



Water & Sewerage Services Price Control 2021-27

PC21 Final Determination – Main Report
May 2021



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.



Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.



Our vision

To ensure value and sustainability in energy and water.



Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.



Abstract

This document sets out the Utility Regulator's final determination of outputs and tariffs for NI Water during the six-year period from April 2021 to March 2027. We have determined efficient levels of operational and capital expenditure and the costs of financing this expenditure. This will require revenue of £2.7bn over the PC21 period. A key objective of the Price Control is to address the capacity of the sewerage network and treatment works that 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 a balanced contribution towards the repayment of this investment.

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 that underpins the economy and wellbeing of our society. New consumer measures and the implementation of a programme of consumer best practice will underpin improved consumer service. PC21 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 2.0% plus RPI. The weighted average price limit (K factor) are zero for years 2 to 6 of PC21 in real terms relative to RPI. This average price limit means that prices will rise in real terms for some groups of consumers and fall for others.



Contents

1.	Introduction	5
	Introduction.....	5
	Our role and duties	5
	Social and Environmental Guidance.....	5
	NI Water’s governance arrangements	5
	Our Approach to PC21	6
	Key themes and areas of focus	8
	Covid19 and EU Exit impacts	14
	Outline of the document.....	14
2.	Price Limits.....	15
	Introduction.....	15
	Building Blocks of Revenue	15
	Regulatory Capital Value	15
	Allowed rate of return	16
	Allowed Revenue.....	17
	Financial sustainability.....	18
	Price limits and charges	19
	Average notional household charges	21
	Typical business customer charges for water and sewerage	22
	The infrastructure charge.....	24
	Working alongside a Public Expenditure (PE) regime	24
3.	Outputs and Outcomes	26
	Introduction.....	26
	Definition of outputs.....	26
	Summary of PC21 Outputs.....	30
	Delivery of nominated outputs	33
	Consumer views and Customer Service Measures	34
	Overall performance assessment.....	43
	Development Objectives.....	45
	Best Practice consumer protection interventions for network companies and suppliers in NI.....	45
	Best Practice and Customer Care Register provision.....	46
	Development outputs.....	47
	Maintaining serviceability.....	49
	Delivery of the PC21 Social & Environmental Guidance	50
	Summary of key benefits to be delivered in PC21	50



4.	Capital Investment and Efficiency	52
	Introduction.....	52
	PC15 Out-turn	54
	Capital inflation	55
	Capital maintenance investment.....	55
	Assessment of the capital investment programme	57
	Confirming the scope of the capital programme	58
	Capital efficiency	59
	Capital expenditure profile	60
	Capital expenditure budget.....	61
5.	Operational Costs and Efficiency	63
	Background	63
	Scope for operating cost efficiency	63
	Establish NI Water's baseline opex	64
	Adjustment(s) to base costs	65
	Opex from Capex	69
	Pensions.....	69
	Transformation costs	76
	Relative efficiency gap.....	77
	Cost Assessment Working Group (CAWG) at PC21	78
	Current gap.....	79
	Final determination	80
	Special factors	82
	Frontier shift.....	85
	Public private partnerships / private finance initiative	88
	Review of NI Water proposals	91
	Overall efficiency challenge at PC21	92
6.	Monitoring Delivery & Managing Change	98
	Introduction.....	98
	Background	98
	Monitoring Plan.....	99
	Memorandum of Understanding and Consequent Written Agreement	99
	Change Control	100
	Annual Information Return and Annual Cost and Performance Report	100
	CM/SAT Working Group monitoring and review	100
	Quarterly Capital Investment Monitoring Returns	101
	Serviceability Assessments	102
	Output Monitoring	102
	Scheme of Charges.....	102



Regulatory Accounting Information.....	102
Mid-term review	102

7. Conclusions and Next Steps.....106

Annexes

Annex A	Financing Investment
Annex B	Sources of Revenue
Annex C	Memorandum of Understanding
Annex D	Consequent Written Agreement
Annex E	Outputs
Annex F	Asset Serviceability
Annex G	Nominated Outputs List
Annex H	PC15 Out-turn Report
Annex I	Capital Investment
Annex J	Regional Price Adjustments PC21 (CEPA)
Annex K	Opex and Capex Frontier Shift
Annex L	PC21 Efficiency Modelling (CEPA)
Annex M	Change Control Protocol
Annex N	Financial Model
Annex O	Cost of Capital (First Economics)
Annex P	Pension Report by the Government Actuary Department (GAD)
Annex Q	Cost efficiency of NI Water's IT spend estimates (CEPA) – (Confidential)
Annex R	Consultation Responses
Annex S	Additional opex assessment reservoir inspections (CEPA) – (Confidential)
Annex T	Development Objectives



Executive Summary

The PC21 price control determines NI Water's price limits and outputs for the six-year period from April 2021 to March 2027. The price control protects the interest of Northern Ireland consumers by challenging NI Water to deliver high quality, value for money water and sewerage services.

Much of NI Water's business plan and the PC21 price control reflects the on-going operation and maintenance of water and sewerage systems. However, three strategic issues focussed on within this price control will define the development of water and sewerage services over the medium to longer term. These are:

- **Development constraints.** During PC21, NI Water will only begin to address the current development constraints and lack of capacity in sewerage networks and wastewater treatment works. Additional investment will be required in future price controls to deal with further development constraints and future needs. This presents a wider challenge on how economic development can be supported while the necessary investment is delivered.
- **Increasing capital investment.** NI Water plans to deliver outputs requiring investment of £2.08bn in nominal terms, an increase of 87% in real terms compared to the previous price control, PC15. This will place further pressure on public expenditure budgets. However, without this investment, NI Water will continue to breach statutory environmental obligations and will fail to alleviate development constraints. The increase in investment allowed over this six-year price control will need to be matched by a corresponding funding commitment to ensure all the benefits are fully realised.
- **Long-term tariff stability.** To ensure greater stability in tariffs over the medium term, taking account of long-term capital investment needs, we have set an overall price limit of zero (excluding inflation) for the remaining years of this price control period. We will continue to engage with both NI Water and the Department for Infrastructure (DfI) on long-term sustainable funding for NI Water.

Summary of key facts from the price control

Operational expenditure

Between PC15, the previous price control, and now, NI Water has reduced their efficiency gap with similar companies in England and Wales from 22% to 6%. PC21 requires NI Water to close the remaining efficiency gap to similar companies in England and Wales by the end of 2025-26. Operational efficiency improvements in PC21 will save consumers £62m over the price control period.



Figure 1 shows the profile of operational costs since our first price control, PC10. Additional increases at the start of PC21 (such as increased business rates) means NI Water’s costs will rise in the first year of PC21, before levelling out due to efficiency improvements over the price control period.

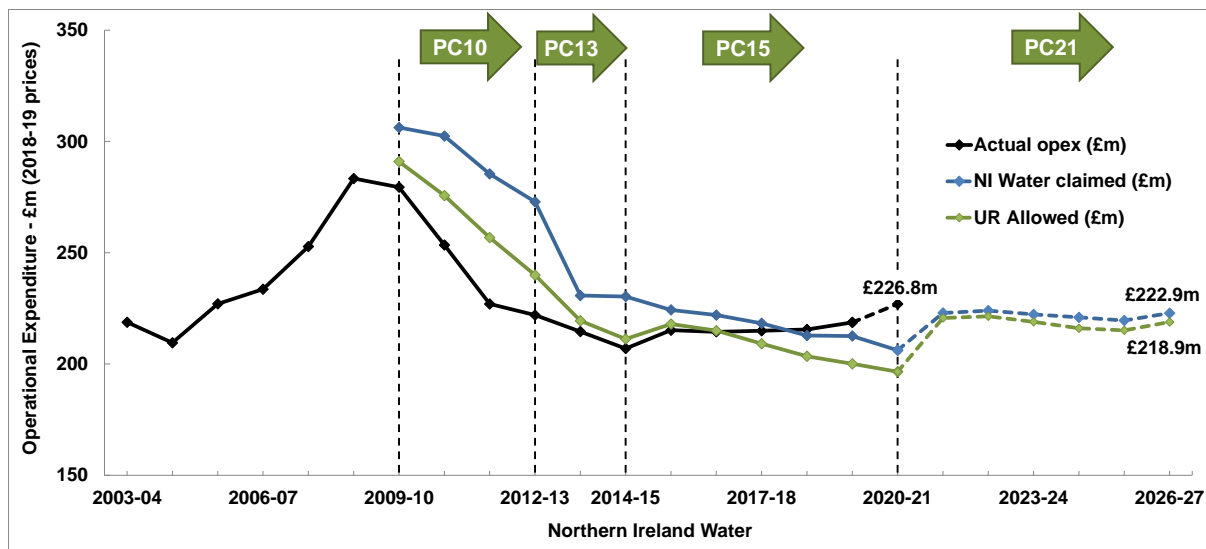


Figure 1: Actual and determined expenditure for PC10 to PC21.

Capital expenditure

This price control includes capital investment of £2,086m in nominal terms (£1,820m in 2018-19 prices). This includes investment of £529m (in nominal terms) of as part of the Living with Water Programme. Our determination for capital expenditure is 5.5% lower than the company’s updated proposals for PC21.

Over the PC21 price control period, £816m (45%) of capital investment (in nominal terms) will be required to maintain the existing assets and the service NI Water currently delivers. The remainder will enhance capacity and service including addressing development constraints.

Development work will also be necessary to confirm efficient costs for investment for parts of the capital programme at the PC21 Mid-term Review.

Revenue and bills

We have determined a cost of capital of 2.0% (average) over PC21. This is lower than the company’s business plan and will save consumers £135m in revenue (nominal).

The increase in capital investment in PC21 is financed through debt and equity that 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 £128m in PC21.



Final determined revenue for PC21 of £2.7bn is £0.1bn lower than the company’s business plan and our draft determination mainly due to lower inflation forecasts. The overall weighted average price limits (K factors) are zero in real terms relative to RPI, apart from 2021-22 in which tariffs were approved prior to the this Final Determination. The impact on typical water and sewerage bills is shown below.

Table 1: Impact on typical consumer bills (£ in 2020-21 prices).

	Actual 2020-21	Average bill over PC21	Change from 2020-21
Average notional household	421	416	-5
Typical unmetered	298	293	-5
Typical small metered	397	378	-19
Typical large metered	3647	3476	-171

Key benefits

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 save consumers £135m.
- **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 and Wales at today’s level.
- **Improved service:** Existing performance measures for pressure, interruptions to supply, flooding risk and pollution incidents will improve. New consumer service measures and targets will drive incremental and continuous improvement, with an increased focus on vulnerable consumers.
- **Consumer Protection Programme (CPP):** Our determination recognises that vulnerable domestic consumers require additional support through bespoke regulatory and company interventions. This includes activities such as vulnerable consumer identification, assistance, staff training, Customer Care Register delivery and monitoring and reporting. It will extend into senior management leadership and company ethos around consumer vulnerability issues.

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



Table 2: Key outputs delivered in PC21

- Investment of £816m in nominal terms 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, properties with low pressure, interruptions to supply and pollution incidents.
- Improving consumer service driven by new consumer measures focusing on vulnerable consumers / Customer Care Register. New headline targets for Net Promoter Score, rate of first point of contact resolution (customers who contact NI Water) and number of unwanted calls.
- Improving consumer protection through the delivery of the CPP best practice framework. Improvement in vulnerable consumer identification, assistance, staff training, Customer Care Register delivery (including volume, reach, awareness and promotion), and monitoring and reporting.
- Achievement of the sustainable economic level of leakage by the end of PC21.
- Investment in 19 schemes at 17 water treatment works to maintain and improve water quality.
- Construction of 14 water trunk-main schemes to and improve the resilience of supply in areas severely affected by major incidents in the past.
- Delivery of 4 new water storage tanks to balance flows in the network and improve resilience in the event of pipe burst or work outage.
- Replacement or renovation of 838 km of water mains to address interruptions to supply, low pressure and water quality. Replacement or renovation of 61 km of sewers that are collapsing or cause frequent blockage.
- Investment to enhance 45 wastewater treatment works serving a population equivalent greater than 250 and 36 small wastewater treatment works achieve environmental discharge standards and accommodate development.
- Investment to improve the quality of 136 intermittent discharges to comply with environmental standards and accommodate development.
- The improvements above will address 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 and in response to sample failures.
- Measures to improve sustainability and reduce the impact on climate change including: sustainable catchment management (SCAMP) 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 (UR’s) final determination for the PC21 Price Control for NI Water covering the six-year period from April 2021 to March 2027. It describes our assessment and challenge of NI Water’s business plans and includes price limits and outputs for the PC21 period.

Our role and duties

- 1.2 UR’s 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.
- 1.3 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

- 1.4 When carrying out our duties we have regard to Social and Environmental Guidance (SEG) 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 the guidance published for the PC15 price control that 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 final determination has taken account of the guidance issued.

NI Water’s governance arrangements

- 1.5 NI Water is a government-owned company. The NI Executive’s policy is that domestic consumers do not pay directly for their water sewerage services.

Instead, the Executive provide a subsidy to NI Water in lieu of domestic charges. As a result, NI Water is reliant on government funding for the majority of its revenues and it is classified as a non-departmental public body subject to the rules that govern public expenditure. This creates a hybrid arrangement that adds complexity to NI Water governance.

- 1.6 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 are essential components of any good governance model.
- 1.7 We have challenged 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 improved services. The establishment of medium to long-term budgets for the company would have a positive impact on company performance and decision-making.

Our Approach to PC21

- 1.8 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.
- 1.9 We consulted the Principal Stakeholders for the water sector, the Consumer Council for Northern Ireland (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.
- 1.10 PC21 has developed in four phases, broadly in line with the approach we set out:
- **Phase 1 – Our approach to PC21.** We carried out preliminary engagement with key stakeholders and published our Overall Approach to PC21 in June 2018;
 - **Phase 2 – Developing the building blocks for the PC21 Business Plan.** We developed our approach to PC21 in detail and published information requirements in May 2018. Surveys and deliberative research were carried out to understand consumers' preferences for improvements in service and priorities for investment. DfI provided initial planning assumptions and stakeholders worked together to prioritise investment. NI Water developed an outline capital

submission in June 2019 that allowed the Principal Stakeholders to understand the 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 and this is our final determination of price limits and outputs.

1.11 Unfortunately, our work on the PC21 draft determination was delayed by the outbreak of COVID19 in March 2020 and this has had a knock on impact on the publication date of the final determination.

1.12 We have continued to work closely with the Principal Stakeholders (CCNI, DfI, DWI, NIEA and NI Water) throughout the development of PC21. An established structure of formal working groups, shown on Figure 1.1, provided a framework for this engagement, with much of the detailed work undertaken in individual working groups and Output Review Group (ORG).

1.13 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.

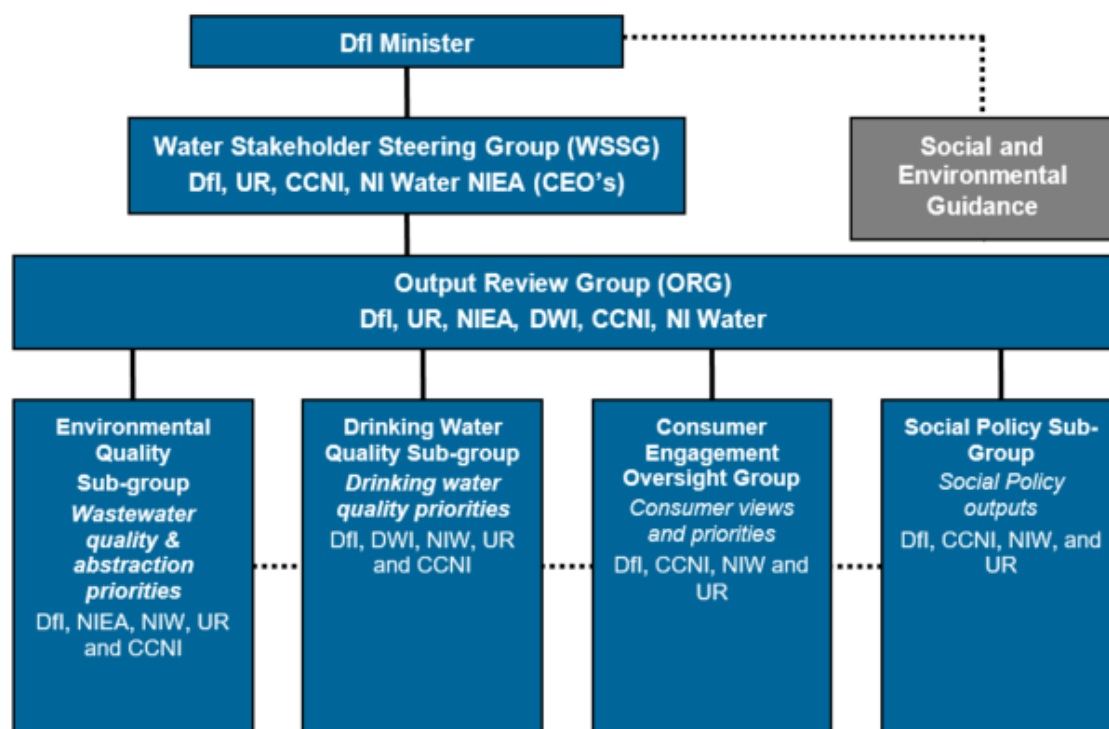


Figure 1.1: PC21 working group structure.

Key themes and areas of focus

1.14 Our plan for PC21 is to build on previous price controls and embed a cycle of long term planning to address three themes:

- Valuing consumers.
- Safeguarding the future.
- Owning delivery.

1.15 We have summarised how the company's business plan and our final determination have addressed these themes below.

Valuing consumers

1.16 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.

1.17 NI Water developed and led consumer engagement for PC21 in conjunction with CCNI, DfI and 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). Through the work of Consumer Measures and Satisfaction Working Group (CM/SAT) the company has introduced new consumer measures and targets based on first point of contact resolution, reduction in unwanted calls and Net Promoter Score (NPS) otherwise referred to by NI Water as the 'Voice of the Customer' (VoC).

- 1.18 These measures are not an end in themselves. The collection and analysis of data from continuous engagement with consumers should be the driver for incremental improvements 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 that will demonstrate how investment is addressing capacity constraints to allow development to take place without compromising environmental quality.
- 1.20 The Consumer Protection Programme (CPP) is the principal vehicle for UR to ensure that vulnerable domestic electricity, gas, and water consumers in Northern Ireland are protected. Contained within the CPP is the 'best practice framework' project which will focus on establishing best practice measures which regulated companies in Northern Ireland should have in place to identify, assist and protect consumers in vulnerable circumstances. This is a flagship CPP project and is key to updating vulnerable consumer protection in the Northern Ireland utility sector. The implementation of this project will result in practical interventions to address some of the domestic consumer difficulties brought about through vulnerability.
- 1.21 UR's best practice project is due to go out for public consultation in late summer 2021 and will set out a range of mandatory consumer protection interventions for all network companies and suppliers, across electricity, gas, and water to comply with.
- 1.22 Irrespective of the PC21 obligations set out in the final determination, the outcomes of the best practice project and wider CPP activity will need to be met in this price control period.
- 1.23 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 to 6% 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.

- 1.24 The company developed a new structured costing system that 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. Through this work, we identified a reduction in estimated capital expenditure of 5.5%.

Safeguard the Future

- 1.25 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.
- 1.26 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 that 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 confirmed that much of the detailed study and design work necessary to define efficient solutions for its larger wastewater schemes is not yet complete. The company has identified a programme of work to develop these solutions and we will determine efficient costs when this work is done. In the meantime, or final determination includes an allowance of £644 for this work based on the company's latest estimates. This ensures that price limits and capital budgets make provision for the necessary work while efficient solutions are finalised.
- 1.27 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.

- 1.28 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 could take £3.3 billion 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 £2.26bn of investment in PC21 in nominal terms. 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 below.
- 1.29 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.
- 1.30 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 fully 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

- 1.31 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.

- 1.32 As noted above, NI Water developed and led consumer engagement in conjunction with the Principal Stakeholders that underpinned its Business Plan for PC21 and the development of new consumer measures. We welcome the on-going move from periodic surveys of consumer, to a continuous response to issues identified through the analysis of day-to-day consumer contacts and customer feedback.
- 1.33 In its business plan submission for the last price control, PC15, NI Water identified the need for further investment to improve the capacity of wastewater services to address development constraints. Throughout 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 PC21 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

- 1.34 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.
- 1.35 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 that results in unsatisfactory intermitted discharges from over-flows and treatment work that 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 the environmental standards that are determined by NIEA in line with its statutory duties.
- 1.36 The SEG 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.
- 1.37 In previous SEG's, planning assumptions were provided for a capital investment budget. This was used to identify outputs that could be delivered while accepting that this might be less than what was necessary. For PC21 the SEG 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 that meets established needs and is affordable from a tariff perspective.
- 1.38 In an outline capital submission the company estimated that it would cost £3.3bn 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 £2.26bn in nominal terms 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 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) that 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 tariffs remain constant. Within this approach, some categories of consumers see prices rise and other will see prices fall.
- 1.39 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 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 NI Water completes this work.
- 1.40 Our final determination is based on the outputs that 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 submitted 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 provided by the Department for Infrastructure. For future price controls, it may be necessary to have

separate grant funding for parts of the LWWP if tariffs are not to rise in real terms in the future.

- 1.41 This final 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 all those costs to future generations.

Covid19 and EU Exit impacts

- 1.42 NI Water submitted its PC21 business plan in January 2019 before the start of the COVID19 pandemic and the finalisation of EU Exit. Our determination has taken account of NI Water's estimates of the impact this is having on future demand and new connections. However, our determination does not make any allowance for potential increases on costs from COVID or EU Exit such as those experienced by NI Water in 2020-21. Any future impact on costs is a matter for consideration through the mechanisms set out in the Consequent Written Agreement included as Annex D.

Outline of the document

- 1.43 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 final determination for PC21:

Section 2: Price Limits

Section 3: Outputs and Outcomes

Section 4: Capital Investment and Efficiency

Section 5: Operational Costs and Efficiency

Section 6: Monitoring Delivery & Managing Change

Section 7: Conclusions and Next Steps

- 1.44 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 The price limits we have determined for NI Water cover the six-year 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

Regulatory Capital Value

- 2.2 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.
- 2.3 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.
- 2.4 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)	2,611.2	2,748.4	2,903.8	3,127.8	3,465.7	3,826.4
Indexation	67.0	57.7	71.3	89.0	102.8	114.8
Opening RCV	2,678.3	2,806.1	2,975.0	3,216.8	3568.4	3941.2
Capital expenditure	183.2	255.7	333.6	444.8	456.4	412.5
Grants and contributions	-13.2	-13.3	-13.3	-13.7	-14.0	-14.4
Depreciation	-73.9	-100.6	-118.4	-135.1	-135.7	-124.0
Infrastructure renewals charge	-25.3	-43.5	-48.4	-46.4	-48.1	-45.0
Disposal of Assets	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8
Closing RCV	2,748.4	2,903.8	3,127.8	3,465.7	3,826.4	4,169.5
Note: Figures may not add up due to rounding.						

Table 2.1 – Calculation of RCV (£m).

Allowed rate of return

- 2.5 In setting price limits, we also need to consider the appropriate rate of return that NI Water should earn on its RCV.
- 2.6 We asked our advisers First Economics to recommend an appropriate rate of return for PC21. This has been updated since the draft determination and we have accepted and used it within this final determination. First Economics report is included as Annex O.
- 2.7 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.
- 2.8 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	2.94%	2.94%	2.94%	2.94%	2.94%	2.94%
Cost of debt	1.47%	1.80%	1.25%	0.80%	0.48%	0.39%
Vanilla WACC	2.21%	2.37%	2.10%	1.87%	1.71%	1.67%

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

- 3.1 The proposed return of 2.21% declining to 1.67% compares to a rate of return of 3.53% used by the Utility Regulator in PC15. The circa 130-185 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 R_m and a lower beta
- 3.2 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 and we have used a more up-to-date forecast of inflation. Our estimate of the cost of equity is significantly lower than NI Water’s calculation, but aligns to the CMA’s determination in its PR19 inquiry.

Allowed Revenue

- 2.9 Together with the other parts of the building block discussed in depth throughout this determination, we have calculated an allowed revenue requirement of £2717.2m. This delivers a reduction of £100.3m, when compared with NI Water’s business plan submission.
- 2.10 The way we have calculated the overall revenue requirement compared with NI Water’s PC21 Business Plan is shown below in Table 2.3.
- 2.11 Significant savings have been made in the amount allowed for return and operating costs. These have been offset by an increased allowance for depreciation. Updated RPI forecasts are also reflected in the final determination numbers.

	NI Water's corrected PC21 Business Plan	Our PC21 final determination
Allowed for return	511.3	376.6
Depreciation incl IRC	817.4	944.3
Operational expenditure	1201.1	1137.1
PPP costs	324.8	323.3
Taxation	19.2	6.4
Pension finance	8.6	0.0
Revenue requirement	2882.5	2787.6
PC15 over recovery	-68.1	-68.2
Revenue before smoothing	2814.4	2719.4
Smoothing Adjustment	3.1	2.3
Overall revenue (smoothed)	2817.5	2717.2
Note: Figures may not add up due to rounding.		

Table 2.3 – Revenue requirement for PC21 (nominal).

- 2.12 The level of depreciation included in the allowed revenue exceeds the determined level of capital maintenance investment by £128m. 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

- 2.13 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.
- 2.14 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.

2.15 In Table 2.4 we set our calculation of each ratio considered based on this based on this final determination.

Financial Ratio	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
FFO Interest Cover	3.1	3.2	3.3	3.5	3.5	3.5
PMICR	1.5	1.0	0.8	0.8	0.9	1.1
FFO / Net Debt	9.8%	10.1%	10.1%	10.1%	9.8%	9.3%
Gearing	49.9%	49.9%	49.9%	49.9%	49.9%	49.9%
Gearing adjusted for PPP	56.3%	55.6%	54.9%	54.1%	53.3%	52.6%

Table 2.4 - Financial performance 2021-27.

2.16 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.

2.17 Excluding the PC15 over recovery that is being returned to customers in PC21 also improves the position further.

2.18 We will continue to monitor any changes to the governance framework and associated implications for financeability in advance of PC27.

Price limits and charges

2.19 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.

2.20 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 final determination are set out in Table 2.5, 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	1.7%	0.9%	0.9%	0.9%	0.9%	0.9%
Unmeasured sewerage service	-1.7%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Measured water supply	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%
Measured sewerage services	-1.7%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
Trade effluent	-1.7%	1.5%	1.5%	1.5%	1.5%	1.5%
Overall K factor	-1.7%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2.5 – K Factors by Tariff Basket.

- 2.21 We have smoothed the K factors across the final five years of PC21. This follows the approval of 2021/22 tariffs in advance of the final determination. Smoothing tariffs means that NI Water receive the same net present value (NPV) in revenue terms but revenue can be added or deducted in any individual year to achieve consistent K factors across the PC21 period.
- 2.22 K factors can also be viewed on a revenue group basis as shown in Table 2.6.

Revenue Group	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Domestic unmeasured water	-1.7%	1.0%	0.9%	0.9%	0.9%	0.9%
Domestic unmeasured sewerage	-1.7%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Non-domestic measured water	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%	-1.8%
Non-domestic measured sewerage	-1.7%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
Non-domestic unmeasured water	-1.5%	0.2%	-0.3%	-0.2%	-0.1%	0.0%
Non-domestic unmeasured sewerage	-1.5%	0.2%	-0.3%	-0.2%	-0.1%	0.0%
Trade effluent	-1.7%	1.5%	1.5%	1.5%	1.5%	1.5%
Overall K factor	-1.7%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2.6 – K factors by Revenue Group.

- 2.23 In the draft determination, we noted that non-domestic unmeasured customers would see prices changes well above the impact of other revenue groups and an option existed to limit the charges, which would have a very insignificant impact on other customer groups. We have taken this option for final determination and have limited increases in tariff unit rates to inflation for non-domestic unmeasured customer groups. The K factors above are an outworking of this assumption. We intend to work closely with NI Water and CCNI during PC21 to ensure these customers bills are based more closely on usage rather than property size and/or location.

Average notional household charges

- 2.24 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 2.7 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 final determination	421	414	415	415	416	416	417

Table 2.7 - Average notional household charge.

- 2.25 The average notional household charge is forecast to be slightly lower than the NI Water business plan at the start of PC21 period and then converges towards the end of period.
- 2.26 Our final determination includes the impact of some key differences on assumptions such as the impact of COVID-19 on demand and revenue allocation. In the case of domestic customers, this includes higher consumption and a higher share of revenue compared to the business plan with business demand reduced during the pandemic. This is set out in more detail within Annex B – Sources of Revenue.
- 2.27 RPI assumptions also vary between the NI Water Business Plan and the final determination reflecting lower actual and forecast figures since the plan was submitted. Actual RPI will be used in approving charges on an annual basis as the PC21 period progresses.

Typical business customer charges for water and sewerage

- 2.28 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 individual 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 final determination	397	390	385	380	375	371	366
<p>Figures may not add due to rounding.</p> <p>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.</p> <p>Calculated based on assumed usage of 285m³ a year and assuming a customer supply pipe size diameter of <20mm.</p> <p>Based on 95% return to sewer.</p>							

Table 2.8 - 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 final determination	3,647	3,584	3,540	3,496	3,454	3,412	3,371
<p>Figures may not add due to rounding.</p> <p>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.</p> <p>Calculated based on assumed usage of 1,306m³ a year and assuming a customer supply pipe size diameter of over 25 up to 40mm.</p> <p>Based on 95% return to sewer.</p>							

Table 2.9 - Typical large metered business bill.

- 2.29 Typical metered business bills are lower than the NI Water business plan and this reflects both the impact of COVID-19 assumptions and the lower inflation forecasts as stated above.

	Typical bill (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 final determination	298	293	293	293	293	293	293
Figures may not add due to rounding. Represents combined bill for water and sewerage services after deduction of subsidy element (currently corresponding to 50% of unmetered water and sewerage services) Based on an annual Net Annual Value of £8,000.							

Table 2.10 - Typical unmetered business bill.

- 2.30 Our adjustment to price K factors for this category of customer has the impact of flattening charges in real terms across the PC21 period. An important action arising from this approach will be to work closely with NI Water and CCNI during PC21 to ensure these customers bills are based more closely on usage rather than property size and/or location.

The infrastructure charge

- 2.31 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 an infrastructure charge limit of £353 for 2021-22 (2021-22 prices).

Working alongside a Public Expenditure (PE) regime

- 2.32 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 (now DfI) 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.
- 2.33 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 DfI and 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.

- 2.34 We updated the CWA as part of PC13 and PC15 and are continuing to work with Dfl to update it again for PC21. At this stage it has simply been updated with PE figures consistent with the final determination. The latest draft of the CWA can be found in annex D.
- 2.35 We will continue to work with officials from Dfl 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 out 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);
- 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; and
- Whether the company proactively provides a high quality service to those consumers requiring extra support, reflecting a customer-focused company ethos.

3.3 In practice, a water and sewerage company will deliver a series of outputs that 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. It also includes the level of consumer satisfaction with the service the company provides. 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 actual performance for 2019-20 as submitted in the company's annual information return to show how the outputs planned for PC21 compare with performance in 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 that 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 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 that 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 this type of measure 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 or above 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 a summary is included in this report beginning at paragraph 3.86. 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 scores. Further details of our approach and proposed 'semi-retirement' of OPA in PC21 are provided below beginning at paragraph 3.64.
- 3.12 For PC15 we identified that many of the targets included in our monitoring plan tables did not adequately reflect the things that 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 to the Consumer Engagement Oversight Group (CEOG). This work is described in further detail below beginning at paragraph 3.27;

- Additional output measures have been included in Table 3.1 and Table 3.2 to provide activity measures that 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 3.82).

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	2025-26	2026-27
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	0.091	0.087	0.084	0.080	0.077	0.073
4	DG3 Supply interruptions (overall performance score)	nr	0.79	0.81	0.79	0.77	0.75	0.72	0.70
5	DG6 % billing contacts dealt with within 5 working days	%	99.97	Not targeted BUT subject to CM/SAT monitoring and review					
6	DG7 % written complaints dealt with within 10 working days	%	99.95	Not targeted BUT subject to CM/SAT monitoring and review					
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	67,000	66,100	65,200	64,300	63,400	62,500
8d	First Point of Contact Resolved (FPOCR)	%	90	84	84	84	84	84	84
8e	Net Promoter Score	nr	42	42	42	42	42	42	42
9	DG9 % Calls not abandoned	%	99.5	Not targeted BUT subject to CM/SAT monitoring and review					
10	DG9 % calls not receiving the engaged tone	%	100.0	Not targeted BUT subject to CM/SAT monitoring and review					
11	Overall Performance Assessment (OPA) score (11 Measures)	nr	246	Not targeted BUT subject to CM/SAT monitoring and review					
12	Total Leakage	ML/d	161	157	156	154	153	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
B 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
C Water Outputs									
18	Water mains activity - Length of new, renewed or relined mains	km	149	139.7	139.7	139.7	139.7	139.7	139.7
19	Completion of nominated trunk main schemes	nr	0	0	2	1	5	2	4
20	Completion of nominated water treatment works schemes	nr	1	1	0	6	4	1	7
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tank	nr	1	1	0	0	0	3	0
D Serviceability									
22	Water infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
23	Water non-infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
E PC15 Additional Output Measures									
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									
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 (subject to Mid-Term Review).

Line description		Units	PC15	PC21					
			2019-20	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
A Consumer Service Sewerage									
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	0	0	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
B Quality Sewerage									
3	% of WwTWs discharges compliant with numeric consents	%	94.90	92.05	91.63	92.33	93.26	93.72	94.14
4	% of total p.e. served by WwTWs compliant with numeric consents	%	99.50	99.18	94.65	94.65	95.71	95.72	95.77
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
C 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	7	21	21	13	25	49
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	2	0	5	16	3	7	14
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									
13	Number of CSO and EO discharges at which event and duration monitoring equipment is installed/fully optimised, and meet NIEA requirements	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 \geq 250 delivered as part of the defined programme of work for improvements to nominated WWTWs	nr	0	0	0	0	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
19	Number of Serious Development Restrictions Removed	nr	n/c	4	0	0	8	9	16

Table 3.2: Sewerage service outputs for PC21 (subject to Mid-Term Review).

3.15 We have calculated performance ranges for the following measures in Table 3.1 and Table 3.2 due the potential variability of performance for the measure.

- DG3 Supply Interruptions >12hrs
- DG3 Overall Performance Score.
- Water quality compliance: Overall, Customers tap and Iron.
- Wastewater treatment compliance - % Works.
- Wastewater treatment compliance - % PE excluding UT.

3.16 In the final determination, we have tightened the 'DG3 Overall Performance Score' target slightly by reducing the standard error multiplier used to

determine the minimum level of performance in our range. This change was made following consideration of provisional outturn performance figures for 2020-21, which have again improved. It also recognises the need to maintain a focus on limiting longer duration interruptions, which form part of this measure, as well as the potential for the company's interruption to supply strategy to deliver some benefits in PC21.

- 3.17 In the draft determination, we adopted NI Water's business plan targets for interruptions to supply greater than 12hrs. However, based on a further review of these targets, we have concluded that they are not appropriate as they lie significantly above the historic performance trend. In addition, any improvement delivered through the company's interruption to supply strategy would accentuate this issue. For the final determination we have therefore applied the same approach used for the 'DG3 Overall Performance Score' and calculated a performance range based on past performance. We have set the final determination targets at the minimum level of performance identified by our range, in line with the approach adopted for the overall performance score.
- 3.18 We have continued to use NI Water's targets for water quality compliance measures as they lie towards the middle of our assessed range of operational performance. In their responses to the draft determination, some stakeholders expressed concerns that these targets were not challenging enough considering recent performance. Therefore, we updated our analysis for the final determination to include compliance data for 2019 to see if this had any effect, but the outcome was the same. We therefore decided not to strengthen these targets in the short term. This is because our assessment suggests that some of the recent improvements may be the result of the natural statistical variation that occurs within the random sampling regime. We will however continue to monitor performance through our annual information return and will consider whether these compliance targets should be strengthened at the PC21 mid-term review if recent improvements are found to be sustained.
- 3.19 We also updated our assessments for wastewater treatment compliance measures (percentage works and percentage population equivalent) for the final determination. We updated both to include 2019 compliance data and to take account of the revised delivery profile submitted by the company in its draft determination response. We also adjusted the percentage population equivalent analysis to account for revised population figures which NIEA and NI Water have agreed and which NIEA has confirmed will be used for compliance monitoring from 2021 onwards.
- 3.20 In its draft determination response, the company asked us to lower the targets for the percentage works compliance measure as a consequence of

the outcome of an unannounced sampling pilot it had undertaken at some of its works. We have not done so as NIEA has confirmed that the approach to compliance monitoring at these works will remain unchanged during PC21. We have therefore continued to set the target at the minimum level of performance of our predicted operating range, as NI Water's proposed targets lie below this level.

- 3.21 For wastewater percentage population equivalent compliance, we have accepted the revised targets proposed by the company in its draft determination response. This is because the company's proposed targets lie above the bottom of our predicted operating range.
- 3.22 Specific details of how we have established performance ranges for these measures can be found in Annex E. We consider all of the targets above to be the minimum level of performance that the company should achieve in PC21. In general we would expect performance to vary within the range around our central estimate during PC21.

Delivery of nominated outputs

- 3.23 Table 3.1 and Table 3.2 summarise the annual targets for the delivery of nominated outputs during PC21, with further information on the outputs the company plans to deliver provided in Annex E. The nominated output delivery profiles have been updated in the final determination to reflect those submitted by NI Water in its draft determination response.
- 3.24 In part, the revised profiles reflect NI Water's efforts to address Utility Regulator and Quality Regulator concerns that the majority of delivery was occurring towards the end of the price control period. This was particularly evident for water treatment works, wastewater treatment works and unsatisfactory intermittent discharges. In our draft determination, we had highlighted the associated impact that this would have for the delivery of compliance with regulatory standards and consents and the associated benefits to consumers and the environment. We had therefore asked NI Water to consider whether any investment could be forward in the programme, particular for priority sites.
- 3.25 The revised profiles also take account of concerns we expressed in the draft determination over the company's ability to deliver a significant increase in investment at the start of PC21. We had asked NI Water to review its profile to confirm that it was realistic in light of the current status of scheme development and procurement. Having done so the company has agreed that the previous profile was not deliverable and has made some changes as a result.

- 3.26 The nominated outputs submitted for PC21 take account of progress in PC15 and include for the delivery of PC15 nominated outputs that 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 that have been delayed.

Consumer views and Customer Service Measures

Consumer Engagement Oversight Group

- 3.27 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 DfI representation, helping to augment both Ipsos-MORI's approach to and the CEOG's interpretation of PC21 consumer research findings.
- 3.28 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.
- 3.29 Overall, the consumer engagement workstream at PC21 has been beneficial to all parties and should enable improved delivery of services to the consumer.
- 3.30 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.
- 3.31 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.
- 3.32 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).

3.33 From more recent evidence presented the CEOG by Ipsos-MORI, there was limited to weak evidence recent company campaigns had changed behaviours.

3.34 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)

3.35 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.

3.36 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.

3.37 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.

3.38 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.

- 3.39 Whilst we accepted these new targets at draft determination, a robust consultation response from CCNI has convinced us of the need to reflect recent good performance by NI Water in the setting of PC21 targets. Accordingly we have raised the initial PC21 targets for these new consumer metrics and we continue to reserve the right to both challenge, refine and set different targets and/or new consumer KPIs at Mid-Term Review.
- 3.40 Further, SEG set various objectives for the water sector as regards consumer awareness of the company’s Customer Care Register that facilitates additional support to those consumers requiring extra support. The PC21 SEG aim on consumer vulnerability (SEG WSS 3C) contains four main aspects – review and update the support provided to registered consumers; achieve and sustain an appropriate number of consumer registrations on the Customer Care Register; set a target for consumer awareness of the support available; and the measurement of satisfaction of consumers receiving support
- 3.41 CCNI also made a number of very pertinent suggestions regarding other aspects of NI Water’s delivery of service during Major Incidents, so we have adopted their suggestion that NI Water conduct consumer research directed at vulnerable consumers, post-incident. This ought to deliver further actionable data for NI Water to consider and incorporate into improved service offerings in future.
- 3.42 CCNI specifically suggested NI Water seeks accreditation using BS 18477: 2010 ‘Inclusive service provision – Requirements for identifying and responding to consumer vulnerability’ and become a Jam Card or ‘Just a Minute’ registered company. We support CCNI’s suggestion in this final determination and have added both the above to our list of customer service deliverables during PC21.

- 3.43 Applying for accreditation against BSI's Inclusive Service Verification scheme is also a measure identified as part of the best practice framework project. We support CCNI's suggestion in this final determination and have added both the above to our list of customer service deliverables during PC21.
- 3.44 We expect NI Water to obtain ***Inclusive Service Verification from BSI*** as have a number of other regulated utilities. BSI's inclusive service scheme helps organizations demonstrate that they are providing a fair, flexible service that can be used by all consumers equally, regardless of their health, age or personal circumstances.
- 3.45 Much of NI Water's performance through yr1 and yr2 of PC21 will influence decisions around our Mid-Term Review of consumer measures and targets. The detail of our new PC21 targets (new metrics are highlighted in GREEN where additional to PC15) is summarised below:
- VoC or 'Voice of the Customer' NPS (Net Promoter Score¹) scores:
 - ◆ All contacts (as reported at present)
 - ◆ Customer Care Register registered contacts
 - ◆ All contacts "awareness of NI Water's Customer Care Register"
 - Omnibus Survey (annual questions included within representative sample survey of entire NI Water customer base):
 - ◆ ALL consumers Customer Satisfaction (CSAT)
 - ◆ ALL consumers NPS
 - ◆ ALL consumers "awareness of NI Water's Customer Care Register"
 - Consumer Surveys post-incident (where the Customer Care Register has been activated)
 - ◆ CSAT or 'consumer satisfaction' survey of all Customer Care Register customers so affected
 - ◆ plus "lessons learned" by asking the following:
 - a. were you aware you had been affected by an incident whilst on the Customer Care Register?

¹ NI Water often uses the alternative term, "More customers singing our praises" to NPS.

- b. if so, what did you get from NI Water during the incident?
 - c. is there any other support that could have helped?
 - d. why did you score NI Water the way you did?
- CM/SAT (with input from the Consumer Vulnerability WG and alignment to emerging CPP's best practice framework)
 - ◆ NI Water to report at least annually and seek CM/SAT views and agreement on the following consumer initiatives and service improvements
 - a. Review and update how NI Water supports Customer Care Register registered consumers by Yr2 (to facilitate ongoing best practice framework initiative). The best practice framework will include a reporting, monitoring and publication element. The reporting from all companies (supplier and network companies) will be published and will include information/metrics on care registers. We will seek stakeholder comments and suggestions on the format of best practice framework reporting and monitoring and use the information gathered through public consultation to arrive at a final decision. As the best practice framework develops we will continue, through CM/SAT, to support any other aspect of its development additional to the PC21 initiatives, metrics and targets outlined above
 - b. Increase numbers of consumers on the Customer Care Register and how NI Water is effectively delivering an improved service to many more Customer Care Register registered consumers. The best practice framework will also include consumer protection measures on the volume, reach, promotion, and awareness of care registers. We will include these care register consumer protection measures in the consultation paper due to be released in early summer 2021 and reflect on feedback from stakeholders before making a final decision in regards to the type/nature of any best practice framework targets or milestones that may be applied to this consumer protection measure for care registers. As the best practice framework develops we will continue, through CM/SAT, to support any other aspect of its development additional to the PC21 initiatives, metrics

and targets outlined above

- c. Monthly reports to inform new Yr1 Omnibus trialling to enable Yr2 Omnibus target to “increase customer awareness of NI Water’s Customer Care Register”. Mid-Term Review of new targets
 - d. Monthly reports of VoC NPS scores for All contacts and Customer Care Register consumers
 - e. Progress reports on gaining BS 18477 accreditation and JAM or ‘Just a Minute’ card registration
- ◆ New consumer metrics and targets:
- a. Unwanted Contacts – Yr1 target equal to AIR20 or ‘Annual Information Return 2019/20’ performance of 67,000 reducing to 62,500 by close of PC21 and subject to Mid-Term Review
 - b. FPOCR – Yr1 and Yr2 targets equal to AIR20 performance of 90% (84% when adopting the newer definition for FPOCR of +/- a 90-day forward/backward looking window) and then subject to Mid-Term Review
 - c. NPS – Yr1 and Yr2 targets equal to AIR20 performance of +42 and then subject to Mid-Term Review
- monitor the ‘semi-retired’ OPA or ‘Overall Performance Assessment’ throughout PC21. Nil OPA target setting. Mid-Term Review to consider “full retirement”
- Monitor and report DG6 (% billing contacts dealt with within 10 working days), DG7 (% written complaints dealt with within 10 working days) and DG9 (% calls not abandoned) whilst ‘semi-retired’:
- DG6, DG7 and DG9 to be removed from AIR reporting and nil target setting
 - report customer numbers and their profiles. For example on DG9, the proportions of contacts not answered within 20 seconds, their duration and numbers of Customer Care Register consumers affected
 - provide commentary on how NI Water is delivering for those consumers who have experienced service delivery below that originally targeted by previous old-OFWAT DG or ‘Director General’ standards

- monitor the subsequent development of action plans for improved consumer experience, using actionable data and “optioneering”
 - CM/SAT to consider whether to increase number of CCNI assessments of NI Water’s telephone and written contact and complaints handling across Yr1 and Yr2, to help inform Mid-Term Review
 - CCNI to report to CM/SAT on their continued assessment of NI Water’s telephone and written contact and complaints handling (x3 annually at present)
- 3.46 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;
 - delivery of the best practice framework will result in the establishment of a ‘baseline’ of best practice consumer interventions. These interventions will have accompanying targets, monitoring, reporting and publishing requirements; and/or
 - introduction of new CPP targets around identification, assistance, staff training/culture/ethos, care register provision and monitoring and reporting. CM/SAT will be an important vehicle in the delivery of these metrics.
- 3.47 We have limited new targeting of NPS scoring to the VoC measure (as reported under AIR20 and which out-turned +42 for 2019/20). The VoC is obtained via resolved contacts’ feedback from consumers using Watermelon, a text based consumer proprietary survey system. Previously surveys were undertaken that focused on a single week of contacts within a 3-month timespan, 4 times per year, generating 200 surveys per quarter.
- 3.48 The VoC is a continually operating service with each customer being asked to complete a survey after their interaction with NI Water, day-by-day. This provides a much greater sample size over the course of an entire reporting year (approximately 700 surveys per month), providing greater reliability of satisfaction scoring as opposed to the retired survey method.
- 3.49 Watermelon data also provides 24hr updates to NI Water’s Call Centre that are used to inform continuous, focused staff training as well as more detailed subsequent follow-up of customer scores to obtain even more actionable data with which to improve overall service.

- 3.50 By Mid-Term Review, we anticipate we shall have sufficient annual Omnibus data (covering more than a 3yr period) to achieve the required level of confidence around new correlational analysis between the VoC and all consumer Omnibus survey scores. VoC survey those consumers who have had to contact NI Water whilst the Omnibus (a representative sample survey) includes both contacts and 'silent majority' consumer who have experienced no need to contact NI Water from year to year.
- 3.51 Such additional insight will enable consideration of whether we might introduce Omnibus survey NPS target score(s) for the remainder of PC21. If there is insufficient evidence to support their introduction during PC21, by PC27 we will have obtained further AIR data to enable robust cross-sectional time series analysis and inform new targets.
- 3.52 With many of the company's existing customer service contracts ending in the early part of the PC21 period, there is further opportunity for NI Water to re-focus delivery on the KPIs and metrics that may better align present day consumer needs. This will include those that may improve and / or simply broaden the reach of the services available to consumers who are vulnerable.
- 3.53 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.
- 3.54 The company foresaw no immediate or material reduction in their customer experience from such a move. We had confidence the company had adequate systems to 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 (including FPOCR, unwanted contacts and NPS).
- 3.55 More recent CM/SAT meetings have revealed NI Water's recent experience of trialling their new 80/20 standard for call answering. New consumer focused metrics have not evidenced any discernible reductions across the new consumer measures.

- 3.56 To help reinforce the right behaviours by the company and to help assist its desire to include more consumer friendly online offerings for consumers, made available by the reduction in resource cost from sustaining the previous call answering standard (faster than local “blue light services”), CM/SAT considered and recently endorsed the move to the 80/20 standard. The decision to endorse the company mover was taken alongside the ‘semi-retirement’ of a small number of old DG standards (dating back to the original privatisation of water in England and Wales (E&W) and regulation by the original Director General or ‘DG’), further releasing resources to be deployed on alternative customer service offerings during PC21.
- 3.57 The company hopes to incorporate more digital communication channels over time and we can as a result reasonably expect further reduction in contact costs to finance further provision of more timely, consumer relevant service offerings.
- 3.58 The above has been agreed on the basis CM/SAT will through PC21 take on a wider role of monitoring and review. CM/SAT will in future expect more regular reporting from NI Water with regard, not just the new PC21 consumer metrics and targets, but also ‘semi-retired’ metrics including:
- Overall Performance Assessment (OPA);
 - DG6 (% billing contacts dealt with within 10 working days);
 - DG7 (% written complaints dealt with within 10 working days); and
 - DG9 (% calls not abandoned).
- 3.59 Our perseverance with monitoring and reviewing ‘semi-retired’ consumer metrics is required so that by Mid-Term Review we might have sufficient evidence to have established consumers, especially vulnerable consumers, not receiving call answering within 20 seconds are not experiencing huge reductions in service delivery. We intend to focus not just on the 80% receiving call answering within 20 seconds but those who may fall into the remaining 20% durations.
- 3.60 CM/SAT through its monitoring and review of the profiled experience of those falling into the 20% will enable an informed decision, hopefully by Mid-Term Review, as to whether to fully retire the DG9 metric. Similarly, we hope the same evidence of no detriment to the consumer pertains to the other DG6 and DG7 metrics and OPA, to enable their full retirement alongside that of the DG9.
- 3.61 To provide further confidence of no harm to the consumer from the above moves to retire old consumer measures, CCNI’s offer to provide a greater

number of complaints audits and report to CM/SAT is incorporated in our long list of consumer service deliverables for PC21.

- 3.62 The aspiration of CM/SAT is that through the early years of PC21 we might confirm the retirement, or at the least the semi-retirement of the old consumer measures, establish the new consumer measures as providing reliable, robust actionable data and set new targets at Mid-Term Review for same. That being done, CM/SAT would hope such transformation of the consumer service monitoring regime will allow us all the space to concentrate upon delivery of the many new CPP and best practice framework initiatives, measures and targets throughout the remainder of PC21.
- 3.63 By the time of our Mid-Term Review, there will be a greater number of new metrics on vulnerable consumer experience as well as new consumer service targets for Yr2 of PC21 to help inform the Mid-Term Review. The latter will provide the opportunity to review all the new metrics, performance to date as well as new reporting by NI Water against semi-retired consumer metrics, so to decide our strategic direction. This is especially important as we monitor the introduction of the new best practice framework consumer metrics as part of the roll-out of the CPP.

Overall performance assessment

- 3.64 In PC10 we introduced an Overall Performance Assessment metric as our primary measure of the service delivered by the company.
- 3.65 We have maintained the OPA as a time series that extends back to before the PC10 price control. The OPA time series provides a near complete comparison against England and Wales companies' average performance level from 2009/10 and tracks NI Water's efforts to catch up.
- 3.66 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.

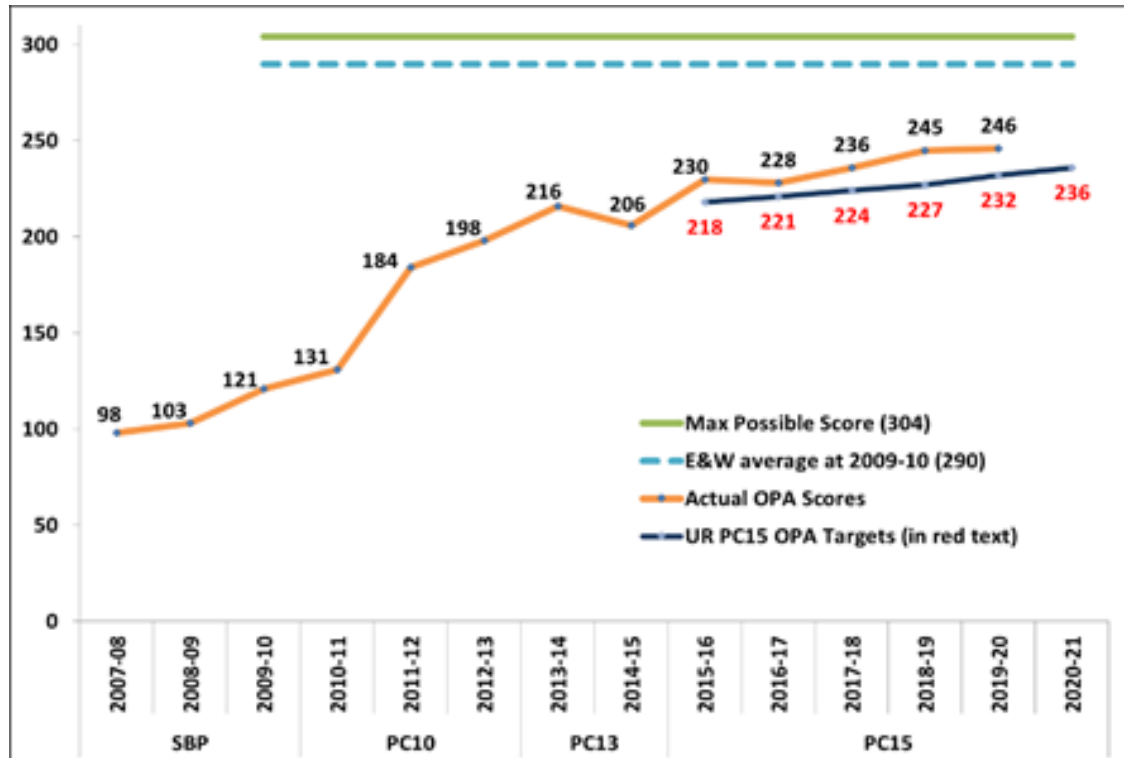


Figure 3.2: NI Water OPA score from incorporation to present day.

3.67 In PC21 we propose to ‘semi-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 PC21 consumer service metrics and targets described above; and
- The release of development constraints that are the primary driver for increased investment.

3.68 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. Where we ‘semi-retire’ DG6, DG7 and DG9 we will consider whether to freeze their respective scores within the composite OPA measure i.e. when we replaced the OPA Consumer Survey with VoC and Omnibus.

Development Objectives

- 3.69 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".
- 3.70 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.
- 3.71 CM/SAT will be an important vehicle in the delivery of best practice framework metrics and we will engage with NI Water to ensure the effective delivery of the consumer protection measures included in the best practice project, which will include care register provision and the identification of vulnerable consumers.

Best Practice consumer protection interventions for network companies and suppliers in NI

- 3.72 The best practice framework will be delivered by the UR during 2021/22. Development of the best practice framework is currently underway and the proposals are due to go out for public consultation in summer 2021. The consultation will set out a range of mandatory consumer protection interventions for all network companies and suppliers, across electricity, gas, and water to comply. Irrespective of the PC21 obligations set out in the Final Determination, the outcomes of the best practice framework and wider CPP activity will need to be met in this price control period.
- 3.73 Following extensive research and engagement, we are proposing the adoption of a new mandatory minimum standards Code of Practice which would replace and update existing licence/code requirements which are no longer fit for purpose. We believe this to be the most appropriate vehicle to deliver the best practice consumer interventions we wish to see for vulnerable domestic consumers in Northern Ireland. The minimum standard consumer protection interventions for network companies and suppliers will be mapped across the 6 core themes of the best practice framework (identification, assistance, staff training/culture/ethos, relationship with consumer representatives and use of consumer data, and reporting/monitoring and publication). These interventions bring together

and update requirements for vulnerable consumers across electricity, gas, and water.

- 3.74 Industry have sought greater clarity from us on what they need to do to ensure the fair treatment of vulnerable consumers. Increased clarity and consistency across all utilities will be achieved through the implementation of the proposed Code. We are mindful of the ‘starting position’ of many of our regulated companies when it comes to operationalising the concept of vulnerability and their ability to date to develop appropriate consumer interventions. Therefore, we have proposed a phasing approach to the proposed consumer protection interventions. We have placed an initial proposed timeline implementation phase of Short/Medium/Long term on each of the requirements.
- 3.75 The publication of the best practice framework public consultation in summer 2021 will contain the detailed minimum standards that we propose including in any new mandatory code of practice.

Best Practice and Customer Care Register provision

- 3.76 We will continue to require NI Water to hold and maintain Customer Care Registers (a Care Register is a centralised database of consumers which have self-identified as requiring additional support from NI Water during times of planned and unplanned interruptions to supply). In order to enhance this requirement we propose applying a severity index to care register provision in Northern Ireland.
- 3.77 This will result in two tiers of Customer Care Register provision. The first tier will be designed for those consumers with the most acute needs. We propose that this will include consumers who are using life support medical equipment and living with chronic illnesses. The second tier will be designed for those consumers with more general needs (e.g. pensionable age, physical impairment, mental ill-health and recently bereaved etc) and who meet UR’s vulnerability definition.
- 3.78 UK regulators now recognise the transient nature of vulnerability amongst domestic utility consumers. In order to help utility companies in Northern Ireland to transition to the new definition of vulnerability, UR has decided upon the following definition of vulnerability:

‘A consumer is deemed vulnerable when their personal characteristics or circumstances reduce their ability to engage effectively and achieve fair outcomes. A vulnerable consumer is significantly less able to protect or represent their interests and significantly more likely to suffer detrimental impacts on their health, wellbeing or finances’

- 3.79 The definition recognises that vulnerability is highly context specific and therefore it is deliberately wide in nature; allowing the definition to be flexible enough to permit application in a wide range of personal circumstances and personal characteristics. However, we do recognise that targeting vulnerability for policy purposes requires identification on a more case by case basis. This will require individual judgment by industry participants, coupled with the use of characteristics such as age, chronically sick, disabled etc where appropriate. This definition aims to provide a tool to help industry identify vulnerable customers and offer the appropriate services
- 3.80 We propose that all network companies and suppliers, across electricity, gas and water will now be required to hold and service both the first and second tier Customer Care Registers.
- 3.81 Through our public consultation paper for the best practice framework, planned for publication in early summer 2021, we will consult with stakeholders on the merits of introducing targets and/or milestones for Customer Care Registers. We will seek comments and suggestions on (i) the number of consumers registered, (ii) level and quality of additional contact with Customer Care Register consumers, and (iii) awareness/promotion of supplier and network companies Care Registers. We will also seek stakeholder feedback on eligibility and associated service provision for Care Registers. We will reflect on the information gathered through public consultation when reaching our final decisions on the best practice framework.

Development outputs

- 3.82 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.
- 3.83 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, we included 18 development outputs in our PC15 final determination. The company was required to report progress on these outputs through our annual information return during PC15.
- 3.84 The principle of establishing and reporting on development outputs has also been incorporated into the PC21 process and NI Water proposed a list of 23

outputs which it believes should be categorised in this way. We have also added two objectives related to the implementation for Smart metering and scope uncertainty. The development objectives for PC21 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
24	Smart metering	SP19
25	Addressing scope uncertainty for the Mid-term Review	N/A

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

3.85 The full list of development outputs for PC21 can be found in Annex T of our final determination. This Annex sets out our expectations with regard to delivery, monitoring and reporting against the objectives. This identifies what we consider necessary to allow progress and the associated benefits to be assessed.

Maintaining serviceability

3.86 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.

3.87 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

3.88 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.

3.89 Annex F contains our current assessment of serviceability. This has been updated with latest available performance data for the final determination 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.

3.90 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 3.3 below.

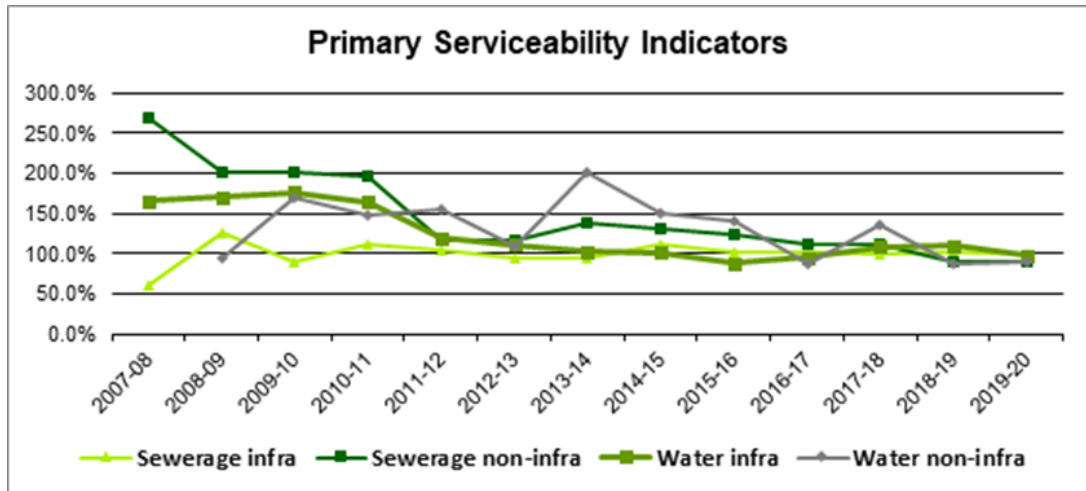


Figure 3.3: Trend in performance for serviceability primary indicators.

Delivery of the PC21 Social & Environmental Guidance

- 3.91 In addition to the outputs described above the SEG issued by DfI requires the company to meet various general regulatory requirements and contribute to the delivery of wider government policy objectives.
- 3.92 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 SEG and our determination includes for the company delivering the broader policy objectives identified.
- 3.93 We introduced annual reporting against SEG 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 SEG 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

- 3.94 The key outputs and benefits that the PC21 investment will deliver are summarised in Table 3.4 below.

- Investment of £816m in nominal terms 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, properties with low pressure, interruptions to supply and pollution incidents.
- Improving consumer service driven by new consumer measures focusing on vulnerable consumers / Customer Care Register. New headline targets for Net Promoter Score, rate of first point of contact resolution (customers who contact NI Water) and number of unwanted calls.
- Improving consumer protection through the delivery of the CPP best practice framework. Improvement in vulnerable consumer identification, assistance, staff training, Customer Care Register delivery (including volume, reach, awareness and promotion), and monitoring and reporting.
- Achievement of the sustainable economic level of leakage by the end of PC21.
- Investment in 19 schemes at 17 water treatment works to maintain and improve water quality.
- Construction of 14 water trunk-main schemes to and improve the resilience of supply in areas severely affected by major incidents in the past.
- Delivery of 4 new water storage tanks to balance flows in the network and improve resilience in the event of pipe burst or work outage.
- Replacement or renovation of 838 km of water mains to address interruptions to supply, low pressure and water quality. Replacement or renovation of 61 km of sewers which are collapsing or cause frequent blockage.
- Investment to enhance 45 wastewater treatment works serving a population equivalent greater than 250 and 36 small wastewater treatment works achieve environmental discharge standards and accommodate development.
- Investment to improve the quality of 136 intermittent discharges to comply with environmental standards and accommodate development.
- The improvements above will address 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 and in response to sample failures.
- Measures to improve sustainability and reduce the impact on climate change including: sustainable catchment management (SCAMP) 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.

Table 3.4: Summary of key benefits to be delivered in PC21

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 £2,258m in nominal terms (equivalent to £1,907m in 2018-19 prices that we use as a common price base to assess the Business Plan and make comparisons on a consistent price base).
- 4.3 Planned investment is more than double the investment delivered in PC15 where £953m in nominal terms was invested over a 6 year period (£971m in 2018-19 prices, an increase of 87% in real terms). 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 that 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.
- 4.4 Investment in sewerage networks and wastewater treatment plants in Belfast and other communities draining directly to Belfast Lough are being developed through the LWWP. NI Water proposed investment of £544m in nominal terms for the LWWP in PC21 (455m in 2018-19 prices). It concluded that this could not be afforded within stable prices and proposed an equal amount in grant funding be provided so that this investment would not be recovered through tariffs. Because our final 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. However, given the potential scale of investment required in future price controls, it is likely that tariffs will have to increase in real terms in the future unless some form of grant funding is provided.
- 4.5 In its response to our draft determination, the company provided an updated capital investment programme for PC21. This took account of some of the changes to capital estimates in the draft determination and the latest estimates of the outturn of the PC15 programme and carryover into PC21. A further update was provided on the outturn of the PC15 capital programme and carryover into PC21 in April 2021. Having reviewed these changes and discussed them with the company, we arrived at a revised baseline capital

programme for PC21 of £1,926m in 2018-19 prices against which we have prepared the final determination.

- 4.6 Our detailed assessment and challenge of the capital programme is set out in Annex I. In this chapter of the final determination, we provide a summary of our assessment and conclusions. Our final determination concludes that the outputs the company plans to deliver in PC21 requires investment of £1,820m, which is 5.5% less than the revised baseline capital programme developed from the company's updated plans.
- 4.7 We estimate that the investment required to deliver the PC21 outputs is equivalent to
- £2,086m in nominal terms; and
 - £2,050m of public expenditure Capex DEL having taken account of contributions and accounting adjustments related to PPP projects.
- 4.8 In the remainder of this chapter, costs are presented in 2018-19 prices to provide a consistent basis for comparison in real terms with the exception of the PC15 Out-turn (presented in 2012/13 prices consistent with the price base for PC15) and public expenditure Capex DEL estimates which are presented in nominal terms. We will monitor delivery in PC21 in real terms using RPI to deflate nominal capital costs to 2018-19 prices.
- 4.9 Table 4.1 provides a high level comparison of investment proposed by the company and our final determination for the PC21 period. It distinguishes between investment to maintain the assets (capital maintenance) and investment to enhance the assets, including meeting new consent standards and increasing capacity.

	Investment £m 2018-19 prices		
	NI Water revised Submission	UR final determination	Difference
Capital maintenance	763	715	-48
Enhancement expenditure	1163	1105	-58
Gross capital investment	1926	1820	-106
Grants and contributions (excluding LWWP)	-72	-72	0
Total investment net of contributions	1853	1747	-106

Table 4.1: Summary of capital investment in PC21.

PC15 Out-turn

- 4.10 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.
- 4.11 The assessment of PC15 Out-turn is presented in 2012/13 prices, consistent with the PC15 final determination.
- 4.12 We assess the outcome of the price control in terms of the outputs delivered for consumers rather than the amount of money spent. Final expenditure in PC15 was higher than expected in real terms, although this reflects an increase in work funded by grants and contributions which masks a reduction in public expenditure funding in real terms. The overall reduction in the public expenditure budget made available in nominal terms was off-set in part by lower than expected inflation over the PC15 period. In principle, we would expect an increase in real expenditure to result in an equivalent increase 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.
- 4.13 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. 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. As a result, future charges to consumers will reflect the value of the outputs that have been delivered.
- 4.14 In our assessment, we logged up additional outputs which were funded by external grants or contributions from consumers related to new development. Where this is the case we have logged down the associated grants and contributions paid by consumers to ensure that the Regulatory Capital Value (RCV) reflects these additional contributions.
- 4.15 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 that has subsequently been logged down. We have assessed this on the net position over PC15.
- 4.16 Our assessment for the draft determination was based on the business plan submitted in January 2020. For the final determination we have revised our assessment using updated submissions of PC15 expenditure and PC15

carryover into PC21 provided by the company in January 2021 and April 2021.

- 4.17 Our assessment of logging up and logging down is presented in more detail in technical Annex H and the outcome is summarised in Table 4.2.

Item description	RCV adjustment (£m)
Outputs logged up	102.0
Outputs logged down	-152.0
Additional grants and contributions logged down	-38.4
Net position over PC15	-88.4
<i>In 2012-13 prices consistent with the 'base year' for the PC15 final determination.</i>	

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

Capital inflation

- 4.18 All costs in this chapter are presented in 2018-19 prices, unless stated otherwise. For the draft determination, we used the forecast of inflation that NI Water used when preparing its business plan to convert from real to nominal prices. For the final determination, we have updated this assessment to take account of the latest estimates of RPI published by the Office of Budget Responsibility (OBR) in March 2021. The inflation indices used for the draft determination final determinations are shown in Table 4.3.

	Base Year 18-19	21-22	22-23	23-24	24-25	25-26	26-27
NIW Business Plan submission	283.308	308.892	318.159	327.703	337.534	347.661	358.090
PC21 Final determination	283.308	302.016	308.354	315.922	324.907	334.540	344.576

Table 4.3: Inflation indices.

- 4.19 The reduction in forecast inflation reduces the nominal expenditure required to deliver the same outputs by about 3.5%.
- 4.20 We will monitor delivery in PC21 in real terms using RPI to deflate nominal capital costs to 2018-19 prices.

Capital maintenance investment

- 4.21 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 represented an increase of 37% from PC15.

- 4.22 Our assessment of capital maintenance investment for PC21 is included in Annex I.
- 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.
- 4.23 In its response to the draft determination, the company welcomed our approach to the determination of consequential base maintenance but challenged the allowance included in the determination. Our assessment of the company’s response is provided in Annex I. As a result we have increased the allowance for consequential base maintenance by £5.2m per annum (£31.0m over PC21).
- 4.24 The outcome of our assessment of capital maintenance is summarised in Table 4.4. The determined capital maintenance is £715m over PC21 (an average of £119m per annum). This is a reduction of £48m (6.3%) compared to the expenditure proposed by the company in its Business Plan.

	£m/a
NI Water current capital maintenance expenditure	96.5
Upper quartile econometric estimate	91.7
Target cost at the end of PC21 after closing 80% of the gap to current upper quartile performance in England and Wales.	92.7
Average expenditure over PC21 (average current and target)	94.6
Adjusted for growth net of frontier shift (+1.2%)	95.7
Add consequential capital maintenance allowance	23.5
Determined average capital maintenance for PC21	119.2

Table 4.4: Final determination of capital maintenance expenditure.

- 4.25 Our determination of capital maintenance includes £23.5m 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 through the Change Control Process included as Annex M.

Assessment of the capital investment programme

- 4.26 NI Water provided a capital programme broken down by individual projects and sub-programmes of work. These individual projects and sub-programmes were supported by outline business cases that 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.
- 4.27 To assess the company’s proposed capital investment 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.

4.28 Following an assessment of the company's Business Plan the Reporter highlighted some issues in respect of capex estimates with the most material relating to the Tender Outturn Risk adjustment. The Reporter summarised the impact of the issues identified by providing a range of cost impact and confidence levels. Based on this information, our draft determination included a general adjustment to pre-efficiency costs to reflect the uncertainty attached to the Tender Outturn Risk adjustment. In response to the draft determination, the company challenged this adjustment and we asked the Reporter to undertake a further audit of the costing systems and the additional work undertaken by the company to develop its response to the draft determination. Following this additional work the Reporter revisited and revised his initial opinion, removing much of the range of potential adjustments and identifying a single point adjustment to the company's pre-efficiency capex estimates of £9m. This adjustment has been included in the final determination.

Confirming the scope of the capital programme

4.29 In the draft determination we noted that the company's Business Plan estimates still contained a significant degree of scope uncertainty in the following areas:

- The scope of water treatment works improvements was being reviewed by the Drinking Water Inspectorate.
- The company was still developing Drainage Area Plans and integrated environmental studies which are necessary to identify efficient solutions to major drainage projects.
- Future consents had yet to be confirmed for wastewater treatment upgrades and, in some cases, catchment studies must be completed before issues such as on-site storage and the need for disinfection can be determined.

4.30 In view of this, we asked the company to provide:

- a) 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; and,

- b) 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.

4.31 In response the company provided a list of projects where further development work is necessary to confirm an efficient scope and cost for a determination. The company provided a programme of development work which would allow the cost of these schemes to be determined by the PC21 Mid-Term Review. In the meantime, our final determination includes an allowance of £644 for this work based on the company's latest estimates. This ensures that price limits and capital budgets make provision for the necessary work while efficient solutions are finalised.

Capital efficiency

- 4.32 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 9.1% in 2026-27.
- 4.33 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 that 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.
- 4.34 Our initial assessment of efficiencies for PC21 concluded the approaches we had used in the past to assess efficiency of enhancement expenditure were 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.
- 4.35 We expect all regulated companies to deliver on-going efficiencies that 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.

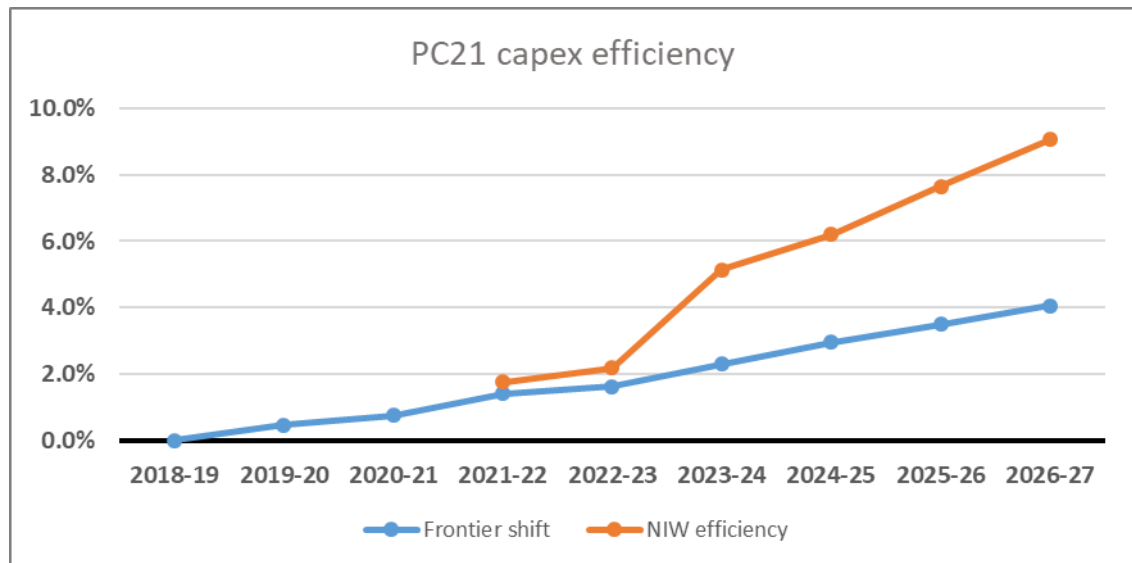


Figure 4.1: Capital efficiency.

4.36 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 that take account of the challenges described above.

Capital expenditure profile

4.37 NI Water's business plan proposed a stepped increase in investment at the start of PC21. The profile of capital expenditure in the PC21 final determination is shown on Figure 4.2.

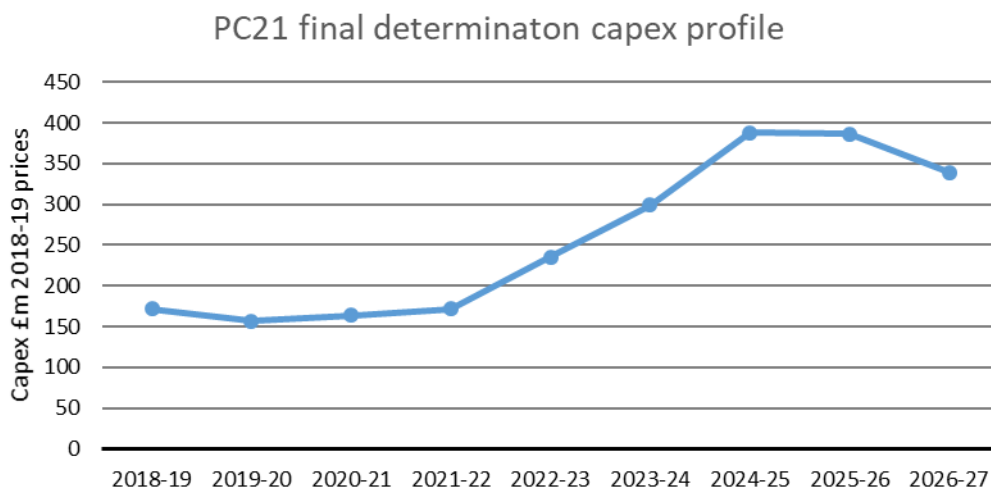


Figure 4.2: PC21 Capital expenditure profile.

- 4.38 Delivery of the programme will require an average annual increase in investment of circa 30% per annum in years 2, 3 and 4 of the PC21 period. This progressive increase in capital investment can only be delivered if there is a clear plan with well-defined solutions and procurement in place. In turn, it will require a reasonable understanding of the budget that will be available including the resource necessary to allow NI Water to plan and procure the works. The challenge of delivering the consistent increase in the output of studies, design and procurement creates a risk to the delivery of the programme, with the potential for delayed delivery of outputs and carryover of expenditure into PC27.
- 4.39 We will monitor the delivery of key milestone dates in PC21 as a lead indicator of successful delivery of the capital programme.

Capital expenditure budget

- 4.40 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 to:
- a) the company's business plan estimates;
 - b) the revised programme submitted in response to the draft determination and the PC21 and a further update in April 2021 on PC15 out-turn and carryover into PC21; and,
 - c) the final determination.
- 4.41 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 Plan	233.2	274.2	308.4	371.5	383.9	336.3	1907.6
NI Water response to the draft determination.	187.9	248.9	314.9	409.6	409.9	356.8	1928.0
NI Water response updated for PC15 carryover at April 21	198.3	253.7	316.8	409.2	410.1	357.0	1945.1
Amended baseline for the final determination	184.5	250.0	316.0	408.9	410.0	357.0	1926.3
PC21 final determination	171.9	235.0	299.2	387.9	386.5	339.2	1819.6
Difference £m	-12.6	-15.0	-16.8	-21.0	-23.5	-17.8	-106.7
	-6.8%	-6.0%	-5.3%	-5.1%	-5.7%	-5.0%	-5.5%
Public expenditure Capex DEL in nominal prices							
PC21 DD gross capital budget	183.2	255.7	333.6	444.8	456.4	412.5	2086.4
Capital grants and contributions transferred to deferred credits	1.5	1.6	1.6	1.6	1.6	1.7	9.6
Capital grants and contributions	-13.2	-13.3	-13.3	-13.7	-14.0	-14.4	-82.0
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	178.6	251.2	327.3	438.2	449.4	405.7	2050.5

Table 4.5: PC21 capital budget.

- 4.42 The reduction in capex investment in 2021/22 is partly due to the exclusion of PC21 base maintenance carry over from our assessment and the deduction of PC21 early start investment undertaken in the last year of PC15 from PC21 investment (see Annex I for details). Both have a disproportionate impact on the first year of PC21. In view of this and the profile of expenditure, there is an opportunity for N Water to review its capital programme and bring forward investment to deliver PC21 outputs early to maximise the use of public expenditure capital budget available in 2021/22, provided this can be done efficiently.
- 4.43 The delivery of the outputs and outcomes included in NI Water's Business Plan remains 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 BIP 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 DfI. 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. 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.

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

	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

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

5.14 The baseline refers to the 2018-/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	£15.42m
Kinnegar operating costs	£3.24m	£3.24m
Reservoir inspections	nil	£2.50m
Additions to opex	£80.49m	£60.18m

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
Pensions – service cost	No	<p>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.</p> <p>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.</p> <p>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.</p>
Capitalisation	Yes	<p>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.</p>
Consultants’ Fees (PC21/PC27)	Partially	<p>The company’s claim 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 forecast increase in PC21 compared to PC15.</p>
Rates	Yes	<p>Dialogue continued between NI Water and Land and Property Services (LPS) on valuations arising out of LPS’s “Reval 2020” exercise. The latest estimate from NI Water reduces the claimed increase to £4.4m p.a. from the company’s original business plan submission of £5.5m p.a. which we have adopted.</p> <p>In its submission, the company applied an efficiency challenge to rates expenditure equal to their assessment of the rate of productivity growth. We note this is a departure from the company’s approach in PC15 and at final determination we have chosen to more closely align to the company’s approach. We have chosen to remove our catch-up efficiency challenge upon Rates, requiring NI Water to evidence a degree of efficiency challenge equal to our PC21 assumed productivity improvement of 0.8% per annum. Our overall efficiency challenge for NI Water is considered in the round so we avoid the criticism of ‘cherry-picking’ from a spectrum of regulatory approaches, both nationally and internationally. The effect is to bring PC21 into greater alignment to our other price controls and with NI Water’s PC21 Business Plan approach.</p>
Leakage	Yes	<p>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.</p>

Additional opex claimed by NI Water	Criteria Met	Comment
Mature Compliance (WW)	Yes	<p>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. The new regime will be developed during PC21 and the timing of implementation is 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.</p> <p>Arguably, Mature Compliance could have applied as a negative special cost factor to our efficiency modelling. Since these costs are required to align wastewater compliance with England and Wales water companies, the implication is that NI Water is currently incurring lower wastewater compliance costs relative to a comparable company in England & Wales (E&W). We take a conservative view and do not apply Mature Compliance as a negative special cost factor in PC21 because there may be water companies in England and Wales who are also non-compliant.</p> <p>Over the long term, specifically from PC27, the full cost of the system will be included within benchmarked costs and fall away from our list of additional opex.</p>
Digital Services, Cyber Resilience and Move to Cloud	Partially	<p>We had CEPA examine NI Water's submission and business cases and, with the exception of Cyber Resilience, we declined to fund at draft determination. Since the draft determination, we had sight of further Cyber Resilience justification as well as other re-submissions from the company and we asked CEPA to re-examine.</p> <p>With the exception of Move to Cloud (where we apply a 25% cost reduction to poorly evidenced cost estimates) we allow the majority of IT increases sought by NI Water. And given the requirement to impose cost reductions to parts of the claimed increase, we have chosen to apply our assumed productivity improvement rather than our full efficiency challenge.</p>
Kinnegar operating costs	Yes	<p>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.</p>
Reservoir inspections	Yes	<p>Post Business Plan submission, NI Water sought a further addition to opex (subject to our twin tests for exogeneity and newness) for Reservoir Inspections of £2.5m per annum across PC21. The company submission was examined by CEPA and their assessment of efficient costs is included at Annex S.</p> <p>Whilst our twin tests of newness and exogeneity were met, insufficient evidence was advanced to convince the claimed addition to opex is entirely efficient. We have therefore included Reservoir Inspections in full whilst subjecting to our full efficiency challenge (catch-up plus ongoing efficiencies) through PC21.</p>

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	£17.55m

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

- 5.24 We had previously included a 13% Reporter recommended reduction to reflect an over-estimation of costs by NI Water using their IPAC (Investment Planning and Costing) tool. The company's more recent submissions on support their original Business Plan estimates and we have accepted their most recent claim of £17.6m compared to the £15m allowed at draft determination.

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

£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 ²	-	-	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

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 actuarial assessment used to determine the schedule of contributions referred to as the Technical Provisions. For instance, it requires the

² One Off Costs refer to costs associated with remedies under the McCloud Judgement that NIW had submitted in the 2020/21 year

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, 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 that 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 that 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 Regulator³. 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 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

³ <https://www.thepensionsregulator.gov.uk/en/trustees/managing-db-benefits/db-scheme-costs-comparison-tool/your-db-scheme-costs>

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).

NI Water response to Draft Determination

- 5.40 In its response to the draft determination NI Water stated that it disagreed with our approach in using the Technical Provisions basis to determining pension cost allowances for PC21. NI Water highlighted that it remained of the view that the IAS19 approach is more appropriate because in their view it:

- Better reflects the nature of the NIWLPS scheme - NIWLPS is a relatively immature scheme which remains open to new entrants.
- Provides for enhanced stability - IAS19 allows for a more stable annual cost as it reflects the long term strategy and position of the scheme.
- Represents a more prudent approach given the circumstances of the NI Water pension scheme and the expected maturing of the NI Water pension scheme over time.
- Enhances comparability - IAS19 is the internationally recognised accounting standard for the measurement and reporting of employee benefits and, along with other IFRS, is the basis on which all large corporate entities account for defined benefit pension plans.

Pension – Our Final Determination Decision

- 5.41 We have considered the NI Water response to the draft determination and provided more detail in our Annex R - Consultation Responses. We have not

been persuaded to change our opinion on the level of allowances previously granted from the Draft Determination.

5.42 NIWLPS is one of a minority of open schemes, with fewer than 10% of the defined benefit schemes regulated by The Pension Regulator still open to new members. It is therefore less mature than a typical defined benefit pension scheme in the UK and note that its approach on the management of the pension scheme reflects this situation.

5.43 We remain of the view that the Technical Provisions basis is the most appropriate basis for determining pension cost allowances for PC21 for the reasons we set out in our draft determination and described in the section on the Draft Determination Decision above, as well as for the following reasons:

- The IAS19 assumptions are set on a market-based approach, and therefore are subject to volatility in corporate bond yields on an annual basis. In comparison, the current Technical Provisions basis sets its future return expectation based on long term expected returns (not on explicit market rates) and therefore would be expected to more flexibly incorporate changes in market conditions over time.
- It is set to consider the long-term cost of funding with the discount rate set to reflect the expected long-term returns on the scheme. The Technical Provisions basis is scheme specific, taking account of factors such as the investment strategy, the strength of the employer covenant, and scheme maturity: factors that IAS19 does not take into account to the same extent.

5.44 Whilst we recognise that there are other approaches to assessing the cost of funding a pension scheme, the Technical Provision basis approach provides a fairness to all consumers, both current and future, based on the circumstances of the scheme.

5.45 The Technical Provision approach is also consistent, with how other regulators grant allowances in similar industries, such as OFGEM and OFWAT.

Other Observations on NI Water Pensions

5.46 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 has been used to inform the pension costs requested in PC21. NI Water highlighted prior to the draft determination that the final workings of the 2020 valuation may be available in time for the PC21 Final Determination.

5.47 While we have not received the revaluation, in April, the company provided preliminary results based on the 2020 valuation and informed us that it had received a further allocation of funding to address an increased deficit in its pension fund. It asked that additional revenue be included in the PC21 final determination to repay this contribution. We consider it appropriate that the company considers the funding of its pension fund and make such additional payments as it considers necessary within a Price Control period. However, we have concluded that the UR should not adjust the PC21 determination to account for these payments.

Transformation costs

- 5.48 Since 2007-08, NI Water has been allowed transformation costs. BIP projects and VER/VS were both funded across previous price controls with no efficiencies applied.
- 5.49 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.
- 5.50 NI Water was allowed opex in PC10 to fund BIP 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.
- 5.51 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.
- 5.52 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).

5.53 NI Water therefore contend there is scope for future public expenditure bids to fund BI and VER/VS up to £15m. After this point is reached, any new BIP

or VER/VS bids would be wholly new from the consumer (and taxpayers) viewpoint. UR might then consider an allowance that would not have previously been funded by consumers (and taxpayers).

- 5.54 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.
- 5.55 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.
- 5.56 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.
- 5.57 Given the preceding, we remain committed to ensuring consumers are not charged twice for business transformation, whether BIP or VER/VS.
- 5.58 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.
- 5.59 To avoid double funding of BIP 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 DfI), its shareholder, by the company.
- 5.60 PE funded BIP 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 (2018-19 prices).

Relative efficiency gap

- 5.61 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

- 5.62 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).
- 5.63 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).
- 5.64 We engaged CEPA to provide expert econometric consultancy support throughout the PC21 CAWG process and their Technical Annex can be found at Annex L – PC21 Efficiency Modelling – response to DD (CEPA). The Technical Annex by CEPA contains the various arguments made by NI Water in response to our draft determination.
- 5.65 On the basis of the above and further consideration within the Utility Regulator, our overall assessment of operational efficiency at final 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 Final Determination
Estimated efficiency gap to upper quartile	7.3%	5.7%
Level of catch-up	80%	100%
Catch-up efficiency	5.8%	5.7%
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%	0.51%
Annual efficiency challenge**	0.77%	1.14%
<p>* 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.</p> <p>** the annual efficiency challenge reflects the detailed application of these efficiency factors to both baseline, additional opex and PPP/PFI costs.</p>		

Table 5.9: Overall efficiency challenge comparison.

Current gap

- 5.66 NI Water has steadily improved its opex performance since the inception of the company. The efficiency gap has fallen⁴ from the 49% (2007/08) in PC10 to 38% (2010-11) in PC13, 22% (2012-13) in PC15 and is estimated⁵ as some 6% in the current PC21 price control.
- 5.67 It is important to recognise such reductions in opex have been achieved at the same time as improving levels of service for consumers.
- 5.68 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).
- 5.69 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 £1.06 operational spend for every £1 spent by an equivalent company operating at upper quartile performance.

⁴ 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.

⁵ PC21 modelling used data from 2012-13 through 2018-19. The 6% is the product of the weighted average of all x7 annual comparisons to UQ performance with respect water models PLUS the last x3 annual comparisons to UQ performance for the wastewater models. This better reflects the more recent, steady efficiency improvements by NI Water across its wastewater operations.

- 5.70 Our shift in efficiency gap of 7.8% at draft to 5.7% at final determination is for the most part occasioned by our acceptance of NI Water’s proposal to calculate the wholesale sewerage opex efficiency gap based on the last three years of the sample (2016/17 to 2018/19). This strikes a good balance between placing more weight on recent performance whilst recognising that the efficiency gap in any one year may not be a good reflection of NI Water’s relative efficiency.
- 5.71 To conclude, there remains some 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.

Final determination

- 5.72 Our final determination sets a catch-up efficiency rate of 1.1% per annum. This offers NI Water a robust and reasonable challenge in the interests of consumers (and taxpayers).
- 5.73 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.
- 5.74 Our final 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 1.1% 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. Whilst this is a more conservative approach to that adopted under previous water price

controls it is in line with both with our own efficiency approaches for RP6 (electricity) and GD17 (gas) as well as the many other regulators adopting econometric analysis.

We considered alternative benchmarking NI Water to both 80th and 90th percentiles, rather than the UQ (75th percentile), as well as the modern day equivalent to the traditional OFWAT approach to ‘frontier company’ but remain aligned to our gas and electricity precedents in this matter.

- 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.

5.75 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%	6%
Catch-up efficiency challenge	7.20%	5.00%	2.30%	1.10% ⁶

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

⁶ 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%.

Special factors

- 5.76 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.
- 5.77 These adjustments do not represent additional allowed opex. They are however reflected in the relative efficiency modelling.
- 5.78 As in previous price controls across the various sectors the Regulator determines on efficiency, a special factors and atypical expenditure process has been applied to PC21.
- 5.79 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.
- 5.80 The company also had a third opportunity to either re-state and/or expand on its special factors claim through the consultation stage to the draft determination.
- 5.81 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)?
 - 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?

5.82 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 – are a negative special cost factor to adjust for the relatively lower price of electricity locally. 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.

We have used an unweighted average of the approach we applied at draft determination and the approach suggested by NI Water in their response (using different 12-month periods around 2018 and 2019 to correspond our base year 2018/19), which avoids the risk of ‘cherry picking’.

- Regional wages - again, are a negative special factor to adjust for typically lower labour costs in Northern Ireland compared to the UK. 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.

NI Water offered three key challenges to our draft determination, the first two of which relate to the calculation of the Regional Wage Adjustment (RWA) and one further relating to the labour share of opex to which the RWA is applied to calculate the special factor:

- (i) *‘All employees’ (UR) versus ‘full-time employees only’ (NI Water)* - we continue to use ‘all employee’ ASHE data to estimate the RWA / labour RPA.

The decision to use ‘all-employees’ ASHE data is also supported by most recent decisions taken by UR and other utility regulators in the UK. The RWA is designed to reflect the price differences *between* a typical water and sewerage company in Northern Ireland and the rest of the UK. This is not necessarily the same as the *actual* price differences faced by NI Water which would be better reflected by the adoption of

'full-time employees only' were this appropriate.

- (ii) *Comparison to UK average or UQ firms* - we continue to estimate the RWA based on the differential between Northern Ireland and UK average wages.

We estimated the RWA and labour Regional Price Adjustment (RPA) based on the wage differential between Northern Ireland and the UK average in our draft determination, so the draft and final determinations remain internally consistent.

NI Water responded to our draft stating the comparison ought be made between Northern Ireland and the UQ (E&W) firms based on the efficiency benchmarking analysis. Such an approach is likely to be guilty of 'cherry-picking' given the estimation of the RWA depends on the econometric model selection process, where the 'benchmark company' differs between models and adopted benchmark i.e., the upper quartile.

- (iii) *Notional versus actual labour share of opex* - we continue to assume a labour share of opex of 47% when applying the regional wage special factor, ensuring consistency with the notional input mix used in our frontier shift analysis. This approach also avoids the regional wage special factor being affected by potential errors or bias in NI Water's labour cost data.

NI Water consider it would be more appropriate to calculate the labour share of opex based on NI Water's own cost data. NI Water contended labour costs account for an average of 31% of their total opex costs over the past five years. On review it is apparent the figure only accounts for direct labour (i.e., directly employed staff). NI Water's business rates are also included within their 31% calculation, which is inappropriate given Rates were excluded from the benchmarking analysis.

5.83 Full details and discussion of the NI Waters claimed and approach to special factors plus our own are provided in Annex L - Efficiency Modelling – response to DD (CEPA). The Technical Annex sets out both our reasoning and rationale for calculating allowed special factors at draft determination, NI Water's responses and our final determination on such matters.

5.84 NI Water in its response to the draft determination stated that whilst it was reasonable to calculate the efficiency gap based on a long-term average when there is no discernible efficiency trend observed (i.e., wholesale water

opex), there where clear trends evident in more recent years applying to wholesale wastewater opex.

- 5.85 At CAWG, the company presented evidence suggesting it had made steady improvement in their wholesale wastewater opex efficiency gap over the sample period. Calculating the efficiency gap based on the full sample available helps to account for regulatory cycle impacts and accounting differences between NI Water and E&W companies. Whereas, using more recent data arguably provides a better reflection of NI Water's relative efficiency at a point closer in time to the present. Regulatory judgement is required as there are arguments in both directions.
- 5.86 The impact of moving to a 3-year period to underpin sewerage opex efficiency is to reduce the overall weighted catch-up. The components of this reduction from 7.8% at draft determination are illustrated below:
- 2pp reduction to 7.6% once electricity prices special factor adjustment is included; and
 - efficiency gap at final determination of 5.7% once both electricity special factor and last 3-year's wastewater improvements in performance are incorporated.
- 5.87 The final determination adopts the lower 5.7% catch-up efficiency. This represents a more balanced approach and transparently rewards the correct behaviours from NI Water, specifically their improvement in wastewater performance. The reduced efficiency gap used to determine NI Water's catch-up efficiency makes the delivery of same by yr5 of PC21 less challenging for NI Water and addresses many of the company concerns in response to the draft determination.

Frontier shift

- 5.88 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.
- 5.89 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.
- 5.90 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.

- 5.91 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.
- 5.92 Our new estimate of frontier shift was undertaken internally, which we subsequently quality assured.
- 5.93 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.
- 5.94 A summary of the results of the analysis can be seen below.
- 5.95 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
 - Our view on RPI movement.

	PC15		PC21					
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Weighted Input Prices	3.0%	1.5%	2.7%	2.6%	2.5%	3.1%	3.3%	3.3%
RPI	(2.6%)	(1.3%)	(2.6%)	(2.1%)	(2.5%)	(2.8%)	(3.0%)	(3.0%)
Productivity	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)	(0.8%)
Frontier Shift	RPI - 0.4%	RPI - 0.6%	RPI - 0.6%	RPI - 0.3%	RPI - 0.7%	RPI - 0.6%	RPI - 0.4%	RPI - 0.4%
Figures may not sum due to rounding								

Table 5.11: Opex frontier shift calculations (%).

	PC15		PC21					
	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Weighted Input Prices	2.8%	1.6%	2.5%	2.5%	2.4%	2.8%	3.0%	3.0%
RPI	(2.6%)	(1.3%)	(2.6%)	(2.1%)	(2.5%)	(2.8%)	(3.0%)	(3.0%)
Productivity	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)
Frontier Shift	RPI-0.5%	RPI-0.3%	RPI-0.7%	RPI-0.2%	RPI-0.7%	RPI-0.7%	RPI-0.6%	RPI-0.6%
Figures may not sum due to rounding								

Table 5.12: Capex frontier shift calculations (%).

- 5.96 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.
- 5.97 In response to our draft determination, NI Water raised some concerns with the productivity assumption we proposed. These concerns centred around:
- Our productivity assumption compared to NI Water’s proposal in their business plan, and connected to this;
 - The time period used (especially around the 2008 financial crisis period);
 - Weights applied to the various comparator sectors; and
 - Productivity generally in Northern Ireland.
- 5.98 The time period of data used has an impact on the number calculated, as will the weightings. This is why, as we have done with our other network price controls recently, we used the full dataset available. This helps smooth volatility in the data over the full period.
- 5.99 The CMA, in the PR19 referral, opted to use the period 1990-2007 to estimate productivity growth (using an earlier version of the same data we have used). It is important to note this selection meant the CMA did not see the need to give any weight at all to post financial crisis data.
- 5.100 For the capex productivity comparator sector weights, we explained these weights were not explicit in the PC15 report, except to say ‘most weight’ was given to the construction sector. We have continued that same approach to capex comparator sector weights for PC21, and our Technical Annex K – Opex and Capex Frontier Shift gives further detail on the calculations involved.

- 5.101 On the question of NI being considered a low productivity economy, EU KLEMS data provides data for a broader Total Factor Productivity metric. No regional data breakdown is available for the UK dataset to look specifically at NI for instance.
- 5.102 However, NI companies are also able to benefit from the technological and procedural improvements that may be realised by GB companies and that contribute to the aggregate UK data.
- 5.103 Further detail on the make-up of the frontier shift and comments on the matters raised by NI Water in this area, is contained in our Technical Annex K – Opex and Capex Frontier Shift, published alongside this main final determination document.

Public private partnerships / private finance initiative

- 5.104 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.
- 5.105 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.
- 5.106 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.
- 5.107 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 Wastewater – 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.

- 5.108 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.
- 5.109 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 GainShare mechanisms in place as part of the wastewater 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	4.92%	4.98%	4.83%	4.88%	4.92%	4.78%
PPP Wastewater – Cumulative Efficiency	1.89%	2.28%	2.66%	3.05%	3.43%	3.82%

Table 5.14: UR proposed PPP efficiency targets for PC21.

- 5.110 The final determination efficiency targets differ from NI Water’s only so far as wastewater is concerned. This is due to Omega PPP and Kinnegar PFI remaining operated by separate companies whilst Alpha is now wholly owned by NI Water.
- 5.111 Our treatment of the wastewater PPP/PFI remains therefore unchanged from draft determination. Given our assumed productivity challenge remains the same as at draft determination, we apply simply half this percentage on a cumulative basis across PC21 and prior years to reflect GainShare.
- 5.112 Our treatment of Alpha PPP has undergone significant change since draft determination and further company representation. There exists a “double-count” between the £33m “savings to consumers” included in the Financial Model for Alpha (water only) PPP and our additional ongoing efficiencies and performance deductions to Alpha PPP opex at draft determination.

- 5.113 Any further reduction to Alpha PPPs opex (through levying either additional ongoing efficiency and/or further quality related performance deductions on Alpha PPP) reduces the amount of consumer benefit already included within the Financial Model that drives changes to tariffs. NI Water has confirmed the consumer benefit from their buy-out of the Alpha contract is to be returned consumers through lower tariffs up to end of PC27. In other words, efficiency savings are already hard-baked into the forecast unitary charges with which NI Water has already included in their PC21 Business Plan.
- 5.114 We maintain the regulatory position where NI Water is required to evidence efficiencies on PPPs so to avoid their being treated as pass-through.
- 5.115 Whilst the final determination accepts NI Water proposed efficiencies for Alpha there are subject to delivery of £33m consumer benefits (performance against forecast to be re-examined at both PC21 Mid-Term Review and PC27).
- 5.116 Performance deductions on Alpha have at final determination reduced to the level proposed by NI Water, specifically only capacity-related deductions.
- 5.117 We have also accepted the company proposal to incorporate their most recent re-estimates of PPP/PFI Unitary Charges for (i) £4.5m est. re-indexation at materially lower OBR Mar-21 RPI forecasts affecting both Alpha, Omega and Kinnegar PPP/PFIs and (ii) introduction of a correction to estimated Alpha PPP revenue sculpting charge increases of £10.2m across PC21. For the latter, there is a nil impact for consumers since higher Alpha Unitary Charges from sculpting are then included as an additional revenue transfer within the Financial Model.
- 5.118 Whilst Alpha might now appear to earn greater profit than it would otherwise, larger dividend payments to NI Water ultimately pass back this increase to the consumer. If Alpha PPP had remained as originally established, consumers would have been required to foot the bill for such increased Unitary Charges.
- 5.119 The net effect is to ensure no net increase on what tariffs would otherwise be. This will also ensure continued transparency in our annual Cost & Performance Report analyses of out-turn opex through PC21.
- 5.120 NI Water has obtained performance deductions in every year of PPP / PFI operations. Strong contract management lies behind this.
- 5.121 To account for the changed circumstances applying to the Alpha PPP bought-out by NI Water, we have re-examined the detail of the components of performance deductions previously deployed in price controls up to and including PC15.

- 5.122 For Alpha PPP, now wholly owned by NI Water, there is no rationale for inclusion of performance deductions at PC21 since the company has taken the decision to no longer charge Alpha quality related performance deductions. In doing so, Alpha now earns greater profit than it would otherwise, making larger dividend payments to NI Water ultimately passed back to the consumer.
- 5.123 With regard any rationale for Omega PPP performance deductions, NI Water's most recent submission of PPP/PFI data confirmed the last x3 years evidenced nil performance deduction. Even when including much of the smaller performance deductions prior to this point, the average we might assume for Omega PP is immaterial for PC21 purposes.
- 5.124 We shall continue to monitor NI Water's PPP/PFI data submissions through PC21 and reserve the right to revisit if there is evidence of any material decrease in performance at PC27.

Review of NI Water proposals

- 5.125 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).

- 5.126 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
<i>Plus</i> 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)	50.50	51.60	51.24	49.12	48.50	51.90
Total Opex Profile – (£m)	222.94	224.00	222.30	220.98	219.57	222.86

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

Overall efficiency challenge at PC21

5.127 As part of the price control process 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.

5.128 Having undertaken all the analysis, the Utility Regulator is of the opinion that NI Water’s opex proposals are not challenging enough.

5.129 UR therefore proposes the following efficiency profile:

	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Catch-up Reduction – Annual Profile (%)	0.77%	0.99%	1.39%	1.38%	0.96%	0.00%
Catch-up Reduction – Cumulative Profile (%)	1.13%	2.11%	3.47%	4.80%	5.71%	5.71%
Frontier Shift – Annual Profile (%)	0.65%	0.27%	0.70%	0.56%	0.43%	0.43%
Frontier Shift – Cumulative Profile (%)	1.62%	1.88%	2.57%	3.12%	3.55%	3.96%
Total Cumulative Efficiency Profile (%)	2.73%	3.95%	5.95%	7.77%	9.05%	9.45%

Table 5.17: UR proposed efficiency targets for PC21.

5.130 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
Plus Additional Opex – (£m)	2.16	2.36	2.40	3.53	3.98	4.08
Plus Opex From Capex – (£m)	0.33	1.35	1.84	3.46	4.32	6.25
Plus Water Rates – (£m)	4.37	4.37	4.37	4.37	4.37	4.37
Plus Digital, Cyber and Cloud increase - (£m)	1.73	2.10	2.91	2.40	3.50	2.78
Less Efficiencies – (£m)	-4.35	-6.20	-9.31	-12.27	-14.42	-15.30
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
Plus Adjustments – (£m)	0.00	0.00	0.00	0.00	0.00	0.00
Less Efficiencies – (£m)	-0.05	-0.07	-0.09	-0.11	-0.08	-0.08
Plus Total PPP Unitary Charge (Post Efficiency) – (£m)	50.46	51.50	51.10	48.96	48.30	51.66
Total Opex Profile – (£m)	220.68	221.44	218.95	216.07	215.11	218.88

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

5.131 UR has recognised NI Water’s good performance during PC10 and PC13 evidenced in the graph below:

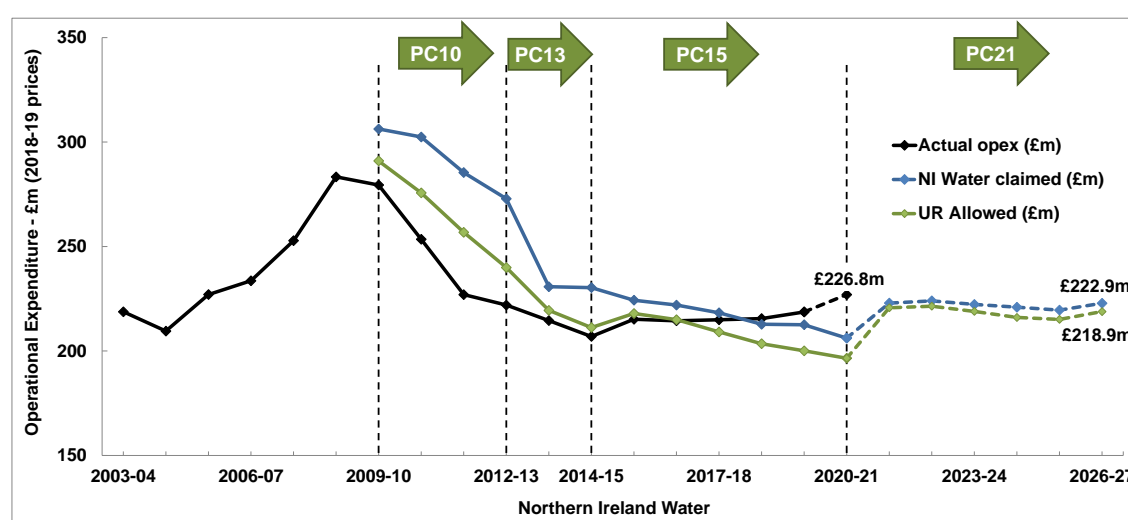


Figure 5.1: PC10 / 13 / 15 / 21 claimed versus allowed and actual (2018-19 prices).

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

Opex Efficiency Challenge	"NI Water PC21 Business Plan claimed (incl PPP re-forecast)"	UR Allowed (2021-27)	Variance	
Total operating expenditure (post efficiency)	£1,333	£1,311	-1.6%	£21.52m
			<i>Additional efficiencies</i>	-£1.52m
			<i>Reduced PPP performance deductions</i>	-£0.00m
			<i>Additional opex</i>	-£22.80m
			<i>Reservoir inspections (post-Business Plan submission)</i>	£2.50m
			<i>Opex from Capex</i>	£0.31m
Net efficiency challenge	0.77%	1.14%		

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

- 5.133 The net efficiency challenge applied to NI Water in PC21 is 1.14% (annualised), calculated as a percentage of the prior year baseline.
- 5.134 The company faces a 1.6% reduction to their opex submissions (PC21 Business Plan claimed including PPP/PFI re-forecast), saving consumers £22m across PC21.
- 5.135 The equivalent efficiency challenge at PC10 was 6.48% (annualised), 4.4% in PC13 (annualised) and 2.35% in PC15 (annualised) 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;
 - 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; and
 - having deployed profiling of catch-up efficiency percentages, as was occasioned in PC15.
- 5.136 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.

- 5.137 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 (see Table 5.20 below).
- 5.138 The final determination efficiency challenge (annualised) relative to NI Water's Business Plan is comparable to that of previous price controls (see Column (V) of Table 5.20 below).
- 5.139 The PC21 final determination efficiency challenge is materially lower than that for PC15, 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.

Efficiency gaps: price controls (PCXX) and Cost & Performance Reports (CPR)	Gap (I)	For every £1 spent by 'frontier' NI Water spends (II) = $1/(1-(I/100))$	Annualised efficiency challenge		NI Water to UR ratio (V) = IV/V
			UR determined (III)	NI Water proposed (IV)	
PC10 (2007-08 base year)	49%	£1.96	6.48%	3.56%	0.55
2008-09 CPR	43%	£1.75			
2009-10 CPR	40%	£1.67			
PC13 (2010-11 base year)	38%	£1.61	4.40%	1.69%	0.38
2011-12 CPR	31%	£1.45			
PC15 (2012-13 base year)	22%	£1.27			
2013-14 CPR	17%	£1.20			
2014-15 CPR	13%	£1.15			
PC21 (2018-19 base year)	6%	£1.06	1.14%	0.78%	0.69

Table 5.20: Efficiency challenges through the price controls

- 5.140 At the last CAWG prior to publication, NI Water requested we consider profiling catch-up percentages across PC21 (instead a simple straight line approach) as was occasioned at PC15 final determination. Given our PC21 final determination achieves 100% catch-up by the yr5 rather than yr6 of this 6-year price control, we have modified PC15 profiling, see below Table 5.21.

		2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
PC15 NI Water Business Plan (cum.)	(I)	12.75%	28.91%	51.45%	73.42%	88.49%	100.00%
PC15 FD (annual)	(II) = (I) _t - (I) _{t-1}	12.75%	16.16%	22.55%	21.97%	15.07%	11.51%
PC21 FD (annual over 5yrs)	(III) = (II) + ((II)*(11.51%/88.49%))	14.41%	18.26%	25.48%	24.83%	17.03%	0.00%
PC21 (cum. across 5yrs)	(IV) = SUM(III) _{t+n(0,1,..n)}	14.41%	32.67%	58.15%	82.97%	100.00%	100.00%
PC21 (simple straight line cum. across 5yrs)	(V)	20.00%	40.00%	60.00%	80.00%	100.00%	100.00%

Table 5.21: Profiling opex catch-up

- 5.141 NI Water's rationale for profiling is that a lower catch-up in early years better reflects their operational approach towards delivery of, for example, their efficiency savings from their BIP activities across the organisation.
- 5.142 The PC21 cumulative catch-up in line (IV) is now slower in yr1 through yr3 but much faster in yr4 compared to what would otherwise have been the simple straight line catch-up to 100% in yr5 in line (V). This better reflects the profile of efficiency delivery NI Water anticipates and we have applied (IV) in this final determination.

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 that 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;
- CM/SAT Working Group monitoring and review;
- 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 DFI and 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 DfI to finalise this over the coming weeks as this determination does not contain the necessary detail to recalculate each line item.

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.

CM/SAT Working Group monitoring and review

- 6.15 The CM/SAT working group shall continue to monitor and review 'semi-retired' consumer metrics and their replacements alongside the new consumer service metrics, including First Point of Contact Resolution, unwanted contacts and Net Promoter Scores. We have found CM/SAT has supported the introduction during PC15 of new metrics that have become

reliable and actionable data sources with which we can introduce targets across PC21.

- 6.16 We plan to continue the work of the CM/SAT working group to help establish even more consumer focused metrics and targets by the Mid-Term Review. Yrs1 and Yrs2 will allow us to monitor and review further the new PC21 targets as well as introduce new metrics focused upon the needs of the vulnerable.
- 6.17 The work of CM/SAT is ever more important to ensure consumer service improvements deliver against the PC21 price control as well as being flexible enough to enable the mutually supportive development of the Consumer Protection Programme, including Best Practice Framework.
- 6.18 The best practice framework will include a monitoring, reporting and publication regime. This regime will be in addition to PC21 output monitoring.
- 6.19 We will develop a set of metrics to facilitate accurate regulatory reporting and compliance monitoring. It is our intention that these metrics will be part of a mechanism for companies to demonstrate compliance with the best practice framework regulations.
- 6.20 The information collected through these metrics will form part of UR's public regulatory reporting.

Quarterly Capital Investment Monitoring Returns

- 6.21 We have found that 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 for reducing detailed information requirements to half yearly submissions.

Serviceability Assessments

- 6.22 We have introduced serviceability requirements and completed an assessment of control limits which is included as Annex F. We will monitor serviceability annually during PC21 and publish our conclusions as part of the annual Cost & Performance Report.

Output Monitoring

- 6.23 In preparing our final determination 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.
- 6.24 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

- 6.25 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

- 6.26 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

- 6.27 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.
- 6.28 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.

- 6.29 Within these existing processes we have the option of re-determining K factors to take account of changes in investment levels or 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. This principle and this is currently built into the Consequent Written Agreement (CWA).
- 6.30 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.
- 6.31 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.
- 6.32 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.
- 6.33 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.
- 6.34 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.
- 6.35 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.
- 6.36 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.
- 6.37 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. UR would retain the option of considering all areas if deemed appropriate at the time.
- 6.38 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.
- 6.39 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 before the start of June 2023 to set out the scope of changes it plans to include. The company should complete a submission by 15 September 2023. The Utility Regulator will complete its determination of K factors by the 15 December 2023.

- 6.40 This formal timescale for changing tariffs reflects a balance between the need not to start a change process too early, the need to set out formal milestones and the need to ensure at any changes in tariffs are in place before the scheme of charges is finalised for 2024/25. However, PC21 mid-term review is likely to consider major changes to PC21 including:
- a) the determination of capital investment and outputs which have not been determined at this stage pending the outcome of additional study and development work;
 - b) updating targets to consumer measures if appropriate.
- 6.41 These major changes should be developed through existing working groups to a clear programme of work. This will allow NI Water to keep stakeholders informed of development of its plans, seek input and reviews as the work progresses and reduce the level of activity required through the formal stages of the Mid-term Review.
- 6.42 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.
- 6.43 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. Conclusions and Next Steps

- 7.1 The PC21 Price Control has been an on-going process of engagement and we would like to acknowledge the input of other stakeholders in helping us develop our determination. In particular, the Department for Infrastructure, Drinking Water Inspectorate, Northern Ireland Environment Agency and the Consumer Council Northern Ireland.
- 7.2 NI Water submitted its business plan to us in January 2020. Following a period of engagement, we published our draft determination in September 2020 for consultation. This final determination takes account of responses to the draft determination and further engagement with the company to arrive at determination of a total revenue requirement of £2.72bn. Annex R of our final determination summarises the consultation responses received and how we have dealt with them.
- 7.3 It is our view that this determination provides the appropriate level of funding for NI Water to maintain and improve services, continue to improve efficiency and deliver the outputs included in its business plan. However:
- NI Water has further work to do to determine the most efficient solutions to significant parts of its programme. We will consider the impact of the outcome of this development work on expenditure, outputs and tariffs in the Mid-Term Review.
 - The investment and outputs included in the final determination will not address all development constraints. This presents a challenge to society on how economic development can be supported while NI Water completes this work.
- 7.4 Our determination is set in the context of the wider public expenditure environment and the spending constraints going forward. If the public expenditure necessary to deliver the PC21 final determination is not made available, we will work with NI Water to ensure that it delivers the best possible package of business plan outputs within the final public expenditure allocation. In doing so, we will work with other Principal Stakeholders to agree changes to outputs and determine adjustments to prices if appropriate.
- 7.5 Under Condition B of its Licence, NI Water has 2 months (until the 13 July 2021) to advise us whether it disputes the determination. In any event, the price limits set out in this determination are the maximum price limits the company can apply when setting prices for 2021-22.
- 7.6 We will ask NI Water to prepare a Monitoring Plan for PC21 confirming the outputs and milestones for delivery going forward. We will continue to

monitor the delivery of PC21 against the Monitoring Plan and report progress in our Cost and Performance Reports.