimates, with and without special cost factors (SCFs).
- 5.59 We engaged CEPA to provide expert econometric consultancy support throughout the PC21 CAWG process and their technical report can be found at Annex L – PC21 Efficiency Modelling (CEPA).
- 5.60 On the basis of the above and further consideration within the Utility regulator, our overall assessment of operational efficiency at draft determination follows. We compare to the efficiencies offered up by NI Water and submitted at time of the PC21 Business Plan in Table 5.9 below:

	NI Water PC21 Business Plan	PC21 Draft Determination
Estimated efficiency gap to upper quartile	7.3%	7.8%
Level of catch-up	80%	100%
Catch-up efficiency	5.8%	7.8%
Period of catch-up*	8 years = 2018-19 to 2026-27	7 years = 2018-19 to 2025-26
Frontier shift per annum – RPEs & ongoing productivity	0.38%	0.77%
Annual efficiency challenge**	0.78%	2.11%

* the period of catch-up is shorter from the 8yrs previously deployed at August BAF. We have inbuilt higher annual catch-up efficiencies across the first 5yrs of the PC21 period to account for NI Water's under-performance against Business Plan forecast opex in the 2019/20 and 2020/21 prior years.

** the annual efficiency challenge reflects the detailed application of these efficiency factors to baseline and additional opex and PPP/PFI costs.

Table 5.9: Overall efficiency challenge comparison.

Current gap

5.61 NI Water has steadily improved its opex performance since the inception of the company. The efficiency gap has fallen³ from the 49% (2007-08) in PC10 to 38% (2010-11) in PC13, 22% (2012-13) in PC15 and is estimated

³ Given we have benchmarked NI Water to upper quartile at PC21, which is very likely to have been somewhat below what would have been the OFWAT benchmark (or leading company with smallest efficiency gap, whilst representative), NI Water remains arguably at Band C.

as some 8% (2012-13 through 2018-19 using a weighted average of all x7 annual comparisons to UQ performance) in the current PC21 price control.

- 5.62 It is important to recognise such reductions in opex have been achieved at the same time as improving levels of service for consumers.
- 5.63 Under this analysis NI Water has moved from being a Band E performing company to a Band B company (employing an older OFWAT ranking approach (circa. PR04) which identified companies "between 5% and 15% of benchmark" as Band B).
- 5.64 In money terms at PC10 in 2007-08 NI Water spent £1.96 for every £1 spent by the benchmark company. The adopted PC21 efficiency gap equates to a £1.08 operational spend for every £1 spent by an equivalent company operating at upper quartile performance.
- 5.65 This would increase by just two pence to £1.10 using an 80th percentile benchmark (very close to our UQ or 75th percentile). A discernible increase occur at the 90th percentile benchmark where a corresponding £1.14 is spent by NI Water for every £1 spent by an equivalent company.
- 5.66 To conclude, there remains scope for further reductions in operational spend if NI Water is to improve its efficiency band and perform alongside the best companies in the industry.

Draft determination

- 5.67 Our draft determination sets a catch-up efficiency rate of 1.7% per annum. This offers NI Water a robust and reasonable challenge in the interests of consumers (and taxpayers).
- 5.68 The fact that our assessment of the efficiency gap aligns with NI Water's assessment reflects the joint work to develop PC21 efficiency analysis (see Table 5.9, Row 1). In addition, the scale of the gap reflects the improvement in efficiency made by NI Water over a number of price control periods and years.
- 5.69 Our draft determination adopts a catch-up rate in full (or 100%) compared to previous price controls where we used 80% catch-up at PC15 across a similar 6-year period, for example. We have also determined the catch-up in full should occur in the 5th rather than 6th year of PC21 for the following reasons:
 - The limited scale of the efficiency challenge is nowhere near as material as previously, where we considered the scale of the annual efficiency challenge within the "achievable range of efficiencies"

established at PC10 and which were of the order of between 5% and 7.5% per annum.

For PC21, the annual efficiency across the 5-year period of catch-up is some 1.7% per annum once higher than expected opex out-turns are incorporated (compared to NI Water's PC21 average of 0.6% per annum across their full 6-year period of catch-up);

- Catch-up to upper quartile previous price controls benchmarked to the "frontier" or at least close to the frontier company from within the E&W pack. For PC21, we have adopted an upper quartile benchmark for our estimation of the efficiency gap which a more conservative approach, in line with both with our own efficiency approaches for RP6 and GD17 as well as the many other regulators adopting econometric analysis. We considered alternative benchmarking of NI Water to both 80th and 90th percentiles rather than the UQ (75th percentile) but are minded to adopt previous Utility Regulator precedent in this regard for the meantime;
- SCFs scoping as with previous price controls we have not attempted to estimate all the various material differences in quality of service between NI Water and their peers or comparator E&W companies. Further consideration of materially lower levels of service delivered to local consumers compared to that enjoyed by their E&W counterparts would have enabled additional and material negative special cost factor adjustments.

Whilst these would have acted to increase NI Water's modelled efficiency gap estimate further, establishing the SCF adjustment applying would have introduced a degree of imprecision that would serve to detract from the efficacy of the estimated efficiency gaps; and

- Most recent opex out-turn our preference is to include the company's most recent operational out-turn for 2019-20 and updated forecast for 2020/21. These represent higher opex amounts than were originally forecast within the PC21 Business Plan.
- 5.70 NI Water's efficiency target in PC21 must be delivered alongside the organisation absorbing a further additional business rates bill totalling £26m extra over the same six-year period, on top of the rates bill increases of PC15.

	PC10 (3 yrs)	PC13 (2 yrs)	PC15 (6 years)	PC21 (6 years)
Efficiency gap	49%	38%	22%	8%
Catch-up efficiency challenge	7.20%	5.00%	2.30%	1.7%4

Table 5.10: Reduced relative efficiency gap and declining catch-upefficiency challenge.

Special factors

- 5.71 A special factor is a variable outside of management control, which results in either higher or lower costs than comparators. The company had the opportunity to make a case for such items in their PC21 Business Plan.
- 5.72 These adjustments do not represent additional allowed opex. They are however reflected in the relative efficiency modelling.
- 5.73 As in previous price controls across the various sectors the Regulator determines efficiencies, a special factors and atypical expenditure process has been applied to PC21.
- 5.74 Through the CAWG, a separate timeline for submissions of special factors claims was developed to include the following two stages:
 - Draft special factors submission from NI Water to the Regulator for initial "comprehensibility" feedback; prior to
 - Final special factors submission by NI Water on submission of its PC21 Business Plan.
- 5.75 The company also has a third opportunity to either re-state and/or expand on its special factors claim through the consultation stage to this draft determination.
- 5.76 In order to be awarded a special factor, NI Water must as in previous price controls, adequately demonstrate:
 - What is different about the circumstances that cause materially higher costs ("material" claims have previously been agreed by company and Regulator as those individual claims which amount to greater than 1% modelled opex)?

⁴ The PC21 catch-up is set for the first 5-years of the PC21 period rather than across 6-years. Thereafter the catch-up efficiency in yr6 is set as nil or 0%. Alternatively, had we chosen to carry the PC21 catch-up efficiency set at 1.7% per annum into yr6 we would effectively have chosen an unwarranted catch-up rate of 120%.

- Why these circumstances lead to higher costs?
- What the net impact of these costs is for prices over and above that which would have been incurred without these factors?
- What the company has done to (i) manage the additional costs arising from such different circumstances and (ii) limit their impact?
- Are there any other different circumstances that reduce the company costs relative to industry norms? If so, have these been quantified and offset against the upward cost pressures?
- 5.77 At PC21 due to the work of CAWG and close alignment of modelling approaches between us both (as well as an agreed modelling dataset at the outset) we found it necessary for CEPA to examine and apply two material special factor adjustments to the modelled opex models (water and sewerage):
 - Electricity prices power prices have historically been higher in Northern Ireland when compared to the rest of the UK. NI Water has previously cited the lack of supplier competition locally compared to E&W dependence on gas, a lack of indigenous fuels and regulated charges and tariff structures as some of the reasons for the difference.
 - Regional wages companies operating in Northern Ireland typically find themselves with an advantage over England and Wales water companies because they operate in a lower wage economy. Our regional price adjustment (RPA) analysis found that median hourly wages (excluding overtime) for a water company operating in Northern Ireland was around 12% lower than a typical water company operating in the UK.
- 5.78 Full details and discussion of the NI Waters claimed and approach to special factors plus our own are provided in Annex M PC21 Efficiency Modelling (CEPA). Annex M then presents the modelled efficiency gaps both pre- and post-special factor adjustments. The extent of the differences between us in our approaches and their impacts for modelled efficiency gaps are examined further at Annex M using sensitivity analyses.

Frontier shift

5.79 In addition to setting a catch-up target for the company to close the gap to the industry frontier, it is common regulatory practice to estimate how the best performing or frontier companies are expected to perform with respect to costs.

- 5.80 Our frontier shift assumptions include consideration of our productivity assumption and the real price effects (RPE) which an efficient company is likely to face across the PC21 period.
- 5.81 The analytical framework we continue to adopt was first used with NI Water at PC13. It examines ongoing productivity gains which the frontier companies are expected to deliver over the price control period. The analysis also examines input prices which England and Welsh water companies will typically expect, taking into account the nature of their opex spend.
- 5.82 The approach we have taken is comparable to that used in NIE's RP5 determination. The approach was subject to a referral to the Competition Commission which then validated the UR methodology.
- 5.83 Our new estimate of frontier shift was undertaken internally, which we subsequently quality assured.
- 5.84 Frontier shift analysis now more fully considers how input costs may change over the price control period. It further details how companies may continue to realise productivity gains over the longer term.
- 5.85 A summary of the results of the analysis can be seen below.
- 5.86 The findings of our frontier shift analysis indicate the following additions, to our efficiency catch-up targets. These are calculated from:
 - Our detailed analysis of Real Price Effects (RPEs);
 - The long-term ongoing productivity assumption of 0.8% (opex) and 0.6% (capex), per annum; and

	PC	:15			PC	21		
	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Weighted Input Prices	2.9%	3.0%	3.0%	3.2%	2.9%	3.0%	3.0%	3.0%
RPI	(2.9%)	(2.8%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)
Productivity	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)
Frontier Shift	RPI- 0.9%	RPI- 0.6%	RPI- 0.8%	RPI- 0.6%	RPI- 0.8%	RPI- 0.8%	RPI- 0.8%	RPI- 0.8%
Figures may not	Figures may not sum due to rounding							

• Our view on RPI movement.

 Table 5.11: Opex frontier shift calculations (%).

	PC	:15			PC	21		
	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24	2024- 25	2025- 26	2026- 27
Weighted Input Prices	2.8%	3.0%	2.9%	3.0%	2.8%	2.9%	2.9%	2.9%
RPI	(2.9%)	(2.8%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)	(3.0%)
Productivity	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)
Frontier Shift	RPI- 0.8%	RPI- 0.4%	RPI- 0.8%	RPI- 0.6%	RPI- 0.8%	RPI- 0.7%	RPI- 0.7%	RPI- 0.7%
Figures may not	Figures may not sum due to rounding							

Table 5.12: Capex frontier shift calculations (%).

5.87 The tables highlight the findings of our analysis. Whilst it is very difficult to predict with accuracy so far in advance, the frontier shift given above is our best estimate with the available information. Further detail on the make-up of the frontier shift is contained in Annex K – Opex and Capex Frontier Shift, published alongside this main document.

Treatment of public private partnerships / private finance initiative

- 5.88 NI Water continues to utilise PPP/PFI contracts to deliver a significant proportion of its water and wastewater services. The Alpha project supplies approximately 250 million litres of drinking water per day. Omega PPP provides around 20% of current wastewater treatment capacity. Including the Kinnegar contract, NI Water's PPP / PFI contracts account for close to 25% of its total opex spend.
- 5.89 During the PC15 period NI Water acquired the Alpha PPP contract and the company's proposals include £13 million of savings resulting from this action. We are in agreement with NI Water's decision to return this amount to customers early rather than the extended timescale over which these savings will be realised.
- 5.90 The Kinnegar PPP contract expires midway through the PC21 period, after which NI Water will be responsible for operating the treatment works. We have reviewed the basis on which the company has calculated its reduction to PPP operating expenditure, and resultant additional opex claimed amount, and believe it to be appropriate.
- 5.91 In its business plan submission the company had calculated efficiency savings using a bottom-up approach based on identified interventions. This led to cumulative efficiencies of 4.78% and 1.64% in water and sewerage PPP contracts respectively.

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
PPP Water – Cumulative Efficiency	4.92%	4.98%	4.83%	4.88%	4.92%	4.78%
PPP Sewerage – Cumulative Efficiency	1.52%	1.51%	1.51%	1.66%	1.65%	1.64%

Table 5.13: NI Water proposed PPP efficiency targets for PC21.

- 5.92 We believe that, as a minimum, PPP expenditure should be subject to the same challenge on productivity growth as other areas of opex. In meeting this challenge we expect the company to continue to work closely with operators to continue to identify opportunities to improve performance.
- 5.93 The proposed targets, below, are the result of the application of our assessment of productivity growth to the cumulative efficiencies achieved/forecast by the company up to 2020-21. We acknowledge the gain-share mechanisms in place as part of the sewerage PPP contracts, and have therefore employed a 50% reduction to the productivity challenge applied to base efficiencies.

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
PPP Water – Cumulative Efficiency	5.93%	6.68%	7.42%	8.15%	8.88%	9.60%
PPP Sewerage – Cumulative Efficiency	1.89%	2.28%	2.66%	3.05%	3.43%	3.82%

Table 5.14: UR proposed PPP efficiency targets for PC21.

Other Issues

- 5.94 NI Water has obtained performance deductions in every year of PPP / PFI operations. Strong contract management lies behind this.
- 5.95 In order to ensure a more realistic PPP / PFI cost allowance over PC21 (and as previously determined at PC15) we have conservatively factored in a £216k per annum performance deduction assumption. This is equivalent to half NI Water's run rate of around £433k per annum.
- 5.96 Both the company and DRD have been critical of this approach at PC15. For NI Water this, "seemed to assume that NI Water's contractors will underperform". DRD stated, "it would seem inappropriate that the Regulator should base its savings assessment on an assumption of poor performance".
- 5.97 We continue to avoid setting an allowable failure rate as we consider it appropriate to recognise such issues will occur in all likelihood. We therefore do not believe it right that the consumer should carry the cost risk, which would effectively occur if the UR gave an allowance that assumed no performance deductions. If performance deductions do materialise during the six years of PC21, customers will effectively pay for a level of service not received.
- 5.98 While it is impossible to predict with certainty on issues such as PPP performance deductions we have only assumed half of the historic run-rate as per our regulatory precedent established at PC15.

Review of NI Water proposals

5.99 The efficiency challenge proposed by NI Water in PC21 represents a further 'step-down' from the targets imposed at PC10 and PC13, although less pronounced when compared to PC15. This reflects fairly good progress in meeting our regulatory efficiency targets over time, despite some notable cost pressures in recent times.

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Catch-up Reduction – Annual Profile (%)	0.55%	0.55%	0.55%	0.56%	0.56%	0.56%
Frontier Shift – Annual Profile (%)	0.39%	0.36%	0.30%	0.40%	0.40%	0.40%
Total Cumulative Efficiency Profile (%)	4.23%	5.10%	5.91%	6.81%	7.71%	8.59%

Table 5.15: NI Water proposed targets for PC21 (excluding PPP's).

5.100 The result of the company's approach is detailed below.

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Baseline Opex (excl. Business activities) – (£m)	164.27	164.27	164.27	164.27	164.27	164.27
<i>Plus</i> Additional Opex (excl. rates increase) – (£m)	6.75	6.73	6.76	8.65	9.26	9.33
<i>Plus</i> Opex from Capex – (£m)	0.70	2.18	2.44	2.98	3.77	5.19
<i>Plus</i> Water Rates – (£m)	5.50	5.50	5.50	5.50	5.50	5.50
<i>Less</i> Efficiencies – (£m)	-6.55	-8.02	-9.37	-10.99	-12.57	-14.18
<i>Plus</i> BI Costs – (£m)	1.30	1.30	1.00	1.00	0.40	0.40
Plus VER/VS – (£m)	0.45	0.45	0.45	0.45	0.45	0.45
<i>Plus</i> Adjustments – (£m)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Plus</i> Total PPP Unitary Charge (Post Efficiency) – (£m)	49.08	49.40	48.96	46.84	46.27	47.84
Total Opex Profile – (£m)	221.51	221.80	220.02	218.70	217.34	218.80

 Table 5.16: NI Water proposed opex profile for PC21 (2018-19 prices).

Overall efficiency challenge at PC21

- 5.101 As part of the price control process the UR has the responsibility of setting efficiency targets. These targets are generated on the basis of:
 - The efficiency gap between NI Water and the frontier companies;

- The rate of catch-up which is deemed achievable; and
- Efficiency improvements previously recorded and / or expected of benchmark performers.
- 5.102 Having undertaken all the analysis, the Utility Regulator is of the opinion that NI Water's opex proposals are not challenging enough.
- 5.103 The UR therefore proposes the following efficiency profile:

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Catch-up Reduction – Annual Profile (%)	1.69%	1.69%	1.69%	1.69%	1.69%	0.00%
Catch-up Reduction – Cumulative Profile (%)	1.33%	3.00%	4.63%	6.24%	7.82%	7.82%
Frontier Shift – Annual Profile (%)	0.79%	0.60%	0.84%	0.80%	0.80%	0.80%
Frontier Shift – Cumulative Profile (%)	2.30%	2.88%	3.70%	4.47%	5.24%	6.00%
Total Cumulative Efficiency Profile (%)	3.60%	5.79%	8.16%	10.43%	12.65%	13.35%

Table 5.17: UR proposed efficiency targets for PC21.

5.104 The annual efficiency targets for PC21 represent a robust and reasonable challenge for the company. The overall opex allowance is provided in the table below.

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Baseline Opex – (£m)	164.27	164.27	164.27	164.27	164.27	164.27
<i>Plus</i> Additional Opex – (£m)	2.39	2.77	2.81	3.94	4.40	4.50
<i>Plus</i> Opex From Capex – (£m)	0.61	1.89	2.12	2.59	3.28	4.51
<i>Plus</i> Water Rates – (£m)	4.37	4.37	4.37	4.37	4.37	4.37
<i>Less</i> Efficiencies – (£m)	-6.32	-10.15	-14.24	-18.31	-22.30	-23.71
Plus BI Costs – (£m)	1.30	1.30	1.00	1.00	0.40	0.40
Plus VER/VS – (£m)	0.45	0.45	0.45	0.45	0.45	0.45
<i>Plus</i> Adjustments – (£m)	0.00	0.00	0.00	0.00	0.00	0.00
<i>Less</i> Efficiencies – (£m)	-0.06	-0.10	-0.12	-0.15	-0.11	-0.11
<i>Plus</i> Total PPP Unitary Charge (Post Efficiency) – (£m)	48.81	48.99	48.41	46.20	45.51	46.92
Total Opex Profile – (£m)	215.81	213.81	209.09	204.37	200.27	201.60

Table 5.18: UR target opex profile (2018-19 prices).

5.105 The UR has recognised NI Water's good performance during PC10 and PC13 evidenced in the graph below:

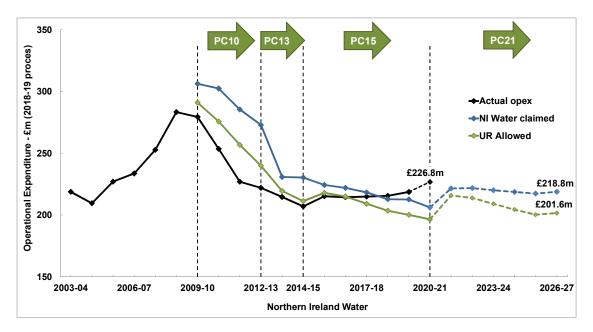


Figure 5.1: PC10 / 13 / 15 / 21 claimed versus allowed and actual (2018-19 prices).

5.106 A summary of the difference between the amounts claimed and allowed is detailed below.

Opex Efficiency Challenge	NI Water Claimed (2021-27)	UR Allowed (2021-27)	Varia	ance
Total operating expenditure (post efficiency)	£1,318m	£1,245m	-5.6%	-£73.22m
		Additional	efficiencies	-£36.83m
		Additional PPP	efficiencies	-£0.72m
		Add	itional opex	-£33.44m
		Opex 1	from Capex	-£2.24m
Net efficiency challenge	0.78%	2.11%		

Table 5.19: Opex efficiency challenge (2018-19 prices).

- 5.107 The net efficiency challenge applied to NI Water in PC21 is 2.11% (annualised), calculated as a percentage of the prior year baseline.
- 5.108 The company faces a 5.5% reduction to claimed opex at time of PC21 Business Plan submission, saving consumers £73m across PC21. We also expect the company to reverse any further deterioration in its opex performance in the two prior years to PC21 (namely 2019-20 and 2020-21).
- 5.109 The equivalent efficiency challenge at PC10 was 6.48% (annualised), 4.4% in PC13 (annualised) and 2.35% in PC15 (annualised) (see Figure 5.2 below) which demonstrates the challenge to NI Water at PC21 although robust, remains reasonable:
 - having taken account of NI Water's delivery of outperformance during PC10, PC13 and PC15;
 - comparing to previous efficiency challenges in previous price controls of NI Water; and
 - when compared to our central range of reasonable efficiency challenges (5% MINIMUM to 7.5% MAXIMUM) derived from a wide analysis of similar regulated utilities and rates of efficiency delivered around the time of PC10.
- 5.110 These targets represent a continuation of our role in setting robust, challenging targets for the company on behalf of consumers and we believe we have reached the correct balance in setting PC21 efficiency targets.
- 5.111 It must also be remembered that the much reduced level of targets in PC21 is due to the substantial improved performance of NI Water in reducing its

efficiency gap from PC10, PC13 and PC15.

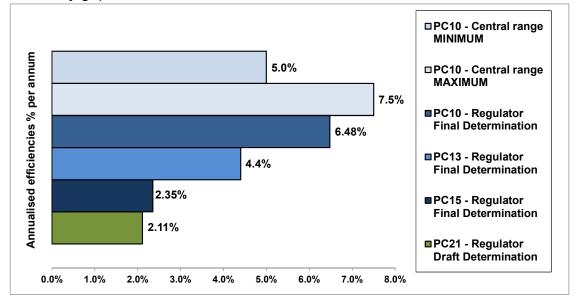


Figure 5.2: PC10 / 13 / 15 / 21 annualised efficiency challenge

5.112 The PC21 draft determination efficiency challenge is materially lower than that for PC13 and PC10. This recognises NI Water's success in reducing its efficiency gap by delivery of real and sustainable savings, emerging into PC21 as a Band B company rather than band E.

6. Monitoring Delivery & Managing Change

Introduction

6.1 This chapter considers monitoring of NI Water during PC21 and identifies how change will be managed, including a mid-term review. We have developed our approach and determination to PC21 on the assumption that the current arrangements for governance and funding will continue. As a result the approach to monitoring delivery and managing change established for PC15 will continue to apply to PC21.

Background

- 6.2 Processes for monitoring the company's delivery of outputs and for managing any potential changes will need to be established as part of the PC21 final determination. This Chapter outlines our approach for monitoring delivery and managing change during PC21 including the scope of a PC21 mid-term review.
- 6.3 Monitoring delivery by the company is an important part of our role. It helps us discharge our duties under the Water and Sewerage Services (Northern Ireland) Order 2006 to secure that the functions of a water and sewerage undertaker are properly carried out. It needs to be detailed enough to provide assurance that the company will meet targets for the period as a whole, but not so onerous that regulatory reporting adds a significant burden to NI Water. By monitoring delivery we both ensure that the outputs included in the final determination are delivered and that we obtain the data and develop the understanding of NI Water's business necessary to carry out our role.
- 6.4 We aspire to 'output' regulation, but the lack of robust data in some areas means that we intend to continue to monitor a mix of outputs and activities. We will also monitor the delivery of nominated schemes which are either:
 - Specific quality outputs required by the quality regulators or other stakeholders and included in the determination; or
 - Specific schemes nominated by the company in its PC21 Business Plan which are directed at delivering a specific service improvement.
- 6.5 It is recognised that changes might occur during the regulatory period which might mean that the outputs included in the final determination will need to be altered. For example, as a consequence of changes to assumed funding or changes to legislative requirements. Such modifications need to be

managed in a controlled and transparent manner and we have established approaches for ensuring this occurs.

- 6.6 We intend to use processes that have been established for previous price controls to manage change and monitor company progress in delivering outputs during PC21. The key components of our approach are listed below:
 - The Monitoring Plan;
 - Memorandum of Understanding and Consequent Written Agreement;
 - Change Control Protocol;
 - The Annual Information Return and Cost and Performance Report;
 - Quarterly Capital Investment Monitoring returns;
 - Serviceability assessments;
 - Output monitoring;
 - The Scheme of Charges;
 - The Regulatory Accounts; and
 - Mid-term review.
- 6.7 Each component is described in greater detail below.

Monitoring Plan

6.8 Once the final determination has been concluded we will ask the company to summarise the outputs it will deliver in PC21 in a Monitoring Plan. This will be supported by a detailed list of nominated outputs. The Monitoring Plan will provide a public facing summary which will be a ready source of information to allow other stakeholders to monitor the company's progress in delivering PC21. We will issue requirements for the Monitoring Plan with the final determination.

Memorandum of Understanding and Consequent Written Agreement

- 6.9 A Memorandum of Understanding (MOU) has been agreed between the DRD (Department) and the UR which sets out how the regulatory regime works alongside public expenditure. A copy of this can found in Annex C.
- 6.10 A 'Consequent Written Agreement' (CWA) has been established under this MOU which sets out the procedures for dealing with alterations to funding

and the processes and assumptions that will apply at each price control. The latest draft can be found in Annex D.

6.11 We will continue to work with the Department to finalise this over the coming weeks.

Change Control

6.12 Specific outputs contained within the company's Monitoring Plan will be subject to a formal Change Control Protocol during PC21. This is presented in Annex M and sets out the procedures and steps that the key statutory stakeholders shall follow to control changes to outputs. It provides a structured framework for managing change and ensuring that: changes have been agreed by stakeholders; that the necessary funding is available; and, that changes are reflected in associated documentation and monitoring processes.

Annual Information Return and Annual Cost and Performance Report

- 6.13 Each year the company will be asked to submit an Annual Information Return providing information on its performance in the year including: key outputs; customer service measures; financial and billing information; the water balance and leakage; asset information; explanatory factors and expenditure reports. We will review the AIR requirement to align with the PC21 final determination and ensure that the data collected remains relevant for current and future needs.
- 6.14 We will publish a Cost and Performance Report annually setting out the progress the company has made in delivering PC21. We shall continue to scrutinise NI Water's claimed efficiencies and publish our views on the extent of the real and sustainable efficiencies, especially but not exclusively relating to those operational efficiencies delivered by the company in the preceding financial year.

Quarterly Capital Investment Monitoring Returns

6.15 We have found the quarterly Capital Investment Monitoring (CIM) remains useful in monitoring delivery in previous price controls and for acquiring data which has informed our work on PC21. We will initially continue quarterly monitoring but will discuss the potential for using higher level summary data and exception reports and reducing detailed information requirements to half yearly submissions.

Serviceability Assessments

6.16 We have introduced serviceability requirements and completed an initial assessment of control limits which is included as Annex G. We will review this assessment for the final determination. We will monitor serviceability annually during PC21 and publish our conclusions as part of the annual Cost & Performance Report.

Output Monitoring

- 6.17 We have worked with the quality regulators to ensure we have a clear understanding of the nominated outputs that are to be delivered in PC21 in preparing our final determination.
- 6.18 During PC21 we will continue to work with other stakeholders in the Output Review Group to monitor key outputs. We will also liaise with the quality regulators to receive compliance reports and sign-off of outputs and to manage the impact of any changes to quality requirements, including the impact of any emerging issues.

Scheme of Charges

6.19 The provision and approval of an annual scheme of charges is a condition of the Licence. We will review and approve the Scheme of Charges to ensure that the company remains within the price limits of the determination and that its charges do not discriminate between different customer groups.

Regulatory Accounting Information

6.20 We will continue to collect regulatory accounting information allowing us to monitor the financial performance of the regulated business against the financial projections of the final determination.

Mid-term review

- 6.21 We plan to have review part way through the price control similar to PC15 to:
 - Allow a managed change in funding to realign the revenue and outputs with any substantive change to medium term funding levels; and
 - Provide an opportunity to implement innovative and sustainable solutions which might develop from the strategic studies which NI Water will carry out in the early part of the price control.

- 6.22 We already have processes in place through the Memorandum of Understanding, the Consequent Written Agreement and the Change Control Protocol which allow us to manage annual changes in capital and opex within the public expenditure funding regime NI Water also operates within.
- 6.23 Within these existing processes we have the option of re-determining K factors to take account of changes in investment levels of increased or reduced costs (known as relevant items). Any re-opening of the financial determination under the Consequent Written Agreement would be comprehensive and symmetrical in that it should consider all relevant changes the company has faced, positive and negative. DRD have agreed with this principle and this is currently built into the Consequent Written Agreement (CWA).
- 6.24 We are aware that the process of changing K factors is in itself a determination which requires a detailed regulatory assessment which places a burden on both the company and the regulator. Therefore we are minded to make the mid-term review the only opportunity to re-open the financial determination for PC21. This means that any financial changes not captured in the mid-term review would not be reflected in charges until the next price control. We would retain the option of reviewing prices at any time within the existing change mechanisms at our discretion but we would only exercise this option if we deem there to be a material need.
- 6.25 Our view is that the mid-term review should provide a single opportunity to re-open the financial determination to take account of:
 - any relevant items bids already determined as part of the regular monitoring of the company to the extent that they impact on regulatory funding;
 - any material change to capital funding determined through the change control protocol including any material increase or decrease in capital maintenance investment;
 - any material change in customer numbers and demand; and
 - any material change in costs which cannot be defined with any certainty in the business plan for example the cash tax position of the company.
- 6.26 However, in the event of a material reduction in public expenditure funding which reduced the outputs which could be delivered by the company, we would consider making an earlier adjustment to price limits under the processes included in the Consequent Written Agreement.

- 6.27 There is value in limiting the scope of the mid-term review so that the opportunities and incentives of 6 year plan are maintained. Therefore we are minded not to reopen the financial determination to reconsider the following:
 - Return on capital;
 - Operational cost efficiency;
 - Capital cost efficiency; and
 - General changes in operational expenditure such as unit rates for power or changes in labour or contractor costs.
- 6.28 However, any re-opener could impact on risk and limiting the scope for the mid-term review may cause asymmetry in risks between consumers and company. We will consider this risk as part of the mid-term review.
- 6.29 The risks associated with these issues remain with the company to manage over the duration of a six year price control. It ensures that the timing of a mid-term review does not have an impact on how the company plans and delivers efficiency. It ensures that the mid-term review is not driven by short term changes in key unit rates such as power costs which might be reversed during the remainder of the price control.
- 6.30 In setting out our approach above, we have introduced a general test of materiality. We are minded to set an overall materiality threshold of a £3m change in revenue, positive or negative, in 2020/21 prices using RPI as a deflator. We would not re-determine K factors unless the total impact of the changes covered in the mid-term review is higher or lower than this materiality limit. This is similar to the materiality threshold which would have applied to the provisions for an interim determination previously included in the company licence. We will consider a materiality threshold for individual items which must be reached before they are included in the assessment of the overall materiality limit and re-determination of K factors.
- 6.31 Any re-opening of the financial determination at the mid-term review will be comprehensive and symmetrical in that it should consider all relevant changes the company has faced, positive and negative. The UR would retain the option of considering all areas if deemed appropriate at the time.
- 6.32 Including capital maintenance expenditure as one of the items considered in a mid-term review risks removing the incentive on the company to improve capital maintenance targeting and efficiency to remain within the determination. Before we considered a change of capital maintenance funding we would expect the company to demonstrate that any deterioration

in serviceability was out with its control and it had taken reasonable steps to reprioritise spending within existing budgets to address emerging issues.

- 6.33 The mid-term review should be undertaken in the third year of PC21 with a view to including any change in K factors in the scheme of charges for 2024-25. If the company intends to seek a review of K factors in the mid-term review it should liaise with the Utility Regulator at the start of June 2023 to set out the scope of changes it plans to include. The company should complete a submission by the 15 September 2023. The Utility Regulator will complete its determination of K factors by the 15 December 2023.
- 6.34 The mid-term review provides an opportunity to manage changes to the outputs for PC21 including the opportunity to introduce new outputs or react to any changes in the way outputs are defined or measured. We would encourage NI Water and stakeholders to hold back changes of this type until the mid-term review to maintain clarity. For example:
 - Changes to WWTW compliance targets due to a change in the way that standards are defined or monitored;
 - The introduction of targets for new consumer measures; and
 - Any changes the Utility Regulator considers necessary to the upper control limits for serviceability modelling.
- 6.35 Finally, the mid-term review provides an opportunity for NI Water to implement innovative and sustainable solutions which might develop from the strategic studies which NI Water will carry out in the early part of the price control.

7. Next Steps

Consultation

- 7.1 This draft determination for PC21 is published as an open document for consultation. We have not posed any specific questions in this report. Instead we invite stakeholders to express a view on any particular aspect of our draft determination.
- 7.2 If you wish to submit a written response this should be received no later than noon on the 16 December 2020 and should be addressed to:

Paul Stewart Network Assets Manager Utility Regulator Queen's House 14 Queen Street BELFAST BT1 6ER Tel: 028 9031 1575 email: <u>Paul.Stewart@uregni.gov.uk</u> and UREGNI_Water_Responses@uregni.gov.uk

- 7.3 We would prefer that responses were submitted by e-mail.
- 7.4 We plan to publish submissions received in response to the consultation and to provide a public summary of the responses received. If you do not wish your response or name made public, please state this clearly by marking the response as confidential. Any confidentiality disclaimer that is automatically produced by an organisation's IT system or is included as a general statement in your fax or coversheet will be taken to apply only to information in your response for which confidentiality has been specifically requested. Individual respondents may ask for their responses not to be published in whole or in part, or that their identity should be withheld from public disclosure. Where either of these is the case, we will ask respondents to also supply us with the redacted version of the response that can be published.
- 7.5 As a public body and non-ministerial Government department, we are bound by the Freedom of Information Act (FOIA) which came into full force and effect on 1 January 2005. According to the remit of FOIA, it is possible that certain recorded information contained in responses can be put into the public domain. Hence, it is now possible that all responses made will be discoverable under FOIA – even if respondents ask the Utility Regulator to treat responses as confidential. It is therefore important that respondents

note these developments and in particular, when marking responses as confidential or asking the Utility Regulator to treat responses as confidential, should specify why they consider the information in question to be confidential.

7.6 In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential in relation to the Freedom of Information Act. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances.

Next steps

7.7 The key milestones for the completion of PC21 are set out in Table 7.1. Revised tariffs for the first year of PC21 will take effect from the 1 April 2021.

Key milestone	Date
UR publishes Draft Determination for consultation	30 September 2020
Close of consultation on the Draft Determination	16 December 2020
UR publishes Final Determination	16 March 2021
First year of PC21 Charges Scheme applies	1 April 2021
Opportunity for NI Water to appeal the PC21 Final Determination closes	11 May 2021
NI Water publishes PC21 Monitoring Plan	16 May 2021

Table 7.1: Key milestones for the completion of PC21 finaldetermination.