



Northern Ireland
Audit Office

Funding water infrastructure in Northern Ireland

**Report by the Comptroller
and Auditor General**

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Dorinnia Carville *Northern Ireland Audit Office*
Comptroller and Auditor General 28 March 2024

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List of Abbreviations

CCNI	Consumer Council for Northern Ireland
The Department	The Department for Infrastructure
DEL	Departmental Expenditure Limit
LWWP	Living With Water Programme
NDPB	Non-departmental public body
NI	Northern Ireland
NIEA	Northern Ireland Environment Agency
NI Water	Northern Ireland Water Limited
PC	Price Control
The Regulator	Utility Regulator
SEG	Social and Environmental Guidance for Water and Sewerage Services
Water Service	Northern Ireland Water Service
WWTW	Wastewater treatment works

Glossary of Terms

Term	Definition
Block Grant	The Block Grant is the funding provided to devolved administrations by the UK government. It is usually determined by the Barnett formula which links changes in UK government funding for the devolved administrations in relation to public services to changes in planned spending on comparable areas by departments of the UK government.
The Competition and Markets Authority	The Competition and Markets Authority is an independent non-ministerial department to help people, businesses, and the UK economy by promoting competitive markets and tackling unfair behaviour.
The Environment Agency	The Environment Agency was established in 1996 to protect and improve the environment. Within England it is responsible for: regulating major industry and waste; treatment of contaminated land; water quality and resources; fisheries; inland river, estuary and harbour navigations; and conservation and ecology.
The Northern Ireland Fiscal Council	The Northern Ireland Fiscal Council's mission is to bring greater transparency and independent scrutiny to the current and future condition of Northern Ireland's public finances, to inform debate and policy decisions.
Ofwat	Ofwat, established in 1989, is a non-ministerial government department responsible for regulating the water sector and working with others for the benefits of customers of water and wastewater services and wider society in England and Wales.

Executive Summary

- 1. Inadequate investment in water infrastructure has been identified as a long-term issue in Northern Ireland.** The current model for planning and delivering water infrastructure was established in 2007 with the creation of Northern Ireland Water (NI Water). At that time, a review commissioned by the then Minister for Regional Development highlighted how investment in water infrastructure had been lower in Northern Ireland than elsewhere in the United Kingdom over the preceding decades. The report stressed that this needed to be addressed to support the development of a modern and effective network of water infrastructure.
- 2. Securing the level of financing required to ensure infrastructure can meet demand has been a significant challenge since the creation of NI Water.** There has been a wide range of issues and factors affecting public expenditure since 2007. These include the contraction in overall public expenditure levels that occurred following the financial crisis in the late 2000s, as well as the uncertainty and increasing cost pressures that have arisen from more recent events, including Brexit, Covid-19 Pandemic and the Russian invasion of Ukraine. Specifically, cost increases in relation to energy, chemicals and construction materials have imposed significant pressures in respect of both the cost of investing in new water and wastewater infrastructure and in the running of existing infrastructure.
- 3.** In response to these pressures, the Department for Infrastructure (the Department) has sought to provide additional budgetary resources to enable NI Water to deliver on its responsibilities. However, the challenge of navigating this economic climate and delivering planned investment has been compounded by the absence of multi-year budget allocation and public expenditure commitment. Current arrangements do not provide public bodies with clarity over the full extent of funding that will be available to them over the medium or long-term future and lack flexibility. They make coherent planning and management of large capital investment programmes, which span multiple years, more challenging. Additionally, the accumulation of global economic issues in recent years has driven significant increases in the cost of energy, chemicals and other consumables required to deliver water services. These pressures have contributed to tensions between the key organisations involved, which are severely challenged to deliver against their full range of statutory obligations within this highly challenging economic environment.
- 4. The need to prioritise effective use of the funding available has limited investment in sewerage and wastewater infrastructure.** When deciding how best to use the available resources, decision-makers have a legal responsibility to ensure the water delivered to consumers is safe. Projects related to safe water delivery have tended to be prioritised over investment in the sewerage and wastewater infrastructure.
- 5.** As a result of this process there are many areas in Northern Ireland where new development, including the construction of homes and other buildings, is restricted, as there is insufficient capacity within existing sewerage and wastewater infrastructure to connect new buildings. These limitations could profoundly affect the ability of the NI Executive to deliver against a range of its broad economic, environmental and social objectives.
- 6.** The restrictions in the investment in sewerage and wastewater infrastructure is causing increasing levels of dissatisfaction amongst external statutory and non-statutory stakeholders whose development plans and ambitions are being constrained as a result.

- 7. The most recently agreed plans include a significant increase in investment in water infrastructure compared to the past.** Over the period 2021-27, it was intended that a total of £2.1 billion will be invested in Northern Ireland’s water infrastructure. This is 87 per cent more than was invested between 2015-21 in real terms and includes provision for greatly increased funding for sewerage and wastewater infrastructure. It is encouraging that in the first two years of the 2021-27 plan, the Department has been able to provide the required level of funding. However, the Department has recently confirmed that NI Water’s capital and resource funding allocations in 2023-24 and 2024-25 are significantly below the level indicated by NI Water as being required to deliver on planned objectives.
- 8.** During 2019-20, in preparation for the latest plan, the Department undertook a review of funding options for NI Water. This did not result in any change being made to the existing arrangements and as a result there was a continued reliance upon the ability of the Department to secure sufficient funding within short-term settlements, in a context of other important areas of public services presenting equally pressing demands for additional financial investment. If unaddressed, this dynamic has the potential to cause further tension between internal and external stakeholders, and damage confidence. **Therefore, we encourage the Department and NI Water to complete a comprehensive review of the alternative funding and governance arrangements, led by suitably qualified experts.**
- 9.** The ability of departments to secure appropriate finance to invest in critical infrastructure is a wider issue than just the water system. Increasing attention has been focused on the need for a coordinated and sustainable approach to infrastructure planning generally in Northern Ireland. **We consider that it is critical that relevant stakeholders work purposefully towards establishing appropriate arrangements to effectively coordinate and manage infrastructure investment across Northern Ireland.**

Part One:

Introduction

- 1.1** In 2007 Northern Ireland Water (NI Water) was established as Government-owned company responsible for the delivery of water and sewerage services in Northern Ireland. Every day, NI Water delivers 606 million litres of water to consumers and collects 362 million litres of wastewater. These services are provided through a £3.8 billion network of assets owned and managed by the company. The annual cost of providing these services and maintaining this infrastructure base has been over £400 million in recent years.
- 1.2** The legislative proposals that led to the establishment of NI Water were developed by the Secretary for State in 2004 during a period of Direct Rule and were highly contentious. It was intended that the cost of water services in Northern Ireland should be met through the direct charging of households and businesses for their water usage. This proposal was subject to significant public debate and controversy, and ultimately was not implemented.
- 1.3** Instead, different charging mechanisms were established for households and businesses. Businesses are directly charged for water and wastewater services, within the tariff level determined by the Utility Regulator (the Regulator). The cost of domestic households' water usage is also determined by the Regulator in the same way as that for businesses. To date the domestic revenue requirement has been met through a subsidy paid, on behalf of domestic households, by the Department for Regional Development (and subsequently the Department for Infrastructure). The cash required to pay this subsidy is provided to the Department by the NI Executive. In determining the tariffs applied to domestic households and businesses, the Regulator is required to ensure that the tariffs it determines comply with relevant legislation and regulations and represent best value for consumers.

Key organisations involved in the governance of water and sewerage services

- 1.4** Whilst NI Water is responsible for the delivery of water and sewerage services, its operational planning and delivery are subject to a significant degree of oversight and input from the Department and the Regulator:
- the Department is both NI Water's sole shareholder and its sponsor department; and
 - the Regulator is an independent non-ministerial government department responsible for the economic regulation of the electricity, gas and water and sewerage industries in Northern Ireland. The Regulator's primary statutory duty in respect of water and sewerage services is to protect consumers with respect to the price and quality of those services.

These three organisations work together to plan investment in water infrastructure through a process known as Price Control. This is discussed in more detail at **paragraph 1.9**.

1.5 Outside of these key relationships, NI Water is accountable to a number of other regulatory bodies that monitor aspects of its performance, including:

- the Drinking Water Inspectorate, which is responsible for regulating drinking water quality in Northern Ireland. It carries out detailed inspections of water quality to provide public assurance over water treatment and distribution; and
- the Northern Ireland Environment Agency (NIEA), which is responsible for protecting and enhancing Northern Ireland's environment. A key aspect of this duty is ensuring that freshwater and the marine environment are protected from damage caused by human activity.

NI Water engages with each of these organisations, as well other stakeholders, through a number of different working groups at various strategic and operational levels (see **Figure 1**). NI Water also has a statutory duty to consult with the Consumer Council for Northern Ireland (CCNI) on policy matters affecting consumers, including consultation on the code of practice for debt recovery.

Figure 1: Principal stakeholders involved in the management and governance of NI Water

Water Stakeholder Steering Group

Membership: Accounting Officers and Chief Executives from the Department, the Regulator, CCNI, NI Water and NIEA. The Drinking Water Inspectorate is represented on this group through NIEA.

Purpose: Provides a forum for discussion of strategic issues relating to the Price Control, Ministerial guidance, cross-cutting policy and communication issues.

The Group meets on an ad-hoc basis.

Output Review Group

Membership: Representatives from the Department, the Regulator, CCNI, NI Water, the Drinking Water Inspectorate and NIEA.

Purpose: To define and monitor progress on key outputs; discuss issues of common concern across the water industry; and approve revisions to the Regulator's output targets for NI Water.

The Output Review Group has a number of sub-groups which act as forums for discussion amongst members in respect of particular issues across four main areas: environmental quality, drinking water quality, consumer engagement and social policy.

The Group meets on a quarterly basis.

Source: NIAO based on NI Water's documents

Water strategy and policy framework

- 1.6** Ensuring that there are effective water and sewerage services is critical in enabling the achievement of four of the outcomes in the NI Executive's draft Programme for Government and Outcomes Delivery Plan:
- Outcome 1 – We prosper through a strong, competitive, regionally balanced economy.
 - Outcome 2 – We live and work sustainably – protecting the environment.
 - Outcome 4 – We enjoy long, healthy and active lives.
 - Outcome 11 – We connect people and opportunities through our infrastructure.
- 1.7** There is a well developed framework of policies and strategies to coordinate delivery of water and drainage services. The key long-term strategy in place for water services is the Department's *Sustainable Water: a long-term strategy for Northern Ireland (2021-46)*. This Strategy establishes a long-term approach for public bodies to manage every part of the water cycle (from rainfall to drainage and treatment of drinking water) to ensure these arrangements are on a sustainable long-term footing. It sets out the key priorities for public bodies in respect of: the management of drinking water supply and demand; flood risk management and drainage; environmental protection and improvement; and water and sewerage services.
- 1.8** The Department can also issue guidance on the attainment of social and environmental policies which the Regulator must have regard to in its decisions. The Social and Environmental Guidance (SEG) is generally issued in advance of each regulatory Price Control, setting out how the Department expects the Regulator and NI Water to support the delivery of the Strategy's objectives, including guidance on funding and affordability.
- 1.9** Within the parameters set by an SEG, NI Water works with stakeholders to develop a six-year business plan identifying the outputs it plans to deliver, including the specific capital investment projects it wishes to complete, and how much these will cost. The Regulator undertakes periodic reviews of NI Water's plans for expenditure and outputs, and ensures tariffs are in line with the SEG. These reviews are known as Price Controls (PCs) and they take account of the priorities identified by the principal stakeholders (see **Figure 1**) and are intended to be both challenging and achievable. The most recent PC, PC21 covering the period 2021-2027, was determined by the Regulator and accepted by NI Water in May 2021, and details:
- the plans for investment of around £2.1 billion in water infrastructure in Northern Ireland between 2021 and 2027;
 - the efficient level of operating expenditure needed to continue to provide and improve water and wastewater services; and
 - the range of service targets, outputs, and outcomes which NI Water is expected to achieve.
- 1.10** Since 2014, this high-level framework has been supplemented by the Living With Water Programme (LWWP). This Programme emerged in response to the increasing significance of drainage and wastewater management issues occurring within the Greater Belfast Area. The Programme brings together key officials from a number of statutory bodies, including the Department, NI Water, the Regulator, the Department of Agriculture, Environment and Rural Affairs, NIEA, the Harbour Commissioners, CCNI and Belfast City Council.

1.11 In November 2021, *Living With Water in Belfast: An Integrated Plan for Drainage and Wastewater Management in Greater Belfast* was approved by the NI Executive and published. The Plan identified £1.4 billion of investment in water infrastructure between 2021 and 2033. It includes projects to be undertaken as part of the implementation of the relevant PCs over this timescale. Projects identified within the LWWP Plan account for around £529 million (nominal as at 2019-20) of the total planned investment of £2.1 billion identified within PC21.

The NI Executive's policy on subsidising domestic household water usage has important implications for NI Water's classification

1.12 Whilst NI Water generates some income from charges applied to non-domestic customers, the subsidy paid by the Department on behalf of domestic households represents the vast majority of NI Water's annual income (see **Figure 2**). The reliance that NI Water has upon the public sector for its income, and the high degree of control by a government department over the scope and timing of its operations have important implications for NI Water's organisational status. Under international statistical guidance, these two factors mean that whilst NI Water has been established as a commercial company, it is classified as a non-market central government body by the Office of National Statistics. As a result, it is treated as a non-departmental public body (NDPB) within the Department for public expenditure purposes.

Figure 2: NI Water's annual funding by funding type

SOURCE	£ MILLION				
	2018-19	2019-20	2020-21	2021-22	2022-23
Customer subsidy	263	278	297	299	346
Customer income	69	72	65	77	92
Road drainage	19	20	22	22	25
Other	14	15	13	16	17
TOTAL	365	385	397	414	480

NOTE All figures restated to 2022-23 prices using HMT GDP deflators at September 2023.

Source: NIAO based on NI Water figures

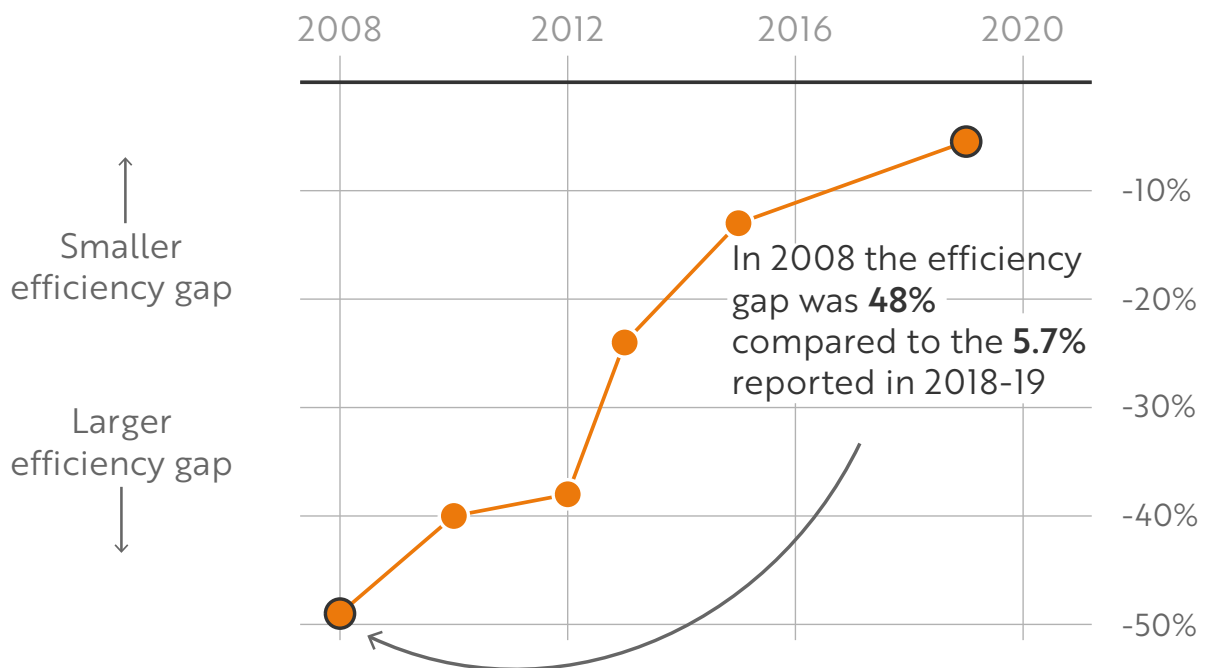
1.13 Being classified as an NDPB makes NI Water subject to the budgetary and fiscal rules and requirements that apply to departments and other public sector bodies. These fiscal rules are the responsibility of the government of the United Kingdom. Devolved administrations have very little freedom to deviate from or adapt these processes in response to local issues or challenges that arise from their application.

1.14 The key issue arising from this is that the PC and public budgetary planning processes are not aligned. Financial settlements made as part of public sector budgetary settlements do not cover the same timescales as PCs. As a result, plans are made without a high degree of certainty that they can be fully financed, or the timeline for funding to be delivered through the multi-year plans. These issues are discussed in more detail in **Part Two** of this report.

The Regulator’s ongoing measurement of NI Water’s performance has highlighted improvements in performance since 2007

1.15 Since it was established in 2007, NI Water has been subject to ongoing efficiency assessment and challenge by the Regulator. This has been implemented through econometric benchmarking of NI Water’s operating costs and a range of other performance metrics against water and sewerage companies in England and Wales, to assess NI Water’s relative efficiency against the best performing companies in England and Wales. This measure is known as the efficiency gap. In each PC, NI Water has been challenged to close the efficiency gap at an achievable rate, taking account of general productivity improvements in the wider economy. The Regulator estimated that the efficiency gap had reduced to 5.7 per cent based on an assessment of comparative data up to 2018-19. Over the last fifteen years, the operational efficiency gap between NI Water and these best performing companies has reduced considerably (see **Figure 3**). The Regulator no longer benchmarks the efficiency gap annually and now only conducts this when undertaking the PC.

Figure 3: The efficiency gap between NI Water and the best performing water companies in England and Wales has reduced



Source: NIAO analysis of data provided by the Utility Regulator

- 1.16** As part of the PC, the Regulator monitors NI Water’s performance against a range of expectations including water and sewerage service, quality compliance, and the delivery of specific schemes and water mains replacement. The Regulator uses NI Water’s Annual Information Returns to assess performance, and reports on actual delivery against the expectations through its Cost and Performance Reports. However, the Regulator has highlighted that the expectations set in its determination for drinking water quality and wastewater quality performance measures are the lowest level of performance that NI Water is expected to achieve, given the variability of the sampling regime and external factors, such as weather, and as such are not considered targets linked to optimal performance levels that should be achieved.
- 1.17** The Regulator’s Cost and Performance Report for 2021-22, published September 2023, concluded that NI Water broadly delivered against the targets set in PC21 and met 37 out of 45 water and sewerage service areas output targets (see **Figure 4, Appendix 1** for full detail and <https://www.uregni.gov.uk/publications/cost-and-performance-report-2021-2022-ni-water>).

Figure 4: NI Water largely met the operational targets set by the Regulator as part of its Overall Assessment Methodology

TARGET ¹	15-16	16-17	17-18	18-19	19-20	20-21	21-22
Drinking water quality	✓	✓	✓	✓	✓	✓	✓
Wastewater quality	✓	✓	✓	✓	✓	✓	✓
Water leakage rates ²	✗	✗	✗	✗	✗	✗	✓
Adequate pressure ³	✓	✓	✓	✓	✓	✓	✓
Customer contact performance	✓	✓	✓	✓	✓	✓	✓

NOTES

- (i) The targets in this table are a small selection from the full range of targets and results that can be found at <https://www.uregni.gov.uk/publications/cost-and-performance-report-2021-2022-ni-water>
- (ii) The Utility Regulator’s Water and Sewerage Service Cost and Performance Report 2020-21 explains that NI Water’s achievement of leakage targets is challenging as performance levels approach the sustainable economic level of leakage and there is a potential link between performance and previous underspends on leakage enhancement work.
- (iii) This relates to the company’s target for removing properties from its ‘low pressure’ register through company action. Water companies are required to provide water at a pressure which will, under normal circumstances allow it to reach to the top of the top-most storey of every building within the undertaker’s area.

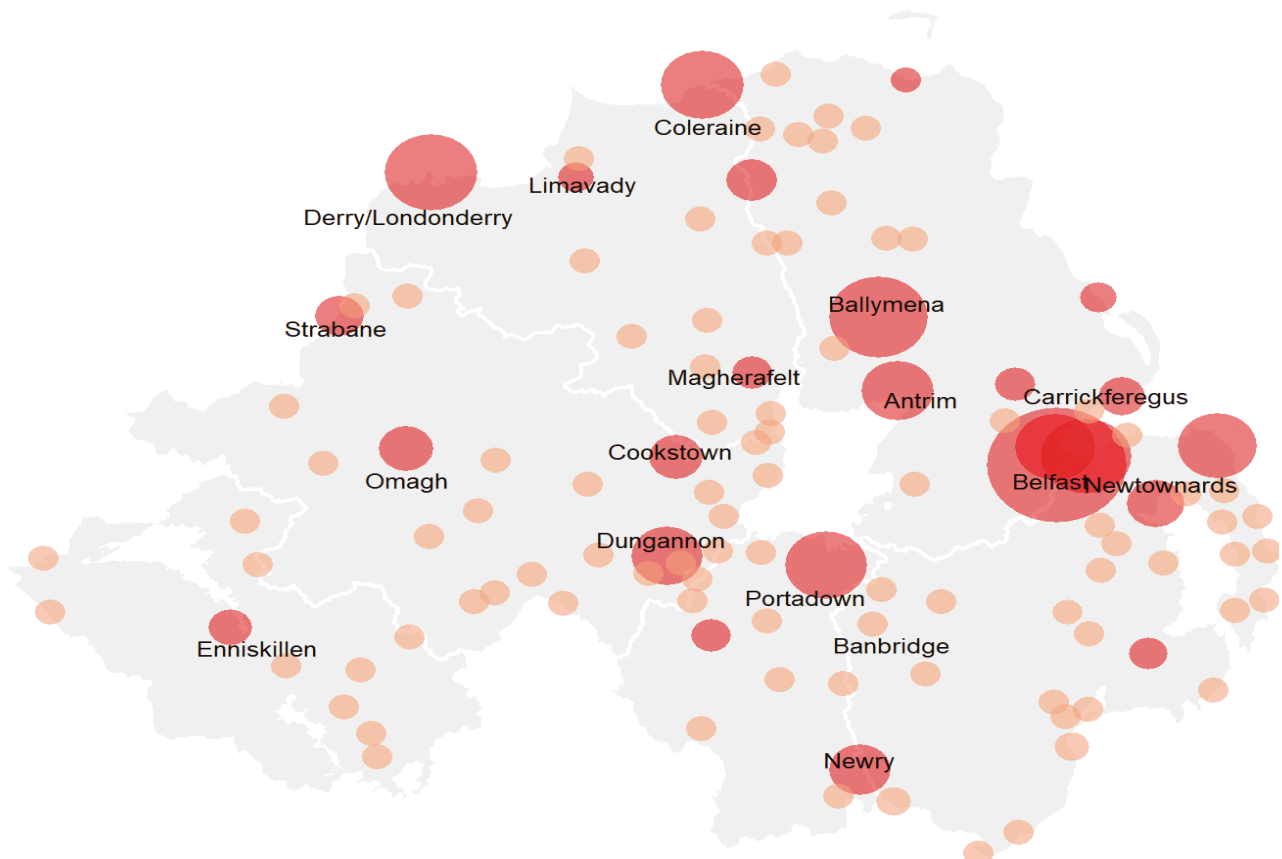
Source: NIAO based on data in the Utility Regulator’s annual Water and Sewerage Service Cost and Performance Report

- 1.18** NI Water is also subject to oversight by the Department in line with the requirements of Managing Public Money NI and the Companies Act. The Department and NI Water have half-yearly shareholder meetings and monthly update meetings to discuss various aspects of NI Water's performance.

Historic underinvestment has meant there are significant capacity issues affecting sewerage and wastewater infrastructure across Northern Ireland

- 1.19** Despite the trend of long-term improvement in NI Water's performance, there are widespread concerns amongst key stakeholders relating to water infrastructure. The PC21 business plan identified more than 100 wastewater treatment facilities (>250PE population equivalent) that are at or near full capacity (see **Figure 5** and **Appendix 2**). Through NI Water's current investment programme, upgrades have been initiated at 16 wastewater treatment works since April 2021. There are approximately 100 areas across Northern Ireland, including 25 cities and main towns, where NI Water considers it cannot provide positive responses to new development planning applications. The inability to approve new developments and the need to conduct wastewater impact assessments poses a significant risk to the NI Executive being able to deliver some of its long-term economic, social, and environmental objectives.

Figure 5: There are a large number of areas where wastewater and sewerage infrastructure is approaching or at its capacity limit



Source: NI Water

- 1.20** The main cause of these restrictions on development is NI Water determining that there is insufficient capacity within existing sewerage and wastewater infrastructure in these areas to support the additional demand that would be introduced by proposed new development.
- 1.21** Underinvestment in water infrastructure has been a long-term problem in Northern Ireland, and pre-dates the 2007 establishment of NI Water. Since 2007 there has remained a gap between the level of investment that has been available, and the level needed to meet current and emerging demand for water and sewerage services arising from new development. This issue is not unique to Northern Ireland, with evidence emerging that many other water companies across the UK have underinvested in water and sewerage infrastructure resulting in sustained high levels of leakage, frequent water shortages during periods of drought and issues with unauthorised sewerage discharges to waterways and coastal waters.
- 1.22** In a context of scarce resources, decision-makers had to determine how best to prioritise the resources to deliver the best possible outcomes for consumers. Within the water system, this decision-making has been heavily influenced by the need to ensure that the water delivered to consumers is safe and usable. Consequently, the first priority for investment has been directed towards infrastructure that supports the safe delivery of drinking water. The next priority has been to maintain existing assets to ensure there is no further deterioration in service. Once these priorities have been addressed, the balance of available funding is for investment in sewerage and wastewater infrastructure.

There has been increasing concern regarding the capacity issues within water infrastructure

- 1.23** Increasingly NI Water itself has expressed a view that its governance and funding arrangements impose a critical barrier upon its ability to deliver its statutory duties, including NI Water's Chief Executive's January 2022 update to the Committee for Infrastructure on budgetary pressures and other issues related to the funding model. External stakeholders, including both private developers and statutory bodies, have become increasingly vocal in their complaints about the limitations being imposed upon their activities and the impact this will have on wider society. Some have questioned the extent to which the restrictions being applied are entirely merited, and do not feel they are presented with appropriate evidence by NI Water to justify the restrictions currently applied. For example, on 2 March 2022 the Drains for Development group highlighted to the Committee for Infrastructure their concerns that the capacity issues frequently cited were not always correct, and may instead be a tactic used to influence the Executive's budget setting process.

The most recent Price Control represents an effort to begin addressing the significant investment need that exists across the water network

- 1.24** PC21 provides for investment worth £2.1 billion over the PC's lifespan, representing an increase of 87 per cent compared to the previous PC, PC15. A substantial proportion of this additional investment is being directed towards addressing the capacity issues within sewerage and wastewater infrastructure (see **Paragraph 2.23** and **Figure 10**).
- 1.25** Fully addressing the capacity issues affecting the wastewater system in Northern Ireland is going to be hugely challenging for the Department and NI Water. PC21 will not meet all the capacity issues that impose constraints on development in Northern Ireland. Analysis by NI Water suggests that fully addressing the consequences of historic underinvestment will require substantially higher levels of funding than previously delivered, over the next two decades (see **Figure 6**). The forecast figures in **Figure 6** are currently under review as part of the PC21 Mid-Term Review, due before the end of July 2024, with early indications showing that there will be a significantly higher financial requirement. In our view, it is not clear that the investment required will be delivered on such a significant scale, in the context of a highly uncertain economic outlook and competing priorities elsewhere within the public sector.

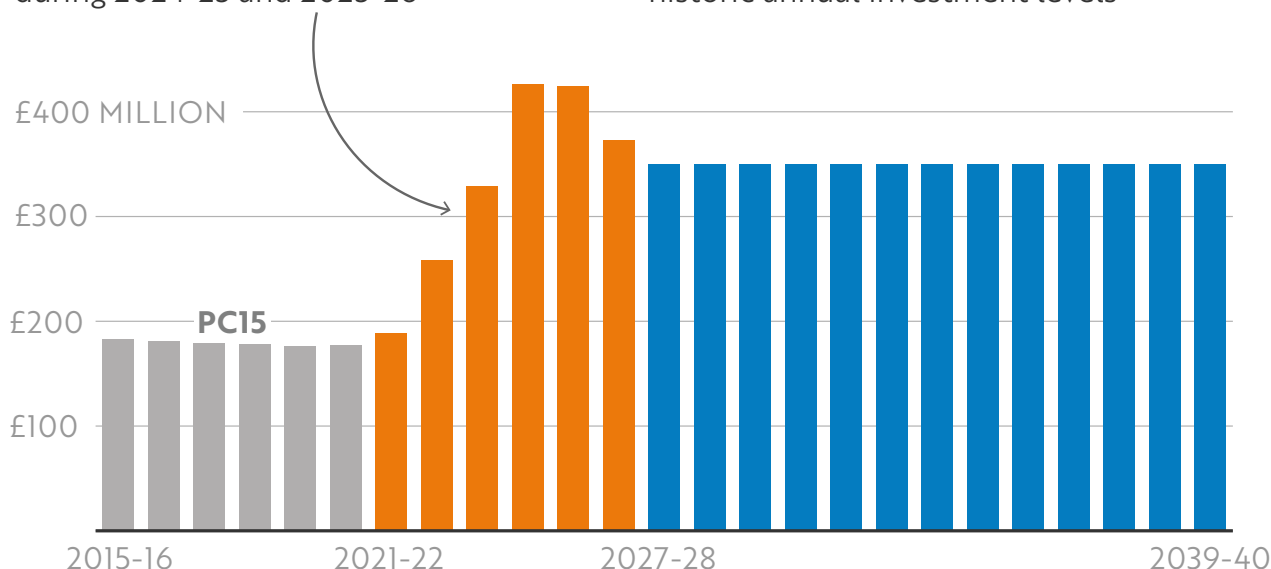
Figure 6: Fully addressing the constraints within water infrastructure is likely to involve significant investment over the next two decades

PC21

Annual investment increases from around £185m per year during PC15 to a peak of £425m during 2024-25 and 2025-26

Beyond PC21

NI Water estimates that annual investment of around £350m will need to be sustained until 2039-40, which is well in excess of historic annual investment levels



NOTE

All figures restated in 2021-22 prices using forecast RPI. Long-term projections have not been subject to assessment by the Regulator, and do not include the additional investment needed to address climate change, or the costs associated with moving towards net zero over the next two decades, subject to government policy, Regulator determination and budget availability.

Source: NI Water

Scope and structure

1.26 During our fieldwork, we engaged with the Department, NI Water, the Regulator and a number of other stakeholders to develop an understanding of how the planning, managing and funding of Northern Ireland’s water infrastructure works, and the risks and challenges that exist in continuing to ensure this essential service is sustained and improved for citizens. We have reviewed published and unpublished management information, provided by all the key organisations, and undertaken a review of how water infrastructure is funded and managed in neighbouring jurisdictions (see **Appendix 3**).

1.27 This report provides a landscape review of how investment in water infrastructure has been managed in Northern Ireland over the last two decades. It highlights the challenges that decision-makers have faced in delivering an effective, well-managed capital investment programme within the constraints of the public expenditure system.

1.28 This report does not, and is not intended, to question the overall policy decisions surrounding NI Water. It is intended to provide a factual account of how water, sewerage and wastewater infrastructure investment is managed within the policy context.

1.29 Our report is structured as follows:

- **Part Two** provides an overview of how water infrastructure investment has been planned, funded and managed in Northern Ireland since the creation of NI Water;
- **Part Three** highlights the economic and environmental impacts that arise from not adequately investing in water infrastructure; and
- **Part Four** discusses the ways in which current arrangements can impact upon the extent to which those responsible are able to fulfil their objectives, in terms of ensuring an effective system of water infrastructure.

Part Two:

Planning, funding and managing water infrastructure

2.1 This section of the report provides an overview of the arrangements for planning, funding and managing investment in water infrastructure in Northern Ireland.

Investment in water infrastructure is mainly funded through the Block Grant

2.2 Before the establishment of NI Water, water services in Northern Ireland were delivered by the Northern Ireland Water Service (Water Service). The Water Service was an executive agency within the then Department for Regional Development, funded by the Department from its overall funding allocation.

2.3 In 2004, during a period of Direct Rule, the Secretary of State for Northern Ireland proposed a number of significant reforms to the delivery of water and sewerage services in Northern Ireland, including:

- the Water Service would be replaced by a government-owned company; and
- all households would be required to pay a direct water charge, to support the objective that water services should become self-financing.

2.4 Following the restoration of devolution, the Water Service was replaced by a government-owned company (NI Water), as planned. However, direct charging of domestic water users was not implemented due to opposition from local political parties. Instead, the then Minister for Regional Development established an Independent Water Review Panel to undertake a comprehensive review of the arrangements that should be in place to fund and govern water services.

2.5 The Panel's first report, delivered in October 2007, highlighted that the level of investment in water, sewerage and wastewater infrastructure had been historically lower in Northern Ireland than in other regions of the UK. The Report stressed that there were critical structural issues that had to be addressed, and that it was going to be a challenge for policy makers to deal with these:

'Regional public services in Northern Ireland have two main sources of income: the Block grant from Westminster and the regional rate. If water and sewerage services are paid for from either of these sources, there will be less available for other public services. If as a society we want to replace our out-dated Victorian sewers or stop the discharge of sewerage into our beautiful coastal waters, we will need to invest in new infrastructure. The money for this will have to be found, whether through the rates or user payments. There is no other option. We face hard choices.'

2.6 The Panel recommended, amongst other things, that the proposal for direct water charging for domestic users should not proceed. Instead, domestic users should make a payment based upon the capital value of their property through the rates system. This recommendation was not implemented.

2.7 Instead, the NI Executive decided that the cost of domestic water usage be met through a subsidy paid by the Department (and previously the Department for Regional Development) on behalf of domestic users, using funds from the Block Grant. Whilst there has been some direct charging of non-domestic users for water services, this subsidy represents the majority of NI Water's income in any given year (see **Figure 2**).

Water infrastructure delivery is planned through the Price Control process

- 2.8** Price Control is a regulatory process whereby the Regulator determines the outputs NI Water should deliver for the PC period and the efficient level of capital investment and operational expenditure necessary to do so. It includes mechanisms for managing changes in outputs and funding which might occur during the PC. The process begins with a period of engagement with key stakeholders, following which the Regulator publishes its 'Approach for the Price Control' and detailed information requirements for NI Water's Business Plan submission. NI Water then prepares a Business Plan setting out its operational costs and detailing the capital projects it intends to undertake, and an estimate of their delivery cost. During the preparation of the Business Plan, NI Water engages with NIEA, the Drinking Water Inspectorate, and CCNI through a series of working and challenge groups to ensure that the plan is balanced and aligned with their priorities.
- 2.9** Ultimately the Regulator provides the Department with assurance that the programme is needed and affordable, then the Department seeks the funding. NI Water's final Plan is submitted to the Regulator for detailed review, and the Regulator must satisfy itself that the plans made are realistic, efficient, and consistent with the Department's strategic objectives for water infrastructure detailed within the SEG (see **Paragraph 1.8**). This review process will typically result in a range of revisions being made to NI Water's Plan, before the Regulator publishes the final determination for the PC. If NI Water considers the Regulator's determination unacceptable it can require the Regulator to refer it to the Competition and Markets Authority for determination. During a PC Period, NI Water submits annual operational delivery plans to the Department for its approval.

There have been four Price Control settlements since 2010

- 2.10** The first three year period from 2007 to 2010 was not subject to a regulatory Price Control. Instead, it was covered by a Strategic Business Plan agreed between NI Water and the Department. This arrangement was put in place to allow time for the new regulatory framework to develop. When the PC process was first implemented by the Regulator in 2010, there were concerns about the lack of quality data held within the information systems that NI Water had inherited from Water Service. The Regulator determined that these limitations meant that it was not realistic to immediately begin developing five-year plans.
- 2.11** Consequently, the first two PCs covered shorter periods, with the intention of providing an opportunity to develop the information systems and processes needed to support effective long-term planning. The first PC10 covered a three-year period (2010 to 2013) and allowed for this back-end work to be completed, with PC13 covering the years 2013 to 2015 and testing the framework established during PC10.
- 2.12** The work carried out during this period was deemed effective, and since then there have been two six-year PCs:
- PC15 covering the years 2015 to 2021; and
 - PC21 covering the years 2021 to 2027.

PC15 and PC21 were agreed without certainty that the full level of funding required to deliver those plans would be available

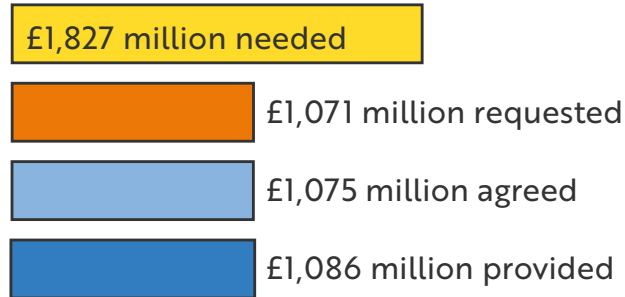
- 2.13** An important component of effectively planning and managing significant capital investment programmes is having a reasonable expectation that the level of funding will be available over the lifetime of the programme. The PC process places a heavy emphasis on determining the cost of delivering the various projects included and involves detailed analysis by the Regulator of the cost estimates put forward by NI Water. However, it is not linked to any long-term budgetary planning whereby the funding needed to deliver the PC is ear-marked or ring-fenced across the financial years covered by the plan. The NI Executive itself receives its funding through HM Treasury Spending Reviews which normally cover a three-year period, which limits the NI Executive's ability to plan long-term investment.
- 2.14** This creates a significant challenge for the Department in terms of establishing priorities and objectives for PCs that are realistic and achievable whilst also meaningfully addressing the level of investment needed within the system to support wider government and societal development.
- 2.15** In the absence of clear information about the funding that will be available, the Department is required to project to the best of its ability what level of resourcing it considers it will be able to access. For example, in the SEG issued prior to the development of PC15 the Department indicated that based upon the NI Executive's Investment Strategy, there would be a maximum of £990 million available for investment in water infrastructure within the overall balance of monies available to the NI Executive between 2015 and 2021 (see **Appendix 6**). The SEG therefore directed that the investment plans made in PC15 should be based on this funding envelope.
- 2.16** This level of funding was significantly less than the level of investment that was considered at that time to be required to alleviate the sewerage and wastewater capacity issues that existed. Whilst the Department recognised the desirability of higher levels of investment, such plans could not be developed due to the low level of confidence that additional monies needed to support larger-scale plans would be available. Whilst the overall level of investment planned in the PC was substantially delivered, the gap between what was needed to alleviate capacity issues and what was available meant the scale of these problems worsened over the PC15 period and became more expensive to remedy.
- 2.17** Unlike PC15, the SEG issued in advance of the development of PC21 did not impose a financial ceiling on what could be planned. Analysis undertaken by NI Water indicated that the total cost of alleviating all capacity issues within the system that were constraining development would be in the region of £3.1 billion. However, there was a consensus amongst all stakeholders that even in the event that financing was available it was not possible to undertake this level of work within a single PC period efficiently, due to infrastructure upheaval, the market capacity to supply, pressures on NI Water's technical staff, etc. Therefore, the plans agreed by all stakeholders within PC21 represent the limit of what is considered to be realistically achievable and is a significant increase from the PC15 baseline (see **Figure 7**).

Figure 7: Price Control investment plans

The last two PCs - PC15 and PC21 - have been preceded by significant estimates by NI Water of the level of investment required to deliver an effective network of water infrastructure

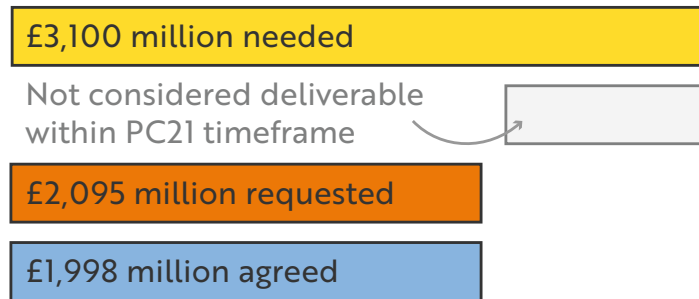
PC15

It was estimated at the outset of PC15 the cost of alleviating all existing pressures at that time would be £1.8 billion. However, there were forecast to be significantly less funds than this available at that time and so PC15 set plans below this level.



PC21

Estimates at the outset of PC21 put the cost of alleviating all pressures within the system at £3.1 billion. However, it was agreed that even if all this money was available it would not be feasible to deliver outputs on this scale within a 6 year period. The final amount agreed was close to what was considered the upper limit of what was realistic by NI Water and the Regulator.



NOTE All figures reported as 2021-22 prices.

Source: NIAO analysis of data provided by NI Water

There is a heavy reliance on in-year allocations to fund water infrastructure investment

2.18

The Department was able to substantially provide the funding needed to support the delivery of PC15. However, this overall outcome was dependent upon the Department being able to secure additional funding in-year beyond the amounts initially allocated to it. Such funding is secured through a centralised process within which all departments can surrender resources they have been allocated but no longer require, or bid for additional resources during a financial year. The Department uses this process to help it secure additional resources in respect of its full range of operations, of which NI Water is only one part (see **Figure 8**).

Figure 8: In-year allocations to the Department and NI Water

RESOURCE	TOTAL AMOUNTS GRANTED TO DfI IN-YEAR (£m)	AMOUNTS REQUESTED BY NI WATER (£m)	AMOUNTS ALLOCATED TO NI WATER (£m)
2017-18	26.1	-	-
2018-19	33.5	6.5	2.5
2019-20	17.2	0.6	0.3
2020-21	276.7**	64.3	48.5*
2021-22	132.6	34.2	19.1***

CAPITAL	TOTAL AMOUNTS GRANTED TO DfI IN-YEAR (£m)	AMOUNTS REQUESTED BY NI WATER (£m)	AMOUNTS ALLOCATED TO NI WATER (£m)
2017-18	41.4	12.0	9.0
2018-19	49.0	25.6	2.8
2019-20	57.1	15.5	3.0
2020-21	46.9**	15.0	15.0
2021-22	33.8	-	-

NOTES

*includes £16m allocated after January monitoring.

**updated to include £16m resource and £12.5m capital allocated after January monitoring.

***£2.8m was non-cash.

Source: NIAO based on DfI data

2.19 Given the prevailing economic climate in recent years, and financial pressures experienced across the public sector as a whole, the in-year allocation process is inevitably a competitive one. There have not been enough resources to meet all requests, and allocation of the funding available is prioritised. This can contribute to tensions between the Department and its sponsored bodies, including NI Water, as they seek to manage as best they can within a context of scarce resources.

2.20 Some stakeholders have raised concerns that the need for NI Water to bid for resources, and the potential uncertainty within this process, may have an undue influence on the application of development restrictions. There is a concern that such decisions may, at times, be used as part of a tactic of highlighting or exaggerating the severity of financial need to increase the chances to securing additional funding. It is important to note that any inappropriate application of development restrictions would be contrary to the requirements of Managing Public Money. We were not presented with any direct evidence of the Department or NI Water behaving in such a way.

2.21 The factors that drive any individual restriction can be complex and linked to a number of local factors, including local wastewater treatment facility design, population factors, and drainage area planning. It is important that the administrative arrangements are able to effectively communicate to stakeholders the basis upon which any individual restriction has been determined necessary. The Department and NI Water could consider whether current arrangements are capable of transparently demonstrating this and enhance those arrangements where appropriate.

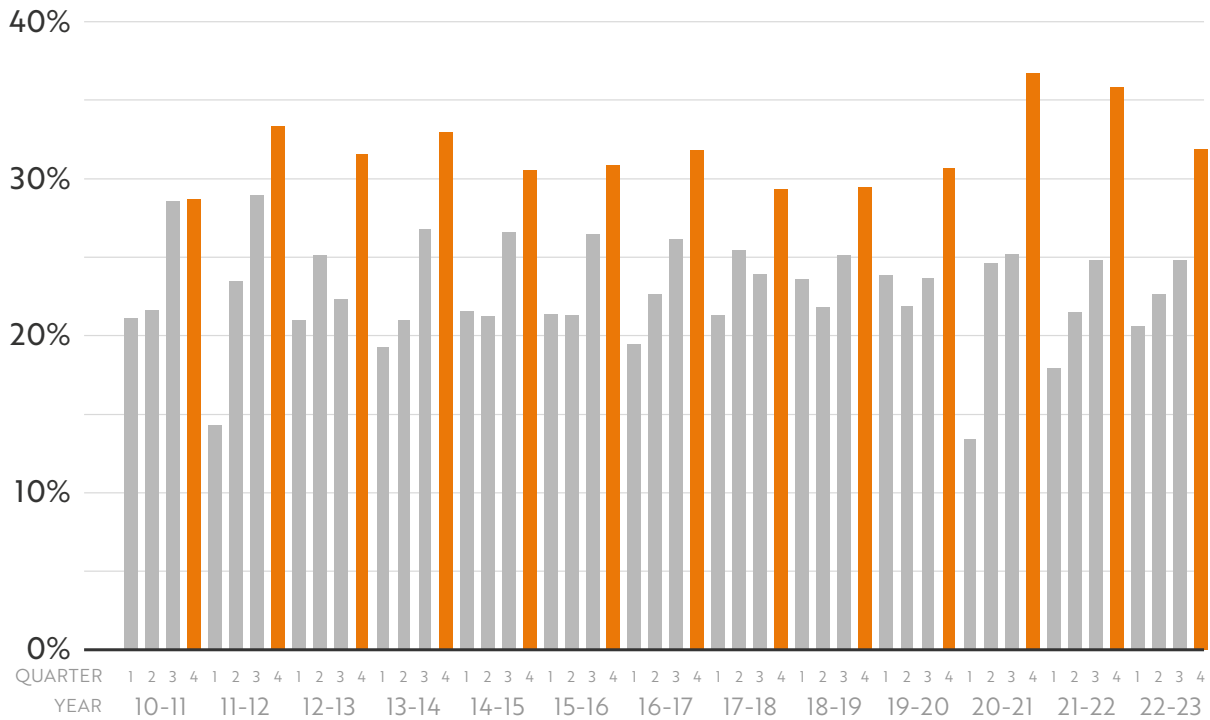
Budgetary rules and practices create challenges for the effective management of the funds that are available

2.22 Under public finance arrangements, resources allocated to NI Water in a financial year must be spent within that year. Any unused resources cannot be carried forward for use in the next year, even in cases where there is a clear need or where this would represent prudent management. There is no easement in terms of this restriction even where additional funding is awarded relatively late in the year, through the in-year reallocation process. The delayed confirmation of budget allocation can hinder investment planning and expenditure profiles can also be impacted by market supply, delivery, agreement of contracts or other legal issues normally expected in the delivery of large-scale capital projects. There are consequences for all aspects of government funded services should budgets be insufficient to match the established need. Under normal circumstances it is for the NI Executive to decide how a constrained budget should be allocated across the public sector.

2.23 The success the Department and NI Water have had in securing additional resources is positive and enabled more of the investment that is needed to be delivered than would otherwise be the case. However, the inflexibility and inherent uncertainty within this overall process is not conducive to the effective management of resources. It encourages the adoption of a cautious approach to investment early in the year, with a ramping up of expenditure later in the year when there is more clarity on the total available resources and which projects can be funded (see **Figure 9**). This can distort decision-making and is compounded by the fact that any projects initiated but not completed in the current year impose a financial commitment on the next year, which may itself be subject to further uncertainty as to the level of funding that will be available.

Figure 9: Typically NI Water’s annual investment has followed a pattern of higher expenditure occurring later in the financial year

Orange bars represent the percentage of each financial year’s expenditure occurring in **Q4** of each financial year
Other bars show the percentage of each financial year’s expenditure in **other quarters** of each financial year



Source: NIAO based on data provided by NI Water

2.24

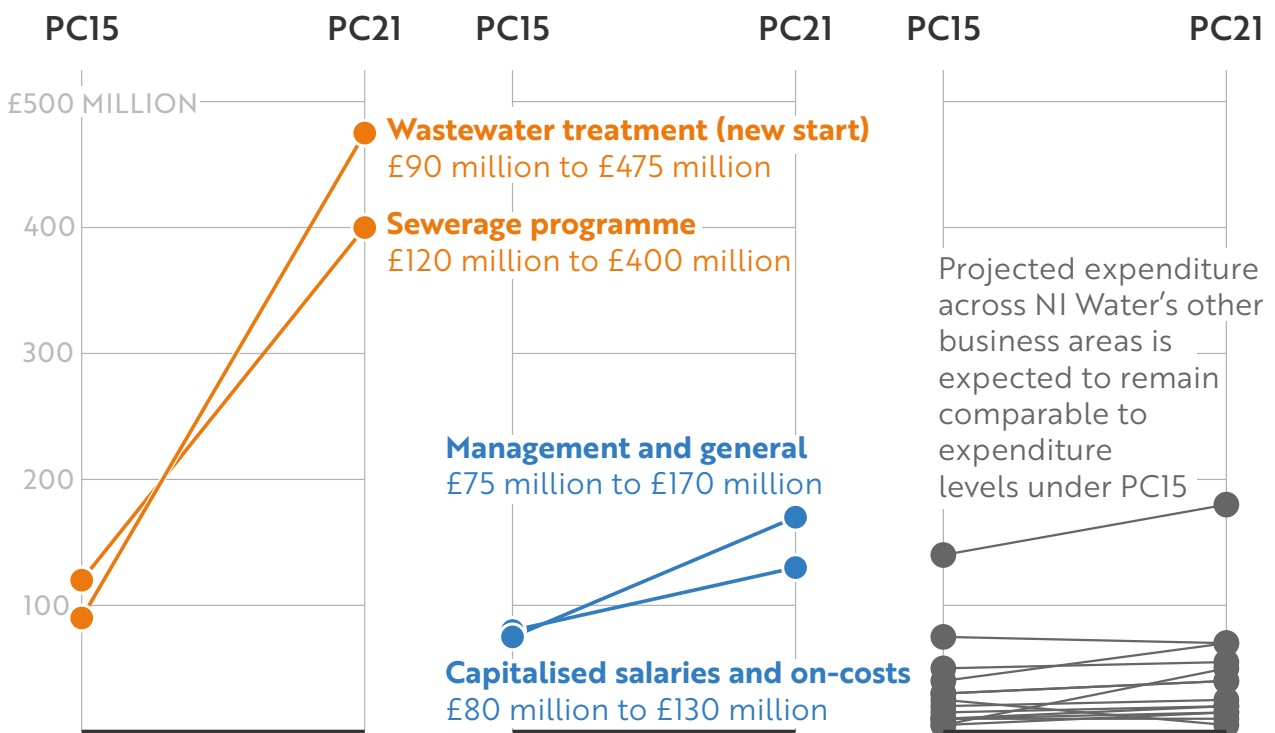
The inability to plan and coordinate major investment programmes within and across financial years undermines the ability of the public sector to deal effectively with the large-scale, strategically important suppliers who are essential delivery partners for such schemes. These organisations require a degree of certainty on the timing of projects so they can gear up effectively for delivery. To incur the costs associated with this, those suppliers need to have confidence that the investment they make will be rewarded by the public sector delivering the pipeline of work that it has signalled will be available. Failing to establish arrangements that work towards ensuring there is a competitive and viable market of potential delivery partners may have significant consequences on the overall efficiency and effectiveness of programmes once they commence.

The investment plans set out in PC21 involve substantial work towards addressing the issues affecting sewerage and wastewater capacity

2.25 The increase in planned capital spend between PC15 and PC21 is allowing NI Water to begin substantially addressing the capacity issues affecting sewerage and wastewater services. These are the two areas with the biggest projected increase in expenditure (see **Figure 10**). The outcome of successful delivery of PC21 plans will be £570 million of investment in safe, clean drinking water to approximately 906,000 homes and businesses across Northern Ireland and just over £1.53 billion of investment to provide the safe return of wastewater to the natural environment. NI Water aims to ease development constraints in 12 of the 25 economic hub towns and 37 of the 91 larger towns currently subject to capacity issues (see **Paragraph 1.19**).

Figure 10: Most of the additional funding allocated to NI Water in PC21 compared to PC15 is being invested in sewerage and wastewater treatment assets

NI Water capital investment by business area during PC15 (actual) and PC21 (planned)



Source: NIAO analysis of information provided by NI Water

Despite initial success in meeting the funding requirements imposed by PC21 it has become increasingly challenging to secure the resources required to meet NI Water's funding requests

- 2.26** In the first two years of PC21 the Department was able to deliver the full extent of capital funding required for NI Water to work towards achievement of PC21 objectives. This was however dependent upon in-year allocations, over and above the original nominal funding levels determined by PC21 as being required by NI Water, being made to ease emerging financial pressures during those years due to higher than anticipated levels of inflation. As a result of this success, NI Water has been able to deliver the majority of planned outputs for 2021-22 and 2022-23 and is on track to do so in 2023-24. In two of the nine programme areas there has been slippage and projects were not completed as planned (see **Appendix 4**). We recognise that a range of challenges, such as the cessation of construction work due to the Covid-19 Pandemic and the ongoing disruption to supply chains, has affected construction project delivery over the last two years. However, it is important that these projects are completed as soon as possible, and that planned projects are completed on schedule, to ensure that a backlog does not accumulate over the life of PC21.
- 2.27** It has become increasingly challenging for the Department to secure the full extent of funding requested by NI Water. The Department recently confirmed that NI Water's 2023-24 capital allocations will be £321 million compared to the £370 million requested, with resource funding of £171 million granted against a request of £215 million. It has also been confirmed that the funding allocation for 2024-25 will be lower than requested. A reduction in the anticipated level of funding will impact the number of capital outputs that can be delivered.
- 2.28** Given the current economic climate, it is unclear whether the Department will be able to sustain its funding ambitions over the full term of PC21. There is a high level of uncertainty following a decade of austerity, the economic impacts of the Covid-19 Pandemic, the Russian invasion of Ukraine, and recent volatility in the UK economy. As part of the financial planning associated with the restoration of government in Northern Ireland, the Department of Finance, has asked all departments to develop financial plans for the next year based upon differing levels of funding reduction.

Part Three:

The consequences of not ensuring adequate investment in water infrastructure

- 3.1** In this part of the report, we provide an overview of how underinvestment in water infrastructure poses a strategic risk to the achievement of the NI Executive's key long-term objectives, particularly in respect of economic and social wellbeing and the environment.

Inadequate investment in water infrastructure will hinder the achievement of key economic and development goals

- 3.2** Development and construction are an essential component of the NI Executive's ability to deliver against a range of its objectives and strategies. For example:
- The Department for Communities' **Home Supply Strategy** targets the development of 100,000 new homes in Northern Ireland through the strategy's 15 year life span.
 - The Department for the Economy's **Economy 2030** strategy aims to ensure that Northern Ireland is a globally competitive economy through the delivery of five pillars, including building the best economic infrastructure.
 - The draft **Infrastructure 2050: Investment Strategy for Northern Ireland** sets out the NI Executive's long-term plans for investment in physical and digital infrastructure in Northern Ireland.
 - NI Water's Power of Water Report and its emerging **Climate Change Strategy** demonstrates how water infrastructure also supports the Department of Agriculture, Environment and Rural Affairs' **Green Growth Strategy** and its **Environment Strategy**, and the Department for the Economy's **Energy Strategy**.
- 3.3** The development restrictions caused by capacity issues within water infrastructure will undermine the ability of the NI Executive to deliver against these strategies. They will also have a significant impact upon the ability of local government bodies to deliver against their responsibilities and objectives, which are also related to central government plans. For example, the objective of building new homes across Northern Ireland is linked to the development of Local Development Plans by councils. Each council within Northern Ireland is responsible for preparing a Local Development Plan, providing a guide for new development and to be used by councils in determining planning applications. The plan must be prepared in consultation with the local community and ensure there is enough land available for the area's housing, employment and community facilities, while protecting important landscape and environmental features. These plans coordinate and influence the type of development within each council area, including targeted levels of housing development.
- 3.4** However, across Northern Ireland, capacity issues in water infrastructure will undermine the ability of councils to make planning decisions in line with their Local Development Plans and broader NI Executive objectives.

- 3.5** Planning the volume and type of development within a council area also has important financial implications for that council. A major component of council income is derived from district rates applied to properties so uncertainty around development will impact councils' long-term financial plans. A possible consequence of this is that councils will be forced to increase the district rates applied to existing properties to generate additional income.

Research commissioned by NI Water has highlighted the direct links between investment in water infrastructure and economic wellbeing

- 3.6** Any inability to deliver on high level economic objectives due to water infrastructure capacity issues can have significant real-world impacts on citizens in Northern Ireland. In 2022, NI Water commissioned research from the Ulster University comparing the economic benefits projected to arise from entirely unconstrained economic development in Northern Ireland over the next five years, to the economic benefits that would arise under three scenarios:

- full delivery of the investment plans set out in PC21;
- incomplete delivery of PC21 (specifically a £50 million shortfall over the PC lifetime); and
- no investment made against PC21 plans (effectively a do-nothing option).

- 3.7** The report highlighted two key points arising from the analysis. Firstly, even if PC21 is fully funded and implemented, the inadequacies within water infrastructure will still be a significant economic constraint in Northern Ireland in 2027 and beyond. The economy will be smaller than it otherwise would be and fewer than expected new jobs will be created, estimated to be in the region of 5,900 fewer jobs. Secondly, in a scenario where PC21 is not implemented in full, even a relatively small shortfall in funding can magnify the economic impacts arising from constraints in water infrastructure (see **Figure 11**).

Figure 11: Not fully delivering on PC21 will exacerbate the economic impact as a result of capacity issues in water infrastructure

In an unconstrained economic environment it is projected economic growth would add 50,000 new jobs to the local economy between 2021 and 2027. However, constraints in water infrastructure will limit the number of jobs that will be added over this time.

If **no investment** were to be made it is estimated that only 37,000 jobs will be created over this timescale.



Partial implementation¹ of PC21 will allow more jobs to be created than would otherwise be the case



However, even in the event of **full implementation of PC21**, it is estimated that 5,900 fewer jobs will be created than in an unconstrained environment.



NOTE

¹ These figures are based on the assumption that the PC21 investment plan is £50 million lower than planned.

Source: Revised economic impacts of water and wastewater infrastructure constraints: Final Report, Ulster University Economic Policy Centre, September 2022

NI Water has a crucial contribution to make to Northern Ireland's environmental goals

3.8 The effective management of water and wastewater is critical to protecting the quality of Northern Ireland's natural environment. Where the infrastructure used to manage water is overloaded and unable to cope with demand, a number of environmental risks can arise, with associated costs. Having efficient systems is also critical in terms of supporting the NI Executive's objectives in respect of the long-term aims of reducing carbon emissions and adapting for climate change.

Protecting the water environment

- 3.9** There has been significant controversy in recent years in England about the environmental performance of water companies. The Environment Agency, responsible for England, reports on the environmental performance of water companies in England annually. Since 2015, typically between 1,500 to 2,000 pollution incidents from water, sewerage and wastewater infrastructure are reported annually. There has been no discernible trend of improvement towards the performance expectation set by the Environment Agency, of a 40 per cent reduction in the number of incidents each year from the 2016 baseline (1,902 incidents) by 2021.
- 3.10** The Environment Agency is concerned by the number of these pollution incidents classified as serious incidents. It set a performance expectation in 2013 that the number of such incidents should trend towards zero by 2020, later extended to 2025. No such improvement trend has occurred and the 62 incidents reported in 2021 was the highest number recorded since 2013.
- 3.11** The Northern Ireland Environment Agency (NIEA) has similar oversight of water pollution incidents in Northern Ireland, using monitoring data provided by NI Water and reports provided by the public, via a hotline. The data collected by the NIEA suggests that there are typically around 120 to 130 pollution incidents each year in Northern Ireland caused by NI Water, but these are mostly considered to be low impact, with high impact events relatively rare in Northern Ireland (see **Figure 12**). NI Water told us that it is working with the NIEA and other stakeholders to reform the wastewater compliance model and improve how it measures wastewater compliance across the whole wastewater system.

Figure 12: The classification of NI Water’s pollution incidents

CLASSIFICATION	2016	2017	2018	2019	2020	2021
Low	115	111	113	87	113	80
Medium	21	20	16	13	9	9
High	1	0	0	0	0	1

NOTE 2021 figures are up to September 2021 only.

Source: NIAO based on NIEA data

Climate change and net zero carbon

- 3.12** Water treatment and management are energy intensive tasks, and NI Water is Northern Ireland’s single largest electricity consumer, paying over £62 million during 2021-22 compared to nearly £33 million in 2020-21, due to the global increase in energy costs. During 2022-23, 63 per cent of the energy purchased by NI Water was from renewable sources. Renewable energy generated by NI Water is equivalent to five per cent of the energy it consumes.

- 3.13** Long-term investment in the creation of new, and the enhancement of existing, facilities is likely to increase NI Water's energy demands in future. Analysis prepared by NI Water has highlighted that the existing electricity network will not be capable of supporting this planned infrastructure. However, there is a lack of clarity around where future congestion points affecting its larger assets will be, and NI Water is in discussions with the Regulator and NI Electricity with a view to accurately mapping these issues. The Regulator welcomes this approach, as early engagement with NI Electricity will help provide the clarity required and ensure that new connections, or upgrades to existing connections, can be made in a timely way. This, together with the fact that NI Water included cost estimates for new and upgraded electricity connections in PC21, should help ensure that capacity on the electricity network does not delay the delivery of investment.
- 3.14** NI Water is having to manage and plan for its future energy needs against a backdrop of increased action in respect of climate change and plans for long-term reductions in the use of carbon-based fuels to provide energy. In June 2022, the Northern Ireland Assembly's Climate Bill became law, committing Northern Ireland departments to ensuring that net Northern Ireland emissions are 100 per cent lower than their current baseline by 2050, with interim targets set for 2030 and 2040.
- 3.15** To support their ability to deliver on this objective, each department in Northern Ireland will be required to complete sectoral plans as part of the Climate Action Plan and Carbon Budget (2023-2027). These plans will set out how key individual areas of the economy will change to support achievement of the Climate Change (Northern Ireland) Act 2022 objectives. There are two sectoral plans that will be particularly significant for NI Water:
- the Department for the Economy's sectoral plan for energy, which aims to ensure that at least 80 per cent of electricity consumption comes from renewable sources by 2030; and
 - the Department for Infrastructure's sectoral plan to ensure infrastructure complies with the emission reduction targets of the Climate Bill.
- 3.16** PC21 requires NI Water to deliver, as a key output, the implementation of measures to improve the sustainability and reduce the impact of climate change including sustainable catchment management and investment in renewable energy generation. PC21 identified a target for NI Water that 100 per cent of its energy needs should be met from renewable sources by 2027 and that its operations should be carbon neutral by 2050. The Department for the Economy allocated approximately £25 million of funding from the Invest to Save and Small Business Research Initiative funds to enable NI Water to develop a number of energy solutions (see **Paragraph 3.19**). NI Water was also successful in securing nearly £25 million from the Northern Ireland Office to further develop hydrogen generation. Any shortfall in investment poses a risk to NI Water's ability to achieve these objectives. It may also undermine the financial benefits that are intended to be achieved as a result of investment in some energy-related projects.

3.17

It is, however, welcome that substantial efforts have already been made in this area. NI Water has been actively working internally and alongside key stakeholders to develop a sustainable approach to energy usage. It has undertaken a gap analysis and identified a number of actions that it should take. Finally, it sits with the Department and the Regulator in a Climate Change Forum, to work collaboratively with others across Northern Ireland, to address the climate emergency. However, projects tackling climate change are funded by a number of stakeholders, including the Department for the Economy, as illustrated below:

- **Renewable energy** – During 2021-22, NI Water increased its electricity consumption from renewable sources, such as solar and hydro power, to 56 per cent largely purchased from other sources. It is working with planners and the local community to place renewable energy generation and large-scale batteries at a number of suitable sites. During 2021-22, NI Water awarded funding to a private contractor to undertake a collaborative research project into the benefits of using large-scale battery storage technology to store and use renewable energy.
- **Sustainable Catchment Area Management Practice Northern Ireland** – NI Water works with stakeholders to improve natural water catchment sites, by reducing bank erosion and pollutant entry, such as pesticides and agricultural waste. This should result in raw water from catchment areas requiring less treatment and therefore reduced chemicals and energy.
- **Planting trees** – NI Water has a 10 year partnership with the Woodland Trust Northern Ireland and other partners, planting over 150,000 trees in some of NI Water's 24 drinking water catchments and helping to restore the forests. NI Water's ambition is to plant 1 million trees over the next decade, in the right places.
- **Hydrogen economy** (fuel for cars) – During 2020-21, NI Water was awarded £5 million from the Department for the Economy to undertake an innovative oxygen and hydrogen demonstrator project, to deploy a state-of-the-art, 1 megawatt electrolyser at the Belfast wastewater treatment works. It aims to increase processing capacity, reduce carbon emissions and improve flexibility in the electricity grid. This presents NI Water with an opportunity to open a network of green fuel stations at the wastewater treatment works to kick-start the hydrogen economy and help the gas network remain relevant in a decarbonising world. The project is currently under construction, with oxygen trials due to commence at the start of 2023.
- **Restoring peatland** – To capture CO² from the atmosphere – NI Water's Peat Bogs Restoration Project is a pilot project to establish peat-forming conditions within newly constructed peat embankments.
- **Providing sources of warmth for district heating** – Heat recovery from the 16,000 km sewer network combined with hot water from showers, baths, dishwashers and washing machines to heat homes and businesses.

3.18

NI Water told us that it is keen to continue to be innovative in the development of projects to restore biodiversity and mitigate and adapt to climate change.

“The development restrictions caused by capacity issues within water infrastructure will undermine the ability of the NI Executive to deliver against... strategies. They will also have a significant impact upon the ability of local government bodies to deliver against their responsibilities and objectives, which are also related to central government plans.”

Northern Ireland Audit Office

Part Four:

The challenges to delivering adequate long- term investment in water infrastructure

4.1 In Part Two of this report we described how the funding mechanism for investing in water infrastructure works in Northern Ireland, and some of the key issues that arise as a result of working in this way. In Part Three we highlighted some of the critical real-world impacts of failing to bridge the gap between the actual level of investment that is available for water infrastructure, and the level of investment needed to alleviate current capacity issues. In this section of the report we explain how the model used to fund water infrastructure in Northern Ireland limits the options available to the Department and NI Water to access new finance sources.

Public sector budgetary rules constrain NI Water's ability to access and utilise funding beyond that provided by the Department

4.2 The reliance on public funding means NI Water is classified as a non-departmental public body (see **Paragraphs 1.12 and 1.13**). In practical terms this means it is subject to Departmental Expenditure Limits (DEL) set for departments by the NI Executive from its own expenditure limit, which consists of funding granted in the Block Grant provided to it by the Westminster government, as well as any funding the NI Executive may raise. No public body is allowed to exceed its DEL allocation in a financial year.

4.3 All expenditure incurred by NI Water in a financial year counts against its own, and the Department's, DEL. NI Water has limited ability to increase its expenditure limits by generating additional income from outside of central government (for example through increasing non-domestic charges or developer contributions). However, generating income through these methods would have only a limited impact towards contributing to easing long-term financial pressures, given the heavy reliance on the subsidy paid on behalf of domestic users to fund NI Water.

A range of different models is used across the British Isles to fund water infrastructure

4.4 A range of different approaches is used to deliver water and sewerage services, each subject to its own perceived strengths and weaknesses, which can be highly subjective in nature (see **Appendix 5** for more detail). For example, the performance of water companies in England has been subject to significant public controversy in recent years with the legal status of the companies often being highlighted as a factor in the negative issues being raised by stakeholders.

4.5 NI Water has on a number of occasions highlighted the extent of the gap between financial planning and infrastructure planning that exists in Northern Ireland. Northern Ireland is the only part of the UK where water and sewerage services are delivered by an NDPB. As a result, NI Water is not free to benefit from financial flexibilities that are available to other UK regulated utility companies, depending upon their particular circumstances and status (see **Figure 13**).

Figure 13: The different approaches to delivering water and sewerage services across Great Britain and the Republic of Ireland

COUNTRY	MODEL
England	<p>A network of 17 regional privatised companies, with 11 delivering both water and wastewater treatment and six managing only water.</p> <p>These companies are funded by issuing bills to customers and the capital investment is financed through borrowing from capital markets and the use of revenue generated from customers.</p>
Scotland	<p>Scottish Water is a public corporation, operating commercially, generating more than 50 per cent of its income through charges on customers.</p> <p>Capital investment is financed mainly through borrowings from the Scottish Government.</p>
Wales	<p>Welsh Water is a not-for-profit organisation with no shareholders and funded by issuing bills to customers.</p> <p>Welsh Water's assets and capital investment are financed by bonds, and any retained financial surpluses are reinvested back into the business, customer services, or to reduce customer bills. Its capital programme is financed through debt in the form of low cost bonds raised on the capital markets.</p>
Republic of Ireland	<p>Irish Water is a publicly owned, regulated, commercial State Body. Irish Water is funded by charging domestic customers for usage above a free allowance and non-domestic customers are metered for water services. Irish Water also receives a subsidy from the Irish Government.</p> <p>Irish Water borrows from the Irish Government for water and wastewater capital investment and it has the ability to borrow from international banking and capital markets to invest in water infrastructure, and local authorities can levy planning contributions from developers to support small capital improvements.</p>

Source: NIAO based on website research

- 4.6** The limited flexibility available to the Department and NI Water also contrasts to examples from other areas of the UK where arrangements have been tailored to support better management of long-term infrastructure investment. For example, Highways England was set up in 2015 to address a range of specific issues relating to the roads network and was given ring-fenced multi-year budgets to make transformational improvements on and around the road network. Subsequently, in 2020-21, it was provided with a year-end financial flexibility arrangement, allowing for the early use or deferral of 10 per cent of its annual budget in respect of particular projects. We were advised that to establish a similar arrangement in Northern Ireland for NI Water would need a change in NI Executive policy to ring-fence funding for water services and the agreement from HM Treasury for year-end flexibility.

There has been limited evaluation of the current funding and governance model and potential alternatives

4.7 The water infrastructure's planning and funding model has evolved over time in response to key policy decisions, particularly in respect of funding NI Water. There is evidence that even at the time these decisions were made there was an awareness these arrangements would not represent an optimal long-term approach. For example, the Independent Water Review Panel's report (see **Paragraphs 2.4 to 2.7**) noted the need to ensure that water services were self-financing, at the lowest possible cost to users. It recommended that beyond 2013, consideration should be given to whether reviewing NI Water's legal status would support this objective over the longer-term. There has been no independent review of funding arrangements since 2007. However, the Regulator considers that the lack of an adequate and certain revenue stream is the main problem with NI Water's status.

4.8 In recent years, some exercises have been undertaken, mainly led by the Department and NI Water, exploring whether there are any options available to facilitate access to additional finance for water infrastructure beyond what can be granted through the NI Executive's budgetary processes. These include:

- an NI Executive sponsored review of the governance and funding structure (2014);
- a collaborative review of funding and classification options for NI Water undertaken by the Department, NI Water and the Strategic Investment Board (2018);
- preliminary research by the Department and NI Water on the feasibility of NI Water borrowing on open markets to fund investment (2019);
- a formal review of funding options for NI Water by the Living With Water Programme Finance Steering Group with a specific focus on funding the Living With Water Programme. This formal review was provided to the DfI Minister in March 2020; and
- an internal review and briefing paper prepared by the Department considering potential funding opportunities and classification status changes for NI Water (2022).

None of these exercises has led to substantial changes being made to the funding and governance model.

Increasing attention has been placed on ensuring more coordinated and aligned planning for major infrastructure investment in Northern Ireland

4.9 Water infrastructure is just one part of the overall infrastructure network needed to support the NI Executive's ability to improve quality of life in Northern Ireland. It is also not the only area where there is significant financial need. Many of the issues within water infrastructure are relevant to other types of infrastructure. This increases the pressure that the Department and NI Water will face securing appropriate funding for water infrastructure in future years.

- 4.10** Attention has increasingly been placed on the need to develop a better approach to long-term financial planning and prioritisation of infrastructure in Northern Ireland generally. In August 2020, the Department established a Ministerial Advisory Panel on Infrastructure to consider the potential usefulness of establishing a Northern Ireland Infrastructure Commission to support the long-term planning of infrastructure.
- 4.11** The Panel concluded that there were systemic weaknesses across public sector governance and delivery structures, and infrastructure needs were not being met effectively across government. The Panel's final report 'Turbo charging infrastructure to deliver cleaner, greener, sustainable and inclusive growth for all' was submitted to the Minister in October 2020, setting out a number of detailed findings and recommendations in respect of infrastructure delivery and planning. The Panel's main recommendation is that an Infrastructure Commission, with a clear remit and the support of the entire NI Executive, should be established as soon as practicable.
- 4.12** Subsequently, a cross-departmental working group was established to bring forward advice on the options. The group was chaired by the Executive Office, and it drafted an initial assessment of high-level options in early 2022, with the intention to present these to the NI Executive before carrying out more detailed analysis and developing a business case. However, this had not been completed before the suspension of the NI Executive in February 2022.
- 4.13** Following the reestablishment of the NI Executive, the assessment will be reviewed to take account of developments in the interim, including: NIAO's follow-up report on Major Capital Projects, the forthcoming Strategic Investment Board report on the root causes of delay in major projects, and progress with the Investment Strategy. The group will also consider the work of the recently established Infrastructure Sub-Group of the NICS Board and have further discussion on the appropriate time to bring this back to Ministers and the Executive.
- 4.14** **We consider that it is critical that relevant stakeholders work purposefully towards establishing appropriate arrangements to effectively coordinate and manage infrastructure investment across Northern Ireland.**
- 4.15** The issues affecting financial planning have also been highlighted in a number of key reports. Our report, 'The Northern Ireland Budget Process' published in June 2021, noted that the continued reliance on single year budgets is a strategic issue in Northern Ireland, hampering planning and innovation across public services, and diminishing transparency and accountability.
- 4.16** Whilst there are real and challenging financial pressures that affect decision-makers, the Northern Ireland Fiscal Council has highlighted that it is clear that the arrangements in place are not maximising the impact of all the available money. In its Sustainability Report 2022, it concluded '*there remains scope for increased fiscal effort on the part of the Executive, via Regional Rates, domestic water charges and other charges, plus some scope to borrow more within current limits and to make more efficient use of its funding*'. The Fiscal Council has recently commenced work on an infrastructure sustainability report, which will include consideration of water infrastructure and funding, and aims to publish its findings in Summer 2024.

4.17 Finally, the Independent Fiscal Commission published its report 'More Fiscal Devolution for Northern Ireland?' during May 2022. It included 23 recommendations which provide a comprehensive framework for implementing enhanced fiscal devolution for Northern Ireland. The report included comparisons of Northern Ireland's domestic rates with the council tax and water and sewerage charges in Great Britain and considered that any designs as to how much a change in policy on water charges would affect the NI Executive's finances is uncertain and would need further examination. As the Department reiterated to us, the NI Executive is responsible for the decisions on water charging policy.

Increased focus has not yet led to the development and implementation of solutions

4.18 It is important that Northern Ireland is able to establish and maintain the water infrastructure needed to support a high quality of life for citizens. Historical funding levels have not been effective in supporting this infrastructure sufficiently to keep pace with need and demand. Recent plans, and the funding provided against those plans, signal an intent to address the issues that have accumulated over recent decades, and this is to be welcomed. However, despite substantial efforts made to fully fund PC plans in 2021-22 and 2022-23, it currently appears that there will be a significant funding shortfall in 2023-24 and little certainty about future years. This highlights the inherent ineffectiveness of these arrangements to support long-term investment plans.

4.19 However, there remains a high degree of uncertainty as to the ability of the Department and NI Water to secure the full level of finance needed over the long-term future to fully address the issues affecting water infrastructure within Northern Ireland. Failing to ensure that the level of investment available for water infrastructure is aligned to need will pose a significant risk to the ability of the NI Executive to achieve its broader economic and social objectives. **We encourage the Department and NI Water to complete a comprehensive review of alternative funding and governance arrangements, led by suitably qualified experts.**

Appendices

Appendix 1: NI Water's Key Performance Indicators (Paragraph 1.17)

2007 - 2015

	2007-08		2008-09		2009-10		2010-13		2013-15		2015-16	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Drinking Water Quality												
Mean Zonal compliance (%)	99.44	99.30	99.35	99.49	99.77	99.74	99.70	99.80	99.70	99.84	99.79	99.83
Waste Water Quality												
Population equivalent compliant (%)	82.50	84.38	89.00	90.24	94.00	93.50	96.50	98.90	97.80	98.40	98.08	98.55
Pollution incidents (high/medium)	46.00	60.00	56.00	56.00	11.00	56.00	48.00	18.00	44.00	25.00	28.00	21.00
Leakage												
Million litres per day	157.00	156.52	181.00	180.9	179.00	186.86	168.00	162.00	165.00	166.00	163.00	162.00
Inadequate Pressure												
Properties removed	*		*		*	945.00	800.00	842.00	288.00	318.00	92.00	171.00
Customer Contact												
Response to billing contacts (%)	96.00	94.97	97.00	98.60	98.00	98.00	99.90	100.00	99.90	99.97	99.90	99.96
Response to written complaints (%)	96.00	90.54	97.00	97.60	98.00	95.42	98.50	99.78	99.50	99.96	99.50	99.87
Billing of metered customers (%)	95.00	71.80	95.00	93.20	95.00	92.26	98.50	98.70	99.00	99.11	99.00	99.23

2015 - 2020

	2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Drinking Water Quality												
Mean Zonal compliance (%)	99.79	99.86	99.79	99.88	99.79	99.90	99.79	99.90	99.79	99.94	99.83	99.88
Waste Water Quality												
Population equivalent compliant (%)	98.26	98.90	98.30	98.70	99.12	99.40	99.16	99.50	99.16	99.50	99.20	99.20
Pollution incidents (high/medium)	27.00	22.00	26.00	20.00	25.00	16.00	24.00	13.00	23.00	9.00	12.00	12.00
Leakage												
Million litres per day	161.00	163.00	159.00	162.00	157.00	160.00	155.00	161.00	153.00	158.00	157.00	156.00
Inadequate Pressure												
Properties removed	200.00	211.00	357.00	386.00	516.00	562.00	676.00	677.00	836.00	845.00	147.00	176.00
Customer Contact												
Response to billing contacts (%)	99.90	99.98	99.90	99.97	99.90	99.99	99.90	99.97	99.90	99.98	-	-
Response to written complaints (%)	99.50	100.00	99.50	99.87	99.50	100.00	99.50	99.95	99.50	99.89	-	-
Billing of metered customers (%)	99.00	99.52	99.00	99.67	99.00	99.67	99.00	99.53	99.00	99.22	99.00	99.66

Source: NIAO based on NI Water data

Appendix 2: Wastewater Treatment Works near or at capacity at January 2020 (Paragraph 1.19)

Aghanloo 1 WwTW	Dromore Ballymaganlis Banbridge WwTW
Annsborough Station Road WwTW	Drumaness WwTW
Antrim Milltown WwTW	Drumquin WwTW
Ardglass WwTW	Dundrum WwTW
Armagh Drumcarn WwTW	Dungannon WwTW
Armoy Bush WwTW	Dungiven WwTW
Augher Blackwater WwTW	Dunloy WwTW
Aughnacloy Mill Street WwTW	Edenderry Belfast WwTW
Ballybogy WwTW	Ederney WwTW
Ballycastle WwTW	Eglisk Dungannon WwTW
Ballyclare WwTW	Enniskillen WwTW
Ballygawley WwTW	Fivemiletown WwTW
Ballygowan WwTW	Garrison South WwTW
Ballyhalbert Victoria WwTW	Garvagh WwTW
Ballymagorry WwTW	Glenavy WwTW
Ballymena WwTW	Glenstall WwTW
Ballynacorr WwTW	Grange Taylorstown WwTW
Ballynahinch WwTW	Greenisland WwTW
Ballyronan WwTW	Greyabbey WwTW
Ballywalter WwTW	Irvinestown WwTW
Belleek Fermanagh WwTW	Kilkeel WwTW
Beragh WwTW	Killeen Dungannon WwTW
Blackwatertown WwTW	Killinchy WwTW
Brookeborough WwTW	Killygonlan WwTW
Bushmills WwTW	Killymuck WwTW
Cabragh WwTW	Kilrea WwTW
Carrickfergus WwTW	Kinnegar WwTW
Carrowdore WwTW	Kircubbin WwTW
Castledearg 2 WwTW	Larne WwTW
Clogh WwTW	Lawrencetown WwTW
Clogher WwTW	Limavady WwTW
Cloughey WwTW	Lisnaskea 2 WwTW
Cookstown WwTW	Lough Macrory South WwTW
Cranfield WwTW	Loughries WwTW
Culmore 2 WwTW	Maghera Down WwTW
Darkley WwTW	Maghera Londonderry WwTW
Derrycrin WwTW	Magherafelt WwTW
Dervock WwTW	Markethill WwTW
Desertmartin WwTW	Martinstown WwTW
Donagh WwTW	Meigh WwTW
Donemana WwTW	Moneymore WwTW
Downpatrick WwTW	Moneyneany WwTW

Moneyreagh North WwTW	Redford WwTW
Monteith WwTW	Richhill WwTW
Moss-Side WwTW	Robinsonstown WwTW
Moy WwTW	Roughfort WwTW
Newcastle WwTW	Saintfield WwTW
Newry WwTW	Seahill WwTW
Newtownards Ballyrickard WwTW	Seskinore WwTW
Newtownbreda WwTW	Stewartstown WwTW
Newtownbutler WwTW	Strabane WwTW
North Coast WwTW	Stranocum WwTW
North Down WwTW	Tamlaght WwTW
Omagh WwTW	Tamnamore WwTW
Pomeroy Station Road WwTW	Waringstown WwTW
Portaferry WwTW	Warrenpoint WwTW
Poyntzpass WwTW	Whitehouse WwTW
Rasharkin WwTW	

Source: NIAO based on NI Water data

Appendix 3: Study Methodology (Paragraph 1.27)

The review used a combination of quantitative and qualitative methods for gathering evidence, including:

- **Desk research, document and file review** – collating and analysing information on and within the Department, NI Water and the Utility Regulator, including: cost of water services provision, capital expenditure, etc.;
- **Interviews/meetings** – conducting semi-structured interviews with Departmental and NI Water officials, management and staff. We also met with staff within the Utility Regulator;
- **Benchmarking** – gathering performance metric comparisons with other UK regions, especially efficiency data and investment effectiveness;
- **Reviewing reports, data and statistics** – collating statistics and cost data; and
- **Consultation with stakeholders** – meeting with the Regulator, Construction Employers Federation, and Belfast City Council, etc.

Appendix 4: NI Water's capital works programme: performance against targets for 2022-23 (Paragraph 2.25)

Programme Title	Unit	2 Year Cumulative Target	Achieved 31/3/23	Variance 31/3/23	Reason for variance
Water treatment works		3	4	1	
Water trunk mains		2	2	0	
Service reservoirs and clear tanks		1	1	0	
Water mains rehabilitation	km	279	225	-54	Resourcing issues experienced by water mains contractors
	Properties removed from risk of low water pressure following a post project assessment	292	319	27	
Sewerage maintenance, flooding and removing homes from the flooding 'at risk' register	km	20.2	52	31.8	
	Unsatisfactory intermittent discharges	28	7	-21	Drainage area studies incomplete at time of FD. Revised programme proposed as part of the mid-term review.
	Properties removed from 'at risk' register	0	7	7	
	Event duration monitors at wastewater pumping stations and combined sewer overflows	133	135	2	
	Impermeable surface area removed m ²	72,908	93,098	20,190	

Programme Title	Unit	2 Year Cumulative Target	Achieved 31/3/23	Variance 31/3/23	Reason for variance
Wastewater treatment works		6	7	1	
Small wastewater treatment works		12	12	0	
Minor water mains	Proactive lead pipes	3,688	3,737	49	
Development constraints	Serious development constraints	4	6	2	

Source: NIAO based on NI Water data

Appendix 5: The advantages and disadvantages of the funding models used in Northern Ireland and other jurisdictions (Paragraph 4.6)

Category	England	Scotland	Wales	ROI	NI
Funding Model	Private venture and borrowing	Revenue and borrowing	Revenue and borrowing	Subsidy, non-domestic charges and borrowing	Subsidy, non-domestic charges and borrowing
Advantages	<ul style="list-style-type: none"> • Ability to raise funds from capital markets • Capital infrastructure has been funded via revenue and borrowings • Public only pay for what they consume, as opposed to paying for a national provider • Able to plan longer-term budgets 	<ul style="list-style-type: none"> • Capital infrastructure has been funded via borrowings mainly from the Scottish Government • Public own the resources / assets • Government has governance oversight • Does not pay a dividend to the government 	<ul style="list-style-type: none"> • Run for the users, profit is reinvested or bills are decreased • Ability to raise funds from capital markets • Has restructured its debt and improved its credit rating • Does not pay a dividend to the government 	<ul style="list-style-type: none"> • Domestic consumers do not pay and therefore social issues of water poverty are avoided • Public own the resources / assets • Government has oversight • Policy direction comes from shareholder, including not to pay a dividend and any surplus to be reinvested in water infrastructure 	<ul style="list-style-type: none"> • Domestic consumers do not pay and therefore social issues of water poverty are avoided • Public own the resources / assets • Government has oversight

Category	England	Scotland	Wales	ROI	NI
Funding Model	Private venture and borrowing	Revenue and borrowing	Revenue and borrowing	Subsidy, non-domestic charges and borrowing	Subsidy, non-domestic charges and borrowing
Disadvantages	<ul style="list-style-type: none"> Public do not own the assets or infrastructure Public pay more than other UK regions Risk of pushing members of the public into water poverty Private firms have a monopoly and prices vary across regions Changing supplier has been limited in the past Dividend pay-outs attract public scrutiny Sewage discharges have resulted in fines Ofwat criticised in past for not setting appropriate Price Controls, allowing some private companies to generate large profits 	<ul style="list-style-type: none"> Limited borrowing powers but more than predecessor Consumers have no choice in supplier Failing in monitoring sewage discharges Public exposed to risk of water poverty 	<ul style="list-style-type: none"> No government support No choice in supplier Not permitted to expand into other business areas Public exposed to risk of water poverty 	<ul style="list-style-type: none"> Borrowing capped Subsidy constrains other public spending Consumers have no choice in supplier Historic public dissatisfaction and protest over any plans for privatisation and charging 	<ul style="list-style-type: none"> Restricted borrowing facilitated through Department Subsidy constrains other public spending Subsidy does not meet infrastructure investment needs Consumers have no choice in supplier Historic public dissatisfaction and protest over any plans for privatisation and charging No long-term budget planning Pays dividend to single shareholder

Appendix 6: The capital expenditure figures from the PC15 and PC21 Price Controls (Paragraph 2.15)

The tables below provide the capital expenditure (Capex) figures from the PC15 and PC21 Price Controls, provided in both real (PC15 2012-13 prices, PC21 2018-19 prices) and nominal (money of the day) values.

PC15 Final Determination Capex figures in real and nominal

Real	Price Base	2015-16 £m	2016-17 £m	2017-18 £m	2018-19 £m	2019-20 £m	2020-21 £m	PC15 £m
Water Base	12-13	34.296	34.669	35.320	33.144	33.576	33.804	204.809
Water Enhanc	12-13	30.391	31.975	34.945	32.697	30.065	36.561	196.634
Sewerage Base	12-13	44.273	43.428	42.309	44.018	43.124	42.436	259.588
Sewerage Enhanc	12-13	34.829	32.414	28.529	30.258	31.809	26.231	184.070
Total	12-13	143.788	142.486	141.103	140.118	138.574	139.032	845.101

Nominal	Price Base	2015-16 £m	2016-17 £m	2017-18 £m	2018-19 £m	2019-20 £m	2020-21 £m	PC15 £m
Water Base	Nom	37.397	39.089	41.177	39.955	41.851	43.568	243.036
Water Enhanc	Nom	33.139	36.051	40.740	39.416	37.475	47.121	233.942
Sewerage Base	Nom	48.276	48.965	49.325	53.063	53.752	54.693	308.075
Sewerage Enhanc	Nom	37.978	36.547	33.260	36.475	39.649	33.807	217.716
Total	Nom	156.790	160.653	164.502	168.908	172.727	179.189	1,002.770

Inflation indices used in the PC15 final determination

	Base Year						
	2012-13	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
RPI (year average)	244.675	266.800	275.871	285.250	294.949	304.977	315.346

PC21 Capex figures in real and nominal

Real	Price Base	2021-22 £m	2022-23 £m	2023-24 £m	2024-25 £m	2025-26 £m	2026-27 £m	PC21 £m
Water Base	18-19	29.064	44.269	54.011	49.926	47.972	40.483	265.725
Water Enhanc	18-19	28.857	36.424	43.508	47.718	42.057	33.705	232.268
Sewerage Base	18-19	45.215	69.320	76.761	89.529	88.840	79.651	449.315
Sewerage Enhanc	18-19	68.749	84.956	124.926	200.687	207.656	185.317	872.290
Total	18-19	171.885	234.969	299.205	387.860	386.524	339.155	1,819.598

Nominal	Price Base	2021-22 £m	2022-23 £m	2023-24 £m	2024-25 £m	2025-26 £m	2026-27 £m	PC21 £m
Water Base	Nom	30.984	48.183	60.228	57.257	56.647	49.238	302.537
Water Enhanc	Nom	30.763	39.644	48.516	54.724	49.662	40.994	264.303
Sewerage Base	Nom	48.200	75.448	85.597	102.675	104.905	96.876	513.701
Sewerage Enhanc	Nom	73.289	92.466	139.308	230.154	245.207	225.393	1,005.817
Total	Nom	183.235	255.741	333.649	444.810	456.421	412.501	2,086.358

Inflation indices used in the PC21 final determination

	Base Year						
	2018-19	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
RPI (year average)	283.308	302.016	308.354	315.922	324.907	334.540	344.576

Source: The Utility Regulator

NIAO Reports: 2023 and 2024

NIAO Reports 2023 and 2024

Title	Date Published
2023	
Planning Fraud Risks	01 March 2023
Public Procurement in Northern Ireland	25 April 2023
Ministerial Directions in Northern Ireland	27 April 2023
Pre-school Vaccinations in Northern Ireland	05 May 2023
Mental Health Services in Northern Ireland	23 May 2023
Reducing Adult Reoffending in Northern Ireland	13 June 2023
Innovation and Risk Management - A Good Practice Guide for the Public Sector	27 June 2023
Developing the Northern Ireland Food Animal Information System	28 June 2023
School Governance - A Good Practice Guide	04 July 2023
The Judicial Review Process in Northern Ireland	04 July 2023
Overview of the NI Executive's response to the Covid-19 pandemic (3rd Report)	27 July 2023
Continuous Improvement Arrangements in Policing	10 August 2023
Approaches to Achieving Net Zero Across the UK - Report by the four Auditor Generals of the UK	15 September 2023
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Local Government Auditor's Report 2023	15 December 2023
Comptroller and Auditor General's Report on Financial Audit Findings 2023 - Central Government	20 December 2023
2024	
Tackling the Public Health Impacts of Smoking and Vaping	30 January 2024
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Child Poverty in Northern Ireland	12 March 2024
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Water Quality in Northern Ireland's Rivers and Lakes	25 March 2024



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