Attachment 11

Digital expenditure

30 September 2024

Contents

List of tables

List of figures

Glossary

Acronym	Definition
BAU	Business as usual
Capex	Capital expenditure
CEO	Chief Executive Officer
CIMS	Consolidated Information Management Software
CPI	Consumer Price Index
EA	Enterprise Agreement
ERP	Enterprise Resource Planning
ESG	Environmental, Social, and Governance
EUC	End-User Computing
FY	Financial Year
GS	Greater Sydney
HR	Human Resources
ICT	Information and Communications Technologies
IGC	Investment Governance Committee
IPART	Independent Pricing and Regulatory Tribunal
JAICT	Joint Agency Information Communication and Technology Steering Committee
MVP	Minimum Viable Product
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
Opex	Operating expenditure
RRA	Roles and Responsibilities Agreement
NRAR	Natural Resources Access Regulator
NSW	New South Wales
RV	Rural Valleys
SCADA	Supervisory Control and Data Acquisition
WAMC	Water Administration Ministerial Corporation
WAVE Program	Water Added Value Environment Program
WRM	Water Resources Management

1 Introduction

WaterNSW's total forecast expenditure (totex) for Digital over the 2025-30 determination period is $361.29 million. This is comprised of $163.46 million in capital expenditure and $197.84 million in operating expenditure (opex).

For Greater Sydney, forecast totex over the 2025-30 determination period is $145.71 million, comprised of $49.87 million in capex and $95.84 million in opex. For Rural Valleys, forecast totex over the 2025–30 determination period is $123.49 million, comprised of $54.42 million in capex and $69.07 million in opex. WaterNSW also contributes to the Water Administration Ministerial Corporation (WAMC). Our proposed investment towards WAMC is detailed in the WAMC Pricing Proposal.

For the purposes of this submission and Attachment, the three agencies responsible for water management in NSW, under the auspices of the Water Administration Ministerial Corporation (WAMC), will collectively be referred to herein as the NSW Water Sector. Not to be confused with the broader NSW water sector, which may include other water authorities, utilities and agencies.

WaterNSW's digital expenditure program delivers services for the benefit of the NSW Water Sector agencies

Three agencies make up the NSW Water Sector:
- WaterNSW
- NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW)
- The Natural Resource Access Regulator (NRAR)

The NSW Water Sector agencies (Figure) ensures that data and delivery of technical services provided by one party, delivers benefit to the broader sector.

Since WaterNSW's creation under the *Water NSW Act 2014* (NSW) and NRAR's subsequent creation in 2018, NSW DCCEEW, WaterNSW, and NRAR have been on separate but closely linked journeys in terms of their digital strategies.

NSW DCCEEW, WaterNSW and NRAR are parties to a Roles and Responsibilities Agreement (RRA) that sets out the respective roles and responsibilities, rights, entitlements, and obligations of each party.

Figure 1-1 – The NSW Water Sector Agencies

Department of Climate Change, Energy, Environment and Water (Government Agency)	WaterNSW (State Owned Corporation)	Natural Resources Access Regulator (independent Regulator)
Makes the rules	*Implements the rules and system operator*	*Enforces the rules*
Developing regulatory frameworks, plan and rules. Determining licenses and approval applications for certain entities or concurrences	Determining licenses and approval applications, providing information and customer services for most users. Operating bulk water network*	Educating and enforcing compliance

Water Users, regulated communities and general public
Works within the rules

* Prices and services for bulk water network (river operations) and the remainder of corporate support services are delivered via the Bulk Water Pricing Proposal

The establishment of distinct roles across the NSW Water Sector agency value chain has created challenges for the delivery of digital services for broader and shared technology ecosystem benefit, including the ability to achieve operational efficiencies, ensuring a coordinated customer experience, and fostering strong working relationships between participants.

A joint 10-year technology vision and technology roadmap (Technology Roadmap), refer to **Appendix 4 of the WaterNSW submission: NSW Water Sector Shared Ecosystem Technology Roadmap**) for 2025 – 2035 has been established to provide a unified vision for digital services and in doing so support both the delivery of the parties' individual digital strategies and provide a strong foundation for the delivery of value to customers.

Through the joint Technology Roadmap, the NSW Water Sector agencies are better positioned to deliver enhanced transparency, customer experience, and operational efficiencies across the sector. This approach aligns with the recommendations of the 2020 NSW Chief Scientist & Engineer report[1], which identified the need for coordinated, data-driven and cross-agency approaches to effectively respond to water management and security challenges.

While several integrated business processes span the three agencies, each organisation is continuing to establish specific digital capabilities and infrastructure within the parameters of the RRA.

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[1] Chief Scientist & Engineer, *Review of water-related data collections, data infrastructure capabilities*, July 2020

1.1   Strategic intent

The joint Technology Roadmap establishes a unified vision for digital services across the NSW Water Sector agencies

NSW DCCEEW, NRAR and WaterNSW as standalone agencies in the NSW Water Sector have been on journeys to develop their own strategic and long-term technology plans. Over time, the agencies have progressed towards improved alignment in joint planning as an ecosystem, agreeing on shared ambitions and long-term planning for ICT, where it makes prudent and efficient sense to do so.

In 2022-23, the agencies conducted a joint planning exercise to establish a common ambition and strategic response to common ICT needs. This led to the development of the joint Technology Roadmap (Appendix 4). The joint Technology Roadmap aims to define the shared business challenges, desired outcomes, and principles to achieve shared ICT goals. The joint Technology Roadmap was supported by preliminary business cases and built upon the strategic planning work undertaken by each agency, including WaterNSW's ICT Strategic Plan 2019-2029 (our 10-year strategic plan for ICT)

The joint Technology Roadmap has been endorsed by the NSW Water Sector agencies, through its Joint Agency ICT Steering Committee (JAICT-SC), as well as through the internal governance process of each water agency (NSW DCCEEW, NRAR and WaterNSW) to ensure its buy-in.

Through the joint Technology Roadmap, the NSW Water Sector agencies are well positioned to deliver the vision of a unified, efficient and customer-centric operating model for digital services for the NSW Water Sector. The joint Technology Roadmap represents a significant step forward in achieving this vision.

Future horizon planning for the Technology Ecosystem

In the shared Technology Roadmap, there are **three horizons** that have been identified through engagement with stakeholders, and which inform priorities:

- **Horizon 1** (2025-2026) establishes the foundation for future endeavours, focusing on robust technology and streamlined processes to deliver value through secure data and foundational technology.

- **Horizon 2** (2027-2029) builds on these foundations, aiming to increase value by leveraging the established technology for customer-centric innovations and strategic use of integrated data and platforms.

- **Horizon 3** (2030-2035) emphasises scalability and innovative growth propositions such as broad cloud adoption, automation, modernised services, and advanced analytics - building on the successful delivery of previous horizons.

This unified technology ecosystem strategy provides for a significant increase in application sharing by WaterNSW, to drive more connected ways of working across WaterNSW and specific areas of NSW DCCEEW and NRAR. This requires a commitment to remediation of legacy data, improved governance and ongoing development of applications (e.g. Water Markets and Metering systems) beyond WaterNSW processes in the Water Resource Management value chain.

Progress during the current regulatory period (2020-25)[2] has enabled the ability to capitalise on these progressive horizons into the future.

The Sector's shared ambition to improve the customer experience

Improving the customer experience across the NSW Water Sector agencies has been a key goal for all agencies. In line with this shared ambition, the NSW Water Sector has worked to develop a set of common principles to improve service delivery efficiency and quality, respond to the needs of customers and guide the development and implementation of the joint Technology Roadmap. These **overarching principles** are listed below:

- **Customer and community first:** Create human-first, seamless experiences that meet the needs of our communities to build trust and confidence, and to empower customer decision-making.
- **End-to-end, shared success:** Focus on partnership between organisations to design with the end-to-end process in mind. Design decisions that impact multiple areas and/or have un-intended consequences across agencies need to be considered with appropriate collaboration.
- **Manage data as an asset, for shared purpose:** Prioritise the quality, privacy and standardisation of data in order to drive information and insights that facilitate data-driven, real-time decision-making across the shared technology ecosystem.
- **Cost to serve efficiency through automation:** Where possible, design decisions should drive automation of workflows delivering efficiency and cost effectiveness.
- **Responsive, flexible and personalised:** Ensure design considers innate variations in processes and use cases to create flexibility and a personal experience for our customers, communities and people.
- **Iterative and continuous progress:** Joint decisions across the organisations need to release value early and continue to iterate beyond Minimum Viable Product (MVP).
- **Foster innovation and continued improvement:** Promote scalability and innovation by designing and building for the future versus for today's challenges alone, with a focus on continuous improvement and iteration as well as quality.
- **Compliance by design:** Compliance should be focussed on monitoring in advance rather than reactive and integrated as a decision point throughout the design process.

Aligned to these agreed principles, the NSW Water Sector agencies have developed a set of shared **desired outcomes intended to address broader sector needs**, reflected in Table 1-1 – Alignment of shared sector needs against shared desired outcomes.

Table 1-1 – Alignment of shared sector needs against shared desired outcomes

Shared sector needs	Shared desired outcomes
Modernising our customer and community experience	• Simplified and personalised customer journey that encourages self-compliance • Single record for customer data (geospatial information, financial details, notifications, and preferences).
Improving affordability, liveability and the economic prosperity for our customers and communities	• Value for money for our customers and communities

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[2] The WaterNSW Greater Sydney regulatory period is from 1 July 2020 to 30 June 2024. Rural Valleys and WAMC regulatory periods commenced 1 October 2021 to 30 June 2025. Throughout this attachment, the current regulatory period is referred to as 2020-25, except in areas specific to either the Greater Sydney, Rural Valleys or WAMC regulatory periods.

Shared sector needs	Shared desired outcomes
	• Our consumer's water sector is better managed (First Nations, flow, environment, irrigation) loss vs gain, economics environment.
Collaborating across the NSW Water Sector	• Single view/management of licences and customers • Simplified, personalised, proactive voice (for the sector), customer communications.
Improving timeliness and reliability in water delivery, and health and system connectivity	• Water usage, quantity, quality, and location is known and timely • Data and models are trusted, reliable and accessible/shared (internally and externally), well governed and assured.
Higher value impact in water resource allocation, asset management and delivery	• Virtualised assets and remote-control centre capability with data driven decision making • Optimised field operations, scheduling and dispatch • Harness new research, innovation, and technology.
Achieving higher levels of operational performance	• Fit-for-purpose insights (and data) for decision making including operational response • Integration of long-term planning through to operations (ongoing/iteratively) • Automation of business processes and decisions across the shared technology ecosystem.
Enabling future focused, capable and innovative people	• Uplift in digital skills and capabilities, cybersecurity, and data protection • Staff have a simple user experience • Uplifted and standardised knowledge management.
Delivering a more sustainable future through better water resource management and robust regulation	• Holistic business strategy and investment decision management with ability to measure Environmental, Social, and Governance outcomes • Data on usage, quantity and quality enables decision making to optimise for high compliance.

1.2   Overview of the WaterNSW Digital Portfolio

WaterNSW's Digital Portfolio is the collection of **five technology centres**, overseen by the Executive Manager Digital, that play a pivotal role in enhancing the organisation's overall effectiveness and efficiency. Through the provision of shared information systems and technology services these units also deliver services to partners in the NSW Water Sector (NSW DCCEEW, and NRAR).

The Digital Portfolio is responsible for seven key areas, these are:

- **Partnering with our portfolios to deliver value:** Working with the business to deliver initiatives which support our strategic direction and objectives.
- **Delivering technical improvements to our customers:** Delivering modern and easy ways for our customers to interact and transact with WaterNSW.
- **Supporting our systems:** Enhancing, fixing and upgrading our systems to ensure the business can operate safely and efficiently across all areas.
- **Working with our WAMC peer agencies:** Working together with DCCEEW and NRAR to uplift customer experience and drive water sector rule compliance.
- **Protecting our data and infrastructure:** Staying ahead of emergent threats to guard against cyber-attacks and also ensuring compliance with relevant legislation, such as the Security of Critical Infrastructure Act (SOCI).

- **Providing information:** Supplying information in line with formal agreements to assist the workings of NRAR, DCCEEW, the Bureau of Meteorology (BOM) and many other agencies.
- **Support compliance:** Ensuring our systems, processes and data storage and provision are executed according to the conditions of our operating license.

> **Box 1-1 The Role of the Digital Team in Addressing Emerging Risks**
>
> WaterNSW's digital team, as part of the shared technology ecosystem, provides crucial digital and data-related services to both internal and external stakeholders. This ensures compliance with relevant regulations and adherence to WaterNSW's operating licence, while proactively addressing emerging risks. The below outlines the primary emerging risks that the digital team actively manage.
>
> - **Cybersecurity:** Cyber-attacks are ever-present and evolving. We implement robust safeguards and educate stakeholders to mitigate these risks.
>
> - **Generative AI:** While generative AI offers exciting opportunities, it also increases the risk of information exposure, necessitating careful management.
>
> - **Demand Management:** Increased demand for digital services mandates ruthless prioritisation to ensure our resources target areas of highest value.
>
> - **Governance:** As a regulated entity, maintaining comprehensive governance over all investments is critical. Any lapses compromise this responsibility.
>
> - **Data Management:** Data loss or mismanagement can impair decision-making, lead to breaches, and impact operations.
>
> - **System Maintenance:** Ageing systems and obsolescence incur costs and can distract teams from innovation, emphasising the need for timely technology updates.

2. Expenditure over the 2020–25 determination period

This section outlines WaterNSW's expenditure and performance during the 2020–25 determination period.

Summary of WaterNSW's expenditure over the 2020–25 determination period

During the current period (2020–25 determination period), WaterNSW's total expenditure (totex) for its digital program was $170.96 million, representing an increase of the IPART allowance by $18.98 million or 12.5%.

WaterNSW's opex over the 2020–25 determination period was $87.37 million ($8.63 million or 11% above its allowance), see Table 2-2 below. Capex over the 2020–25 determination period was $83.59 million ($10.34 million or 14.1% above its allowance), see **Error! Reference source not found.** below).

For WaterNSW's digital services for WAMC, its totex was $39.98 million, or 52.8% above the IPART allowance. Its opex was $15.09 million, representing $1.91 million or 14.5% above the IPART allowance. Its capex was $24.88 million, representing $11.90 million or 91.6% above the IPART allowance.

WaterNSW's performance during the current period is described below in **section 2.1.**

Table 2-1 – WaterNSW's Totex for Digital in the 2020-25 determination period ($m, $2024-25)

Totex ($m, $2024-25)									
	2020-25 regulatory period – IPART allowance	2020-21 (actual)	2021-22 (actual)	2022-23 (actual)	2023-24 (actual)	2024-25 (forecast)	Total actual/forecast expenditure	Variance $	Variance %
Totex	**$151.98**	**$8.05**	**$43.92**	**$40.38**	**$37.87**	**$40.73**	**$170.96**	**$18.98**	**+12.5%**
Greater Sydney*	$73.96	$8.05	$18.84	$16.73	$14.74	–	$58.37	–$15.59	–21.1%
Rural Valleys†	$51.85	–	$17.35	$17.71	$15.68	$21.87	$72.62	$20.76	+40.0%
WAMC	$26.17	–	$7.73	$5.94	$7.45	$18.85	$39.98	$13.81	+52.8%

Table 2-2 – WaterNSW's Opex for Digital in the 2020-25 determination period ($m, $2024-25)

Opex ($m, $2024-25)									
	2020-25 regulatory period – IPART allowance	2020-21 (actual)	2021-22 (actual)	2022-23 (actual)	2023-24(actual)	2024-25 (forecast)	Total actual/forecast expenditure	Variance $	Variance %
Total Opex	**$78.73**	**$6.83**	**$25.61**	**$21.26**	**$14.08**	**$19.58**	**$87.37**	**+$8.63**	**+11.0%**
Greater Sydney*	$41.20	$6.83	$13.04	$11.17	$7.44	–	$38.48	–$2.72	–6.6%
Rural Valleys†	$24.35	–	$8.35	$7.74	$4.73	$12.97	$33.79	+$9.44	+38.7%
WAMC	$13.18	–	$4.22	$2.36	$1.91	$6.61	$15.09	+$1.91	+14.5%

*Note: IPART set prices for Greater Sydney from 1 July 2020 to 30 June 2024
†Note: IPART set prices for Rural Valleys and WAMC from 1 October 2021 to 30 June 2025

Table 2-3 – WaterNSW's Capex for Digital in the 2020-25 determination period ($m, $2024-25)

	Capex ($m, $2024-25)								
	2020-25 regulatory period – IPART allowance	2020-21 (actual)	2021-22 (actual)	2022-23 (actual)	2023-24 (actual)	2024-25 (forecast)	Total actual/forecast expenditure	Variance $	Variance %
Total Capex	**$73.25**	**$1.22**	**$18.31**	**$19.12**	**$23.79**	**$21.15**	**$83.59**	**+$10.34**	**+14.1%**
Greater Sydney*	$32.76	$1.22	$5.80	$5.56	$7.31	–	$19.89	-$12.88	-39.3%
Rural Valleys†	$27.50	–	$9.00	$9.98	$10.95	$8.90	$38.83	+$11.33	+41.2%
WAMC	$12.99	–	$3.52	$3.58	$5.54	$12.25	$24.88	+$11.90	+91.6%

*Note: IPART set prices for Greater Sydney from 1 July 2020 to 30 June 2024
†Note: IPART set prices for Rural Valleys from 1 October 2021 to 30 June 2025

2.1 WaterNSW's performance over the 2020-25 determination period

WaterNSW's Vision for the 2020-25 Regulatory Period: Enhancing ICT Efficiency and Strategic Investments

WaterNSW's vision for the 2020-25 determination period (commencing from 1 July 2020 for Greater Sydney and 1 October 2021 for Rural Valleys) was to build on the substantial progress it had made over the previous determination period (1 July 2016 to 30 June 2020) in removing duplication, harmonising, updating legacy systems, and continuing to improve the efficiency of its ICT environment to better meet the needs of customers.

At the Greater Sydney pricing review, a large program of works was proposed under the WaterNSW ICT Strategic Plan. During the Rural Valleys and WAMC price reviews, 12-months later,[3] WaterNSW revised its proposed ICT program, including a recently finalised business case for the Water Added Value Environment (WAVE). The **final proposed ICT program represented a large package of ICT projects to be delivered over the 2020-25 regulatory period,** with the WAVE program alone forecast to account for around 60% of the total ICT capex across WaterNSW.[4]

WaterNSW's performance over the 2020-25 determination period

Throughout 2020-25 determination period, WaterNSW's ICT program faced several significant challenges, many of which were outside of our control. This included the **COVID-19 pandemic, major flooding (both during the floods and in post flood recovery initiatives) across NSW from 2020 to 2022** both of which severely constrained our ability to deliver on our planned Digital program. These major events impacted our delivery due to supply chain disruptions, mandatory work-from-home requirements, and reallocation of resources to emergency and operations efforts. Additionally, increased security requirements (including the introduction of *Security of Critical Infrastructure Act* amendments), and shifts in program focus due to separate historical pricing review timelines further impacted on our planned delivery.

In response to the challenges presented throughout the period, the Digital portfolio had to **adapt and shift its focus**. Despite these obstacles, WaterNSW successfully **achieved several key project milestones**. These accomplishments have laid a robust foundation for the ongoing delivery of the next phase of the WaterNSW ICT Strategic Plan.

Key learnings include:

- **Evolved and matured Agile and DevSecOps delivery mode:** During the 2020-25 determination period, the Digital team has evolved and matured in program delivery under its Agile and DevSecOps methodologies. This progress has led to faster, more secure program releases, reduced rework, and improved product quality, better meeting business and customer needs (see Box 2-2 for more detail on the DevSecOps model).
- **Resource Reallocation:** Efficiently reallocating resources to manage unforeseen emergencies without compromising long-term strategic goals.

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[3] WaterNSW Greater Sydney and Rural Valley's price reviews were previously subject to separate IPART reviews and timeframes. WaterNSW Greater Sydney regulatory period commenced 1 July 2020. Rural Valleys and WAMC regulatory period commenced 1 October 2021.
[4] Delivery and application of these ICT projects cover all WaterNSW business areas - Greater Sydney, Rural Valleys and WAMC.

- **Cost Management:** Navigating higher than expected increases in operating expenditures and licensing costs while maintaining service quality, and customer satisfaction and vendor support.

Box 2-1 Unexpected and increasing costs impacted on WaterNSW's expenditure over the 2020-25 determination period relative to the IPART allowance

WaterNSW experienced an unanticipated increase to the intended expenditure relative to the IPART allowance over the 2020-25 determination period. The totex was 12.5% over the IPART allowance, opex was 11.0% over the IPART allowance and capex was 14.1% over the IPART allowance.

Impacts of the floods

During the initial years of the determination, the Digital team's operating expenses were significantly impacted by widespread flooding across NSW. During these flooding events, staff from the Digital team were redirected to provide additional support to high priority operational activities. This included increased surveillance, incident resolution and managing systems on an expanded 24/7 roster.

As a result, transformation activities were delayed, and in some instances paused. Consequently, work was delayed on several capital programs, including components of the WAVE program.

Higher than expected operating expenses and increases

In addition to the flood-related reallocations, the Digital program experienced higher than expected operating expenditures that were not foreseen during IPART's 2020 expenditure review. These included:

- **Cloud Adoption:** The transition to predominantly building and hosting applications such as WAVE in the cloud has resulted in a shift with lower one-off capital expenditure to higher recurrent business-as-usual operating expenditure.

- **Licensing Cost Increases:** Licensing costs increased beyond WaterNSW's control. In managing software licence renewal expenditure, WaterNSW has leveraged prices negotiated by the NSW Government where possible, such as Microsoft products. In other cases, we undertake a stringent process to test the market for best value for money offers and the pursuit of longer term contracts for higher discount levels.

- **Onboarding New Staff and Contractors:** Between 2020 and 2024, approximately 400 additional Microsoft licenses were required to support new staff and contractors. Each licence incurs a cost of around $800.

In FY22, WaterNSW restructured its ICT portfolio and approaches to project delivery under an approach called the **New Ways of Working**. The New Ways of Working model and lessons learnt from the change in delivery approach is described in more detail in **Box 2-2**

Box 2-2 *New Ways of Working* **– combining Agile and DevSecOps to transform WaterNSW's Digital Team to deliver better results**

The Digital portfolio's New Ways of Working approach combines a DevSecOps structure with Agile project delivery. While Agile focuses on iterative development cycles, DevSecOps streamlines security integration throughout the process. The move to Agile was in response to learnings from implementing the CIMS project over the 2016 determination period.

Agile project delivery does not inherently include security, so by implementing a DevSecOps approach, WaterNSW can address this gap to ensure security practices are integrated into every stage of the Agile workflow.

The New Ways of Working approach has matured throughout the period, hitting full stride in the final two years of the period. The benefits WaterNSW expect to further build on include:
- **Faster, more secure releases of programs:** security is built-in reducing rework and delays due to late-stage security vulnerabilities
- **Improved quality:** early identification and fixing of security issues has led to quality products that better meet the business and customer needs.
- **Enabled insourcing of specialist expertise** resulting in the conversion of external contractors to permanent staff.

The below sections detail the key challenges WaterNSW ICT program faced.

External impacts, broader trends and strategic adjustments over the 2020-25 determination period

COVID-19 pandemic – Additional technology and devices were required to enable WaterNSW to continue operations in a mandatory "Work from Home" environment. This resulted in fast tracking the adoption of software developments such as Microsoft Teams, increased investment in end use computing equipment and increased telecommunications bandwidth provisioning. While there was an increase in expenditure towards devices to facilitate increased working from home, WaterNSW reduced its ICT Totex per device by 36%. As people started returning to the workplace, investments in video conferencing and software to support COVID contact tracing and book office desks supported new hybrid ways of working.

Flood Operations – Between 2020 and 2022 many staff were impacted and redirected to assist with flood operations slowing the delivery of Digital projects and reprioritising deliverables to ensure continuous support and operation of the digital platforms during high-risk events.

Cybersecurity – During the period a strategic priority for the portfolio has been increasing its cybersecurity posture to comply with the *Security Legislation Amendment (Critical Infrastructure Protection) Act 2022* (SLACIP Act), which itself amended the SOCI Act. Significant progress has been

achieved in implementing a strategy to deliver and embed security tools, processes and information to allow WaterNSW to achieve its targeted security maturity, in addition to complying with external cybersecurity compliance models. This includes the introduction of 24/7 monitoring as a BAU activity and more timely and frequent application of security patches to corporate applications. **Achieving Essential 8 Maturity** - planned roadmaps were reevaluated and adapted to ensure compliance with the maturity redirecting staff to deliver this over other small discretionary works. A maturity uplift ███████ ██ has demanded extensive operationalisation of cybersecurity activities.

Broader trends among utilities to increase focus on ICT – Non-network ICT capex is increasing for most utilities as a percentage of total capex and as a percentage of revenue. Typically, organisations with a greater level of ICT investment relative to operating expense view ICT as a strategic enabler, and this can improve business performance and productivity levels. Upgrading and renewing applications is driving capex as all utilities are planning or delivering major system upgrades and/or new applications. Utility size does not appear to deliver economies of scale in ICT expenditure based on WaterNSW's assessment of comparable utilities.

Adoption of cloud-based services – Development of new services in the Cloud has been an industry trend for some time delivering a range of benefits in addition to cost reductions achieved by maintaining a smaller internal Data Centre. A key accounting implication of this is reduced capex and increase in Core opex.

The need to reprioritise over the 2020-25 determination period

WAVE program – By the end of the 2020-25 regulatory period, WaterNSW will have exceeded its forecast expenditure on the WAVE program by approximately $6.15 million (assuming achievement of forecasted expenditure of $4 million in FY25). The over expenditure is primarily related to the need to maintain a two-way synchronisation of data between the new platform (WMS) and the legacy platform – Water Licensing System (WLS). Substantial complexity is involved in the platform synchronisation due to the fundamental asynchronous underlying technology of the two platforms, sheer volume of customer records that also require extensive validation due to the Personally Identifiable Information (PII) nature of customer data, and the need to retain both platforms until all functionality in WLS can be replaced by WMS. This was unanticipated and underestimated in terms of complexity at the program inception.

To allow the digital business to focus on the expanded WAVE program, several other programs were reprioritised including, Remote Visual Monitoring, Advanced Analytics, and Expansion of Operational Technology. A further three programs have had their investments postponed, including Asset Maintenance, Asset Condition Monitoring and Field data capture.

Accounting changes – In April 2021, a change was made to the accounting for configuration and customisation costs in a Software as a Service (SaaS) arrangement resulting in a material impact to operational expenditure for the portfolio. This change meant that all costs related to the CIMS ERP, the WAVE program (except meter purchases) and enhancements to many other software applications could no longer be treated as capital investments. This has also complicated how we identify and extract BAU expenditure. For regulatory pricing and reporting purposes, the previous approach to capitalisation of ICT costs has remained in place.

Organisational growth and licensing costs – The total number of employees & contractors at WaterNSW has risen from 1,184 at the start of the Determination period to 1,265 as at June 2024, representing a 7%

increase. Under the Microsoft Enterprise Agreement (EA) all staff and contractors with system access are required to hold a licence. Qualified User Licensing in FY23 increased by 42% to 1,413 from 995 licences in FY20 alone. There was also an increase in users for ██████████████████████████ licensing and steady increases in the uptake of project management and project delivery software. In addition, there was also the implementation and continued roll out and utilisation of bespoke software for Dam safety surveillance. Organisational growth also drives an increase in customer requests and end user computing costs.

Box 2-3 WAVE program benefits and lessons learned

Benefits achieved

The WAVE program has set in place necessary foundations for future periods by:
- **Delivering the Water Market System (WMS) platform** ██████: This platform allows WaterNSW to progressively retire legacy systems that cannot keep pace with rapidly evolving customer and industry expectations. The platform mitigates risks related to rising technical debt and responding to evolving regulations, while enabling the business to meet its regulatory and Operating Licence requirements.
- **Implementing Water Data (WD) and Water Delivery Visualisation (WDV) functionality as well as automated quality assurance**: These functions provide near real-time water data (circa 15 minutes from data collection in the field to being publicly available, compared to 2-3 hours for legacy systems). WD and WDV provide critical foundations for future functionality such as enabling better sharing of data and improved analytical capability.
- **Enhanced operational decision-making**: The ability to access near real-time data allows WaterNSW to strengthen its operational decision-making and improve its support systems, such as the Computer Aided River Management (CARM) system.

Key lessons learned
The lessons learned during the WAVE program will continue to provide benefits to further programs in the Digital portfolio into the 2025-30 determination period. Key lessons include:
- **Metrics for full benefits calculation**: Metrics should consider broader NSW water sector and customer benefits where appropriate. This lesson has been embedded into the Technology Roadmap, where benefits are calculated not only in line with Treasury policy but also using a broader methodology.
- **Risk and opportunity assessments**: Regular risk and opportunity assessments are required to validate the benefits progressively as programs are rolled out. For example, the introduction of the Digital Ecosystem Oversight Committee ensures alignment with organisational maturity, capability and alignment with water sector partners.
- **Impact of scope and timeline changes:** Numerous scope and timeline changes impacted expected benefits, causing misaligned expectations. Due focus on the impact of these changes is required and is now included in the uplifted delivery methodology managed by the Digital Transformation Office.

Table 2-4 below identifies the projects that were proposed by WaterNSW through the Rural Valleys pricing review for the 2020-25 regulatory period, the allocation of total actual capex towards each project, and benefits realised during the period. As can be seen from Table 2-4, the largest portion of expenditure over the 2025-30 determination period was towards the Water Market Systems (26.70%), followed by Operations Technology (18.03%) and ICT Analytics (17.35%). All three of these programs are part of the WAVE program. Further information on WAVE is presented in Box 2-3 above.

Table 2-4 – ICT projects proposed for the 2020-25 regulatory period, allocation of actual capex and benefits realised

Project	Description	Actual allocation of expenditure (%) 2020-25	Benefits realised
Water Market Systems (WMS)	• Implement a water licensing system to improve trading functions • Implement water accounting to improve billing • Install a Customer Relationship Management System • Install a Customer Portal • Integrate the above with existing WaterNSW systems (e.g. CIMS).	**26.70%**	• Delivered a foundational Water Market System platform ███████ that is modern, secure and digitally enabled. • This program is due to complete in October 2025 and will then move to a continuous improvement phase. • The program has delivered sound foundations for WaterNSW and the shared technology ecosystem. For example, completion of this program has enabled the introduction of the Water Licencing Improvement Program (WLIP) catering to DEECCW's needs while using the same PEGA platform that WaterNSW is developing.
ICT Analytics **(later renamed WAVE – Water Data Visualisation program (WDV))**	• Implement a single source of truth for near to real time operational data • Decommissioning and integration of legacy applications inherited prior to the formation of WaterNSW • Implement a single controlled Application Programming Interfaces Management (APIM) data access portal for internal and external access to near to real time operations water data • Implement an operations based visualisation Dashboard to replace bespoke spreadsheet operations • Implement automated quality assurance and daily reporting of near real time operational data	**17.35%**	• During the period a modern water data platform ██████████ was established. • The team delivered an Application Interface Programming (API) management portal, Data visualisation platform and consolidated Water Operations Toolkits. • **Enhance analytics capability** by coupling a data repository with ███████ and API's delivering data within 15 minutes of receiving it to operations platform. • **Enable better sharing of data** between internal and external parties through a portal or common access point. • **Reduced Maintenance Costs**: Decommissioning legacy corporate applications ████████████████

Project	Description	Actual allocation of expenditure (%) 2020-25	Benefits realised
Corporate Systems	• Corporate Systems is a collection of enterprise-wide applications that deliver shared service platforms to the business • The Corporate Systems team is responsible for managing the foundational Central Data and Analytics Hub across WaterNSW • The team extends the ERP platform's capabilities • The team leads the decommissioning of legacy corporate applications inherited prior to the formation of WaterNSW.	7.59%	• **Improved Decision-Making**: The Central Data and Analytics Hub (built during the period) lays a solid foundation for future data-driven advancements, improving decision-making. • **Enhanced Operational Efficiency**: Efficiency of handling employee-related issues, improving service delivery and compliance within the state-owned corporation. • **Increased Revenue Collection**: Delivered the integration with Revenue NSW supports improved debt collection, ensuring a more efficient and effective recovery of outstanding payments • **Strengthened Financial Security**: Implemented ▮▮▮▮ enhanced payment security by verifying supplier banking details in real-time, significantly reducing the risk of fraud and errors and bolstering the company's financial controls. • **Reduced Maintenance Costs**: Decommissioning legacy corporate applications like ▮▮▮▮▮▮▮▮
End User Computing (EUC)/ Collaboration	• This program is responsible for establishing a single online sign-on system for WaterNSW staff to unlock core corporate systems • Automate processes to on-board and off-board staff • Provide virtual systems to increase staff collaboration and agility ▮▮▮▮▮▮▮▮	3.06%	• Improvement in Asset Management of ICT devices to better track inventories and location of equipment. • Maintained technical currency in line with Asset Management Policies • Improved collaboration tooling that positioned WNSW to continue to efficiently operate during the COVID pandemic • More flexible ways of working
Operations Technology **(later renamed WAVE – Water Data Program (WD))**	• Centralised control room for the integration of Operations systems to better control and monitor river and dam • Rationalise five telemetry systems to collect data at remote locations into a Modern IoT enabled data collection portal • Rationalisation of disparate and mixed CCTV platforms • Investigate IoT technologies to lower costs of asset and operation monitoring • Consolidate rural and metro SCADA systems into single system	18.03%	• **Remote Visualisation Monitoring** platform including Advanced Analytics • **Rollout of IoT groundwater monitoring devices** using IoT technologies in 2022-2024 • **Expansion of IoT** use cases to include Dam Safety and catchment research sites. • SCADA consolidation was descoped from the WAVE program following potential Water Market Reforms • **Reduced Maintenance Costs**: Decommissioning legacy corporate applications ▮▮▮▮▮▮▮▮

Project	Description	Actual allocation of expenditure (%) 2020-25	Benefits realised
	• Rationalise Alarm and Notifications frameworks and consolidation of Start of Day dashboard and alarming philosophy		• **Improved Decision-Making**: The Central ▮▮▮ IoT Data collection Hub lays a solid foundation for future data collection • Establishment of a preferred supplier of IoT devices for water monitoring and government meters.
Information Security*	• Improve cyber security management as WaterNSW maintain and operates critical infrastructure • Conduct threat and risk assessments • Periodic testing of critical IT systems	1.04%	• Effective responses to cyber security incidents and/ or investigation which minimises disruption to the business operations. • New protections have reduced the likelihood of cyber attacks in an evolving threat landscape.
Telecommunications	• Improve telecommunications network connectivity between corporate offices and sites (e.g. dams) across 85 locations • Improve the operational network across 46 locations (e.g. routers, switches, SCADA servers) • Renew and improve voice and other telecommunications networks for field staff	3.69%	• Incremental enhancements to telecommunications networks at 85+ locations • Delayed renewal costs by extending the life of SCADA network assets beyond what was originally expected • Architecture developed for future network improvements
Data Centre Services	• Periodic renewal of data centre infrastructure as assets reach end of life • Improving disaster recovery capability for data centre services	10.05%	• The capacity of the data centre and the sizing of resources in the data centre and cloud was regularly optimised. • Risks reduction through establishing and maintaining a disaster recovery capability for the data centre, reducing cyber security vulnerabilities and implementing improved cyber security controls. • These costs cover the 2019 and 2025 renewal of data centre hardware
ICT Technology	• Enhance the ICT Project Management Office function and embed the Project Deliver framework governing the provision of digital services • Establish periodic strategic planning process • Implementation of DevOp squads and Agile development methodology	0.15%	• Establishment of project management capability that prior to FY19 did not exist. • Enhanced governance and reporting capability established. • Standardised inception and delivery approaches established,
Renewals	• Renewal and refresh of ICT infrastructure for WaterNSW covering hardware (e.g. laptops, printers), software procurement and telecommunications devices (e.g. mobile phones)	9.96%	• Onboarded and equipped >400 new staff and contactors.

WaterNSW

Project	Description	Actual allocation of expenditure (%) 2020-25	Benefits realised
	• The renewal and refresh of ICT infrastructure will improve the reliability of IT assets and optimise lifecycle costs		
Unanticipated projects and activities	• Initiatives that were unplanned during the period, including but not limited to bushfire recovery actions, office relocations and priority communications related tasks such as CCTV camera installations.	**2.38%**	• Improved business resilience and operations

*Note: Percentages are based on the portion of total capital expenditure and are intended to demonstrated weight in terms of expenditure and focus during the 2020-25 determination period. While the individual program Information Security only has 1.04% of total expenditure over the period, it is important to note that under the new DevSecOps model, security is embedded into each program. WaterNSW has not attempted to isolate the allocation of security that is dedicate to each program.

3. 2025-30 determination period: expenditure drivers, assumptions, methodology and governance

3.1 WaterNSW's proposed expenditure for the 2025-30 determination period

For the 2025-30 determination period, WaterNSW's total investment (totex) in digital technology is $361.29 million. This is comprised of $163.46 million in capex and $197.83 million in opex. Our forecast expenditure is split across WaterNSW's Bulk Water and WaterNSW's investment in WAMC. For bulk water services alone, WaterNSW's total investment is investment is $269.2 million.

WaterNSW's planned investment includes the delivery of WaterNSW's Core programs and our planned investment in the joint Technology Roadmap, the cornerstone of the shared technology ecosystem's digital ambitions.[5] Our forward program builds on the foundations built during the 2020-25 period by leveraging existing technology and skilled resources.

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[5] Note the final years of the technology roadmap are planned to be delivered from the future pricing period commencing 2030 onwards.

Table 3-1 – WaterNSW's forecast Totex for Digital over the 2025-2030 determination period ($m, $2024-25)

	Totex ($m, $2024-25)								
	2020-2025 regulatory period – Actuals/Forecast (inflated to $2024-25)	2025-26	2026-27	2027-28	2028-29	2029-30	2025-2030 regulatory period – Total	Variance $	Variance %
Totex	**$182.39**	**$85.35**	**$81.31**	**$76.91**	**$61.93**	**$55.78**	**$361.29**	**$178.90**	**+98.1%**
Greater Sydney	$64.12	$33.28	$30.53	$29.34	$26.20	$26.35	$145.71	$81.59	+127.3%
Rural Valleys	$76.63	$28.08	$26.84	$25.50	$21.74	$21.33	$123.49	$46.86	+61.2%
WAMC*	$41.64	$23.99	$23.94	$22.07	$13.99	$8.10	$92.09	$50.44	+121.1%

*Refer to the WAMC Submission on WaterNSW's programs related to WAMC

Table 3-2 – WaterNSW's forecast Opex for Digital over the 2025-2030 determination period ($m, $2024-25)

	Opex ($m, $2024-25)								
	2020-2025 regulatory period – Actuals/Forecast (inflated to $2024-25)	2025-26	2026-27	2027-28	2028-29	2029-30	2025-2030 regulatory period – Total	Variance $	Variance %
Total Opex	**$94.06**	**$39.24**	**$38.56**	**$39.85**	**$41.21**	**$38.97**	**$197.83**	**+$103.76**	**+110.3%**
Greater Sydney	$42.60	$19.35	$18.29	$18.82	$19.99	$19.39	$95.84	+$53.24	+125.0%
Rural Valleys	$35.58	$13.12	$13.15	$13.66	$14.47	$14.67	$69.07	+33.49	+94.1%
WAMC*	$15.88	$6.76	$7.12	$7.36	$6.75	$4.91	$32.91	+17.04	+107.3%

*Refer to the WAMC Submission on WaterNSW's programs related to WAMC

Table 3-3 – WaterNSW's forecast Capex for Digital over the 2025-2030 determination period ($m, $2024-25)

	Capex ($m, $2024-25)								
	2020-2025 regulatory period – Actuals/Forecast (inflated to $2024-25)	2025-26	2026-27	2027-28	2028-29	2029-30	2025-2030 regulatory period – Total	Variance $	Variance %
Total Capex	**$88.32**	**$46.11**	**$42.76**	**$37.06**	**$20.72**	**$16.81**	**$163.46**	**+$75.14**	**+85.1%**
Greater Sydney	$21.32	$13.92	$12.25	$10.52	$6.21	$6.96	$49.87	+$28.36	+131.8%
Rural Valleys†	$41.05	$14.96	$13.69	$11.83	$7.27	$6.67	$54.42	+$13.37	+32.6%
WAMC*	$25.76	$17.22	$16.82	$14.71	$7.24	$3.18	$59.17	+$33.41	+129.7%

*Refer to the WAMC Submission on WaterNSW's programs related to WAMC, this number excluding $9 million of Technology Roadmap investments for DCCEEW/NRAR

3.2   Proposed digital program for the 2025-30 Determination Period

The digital program for the 2025-30 determination period is fundamental to WaterNSW's transformation into a digitally enhanced business and underpins many of the efficiencies the business (and the broader sector) aim to achieve. WaterNSW's digital program includes fulfilling its commitments towards the joint Technology Roadmap and maintaining critical systems and programs as part of its core operations.

The below details WaterNSW's contribution to the Roadmap and our BAU digital programs.

The Joint Technology Roadmap

The joint Technology Roadmap represents a unified strategy consisting of 13 programs (11 of which WaterNSW has responsibility to deliver) that will deliver significant economic benefits to customers across the broader sector. These benefits include more connected ways of working and sharing of applications between WaterNSW and its sector partners. This includes a commitment to remediation of legacy data, improved governance, and ongoing development of applications such as the Water Market and Metering systems, beyond WaterNSW processes in the Water Resource Management value chain.

The full Technology Roadmap represents the NSW water sector agencies' long-term ambitions aiming to address challenges faced by agencies and our customers through critical investments in process redesign and technology over a 10-year horizon (two regulatory periods). For the 2025-2030 determination period, the total cost for WaterNSW Bulk Water initiatives is $64.4 million over 5 years.

While the Technology Roadmap will uplift our digital capabilities across the sector, planned investment has adopted a conservative strategy, ensuring investment in essential functions only to tackle shared challenges and meet regulatory requirements. This approach spreads the full Technology Roadmap costs over two determination periods, while ensuring delivery of critical activities that enhanced risk management and compliance with mandatory obligations during the 2025-30 determination period. While this will extend the time before customers see the full benefits, it ensures a more manageable implementation with only essential costs passed through to customers.

Critical challenges and benefits that will be delivered by the Technology Roadmap include:

- **Ageing technology:** managing our cyber security risks due to ageing technology and replacing systems no longer supported by vendors.
- **Regulatory compliance:** ensuring adherence to cyber security, data management and privacy regulations (Security of Critical Infrastructure Act, Privacy Act and new Operating Licence conditions).[6]
- **Single source of information:** ensuring reliability of data and information for critical functions as well as streamlining information delivery for customers and stakeholders across the NSW Water Sector.
- **Data Quality Issues:** addressing incomplete datasets and operational inefficiencies like duplication and manual processes.
- **Customer Experience:** improving customer experience by integrating separate agency processes.
- **Leveraging benefits across the shared technology ecosystem:** sharing costs and efforts developing and managing systems for the benefit of the NSW Water Sector agencies. Reducing operational costs through monitoring and optimising diverse assets across the sector.

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[6] WaterNSW's 2024-2028 Operating Licence clause 43 Data management framework and clause 44 NSW Government access to water data and information.

WaterNSW with its water sector partner agencies have worked together to consolidate 37 separate initiatives into 13 Technology Roadmap programs. WaterNSW's forecast investments in the Technology Roadmap were developed through a robust collaborative approach, ensuring cost-effective and efficient expenditure. This approach included rounds of critical test and challenge by WaterNSW's SME's and external expertise. During this process, some programs that offer significant benefits to customers, but were not deemed essential for immediate delivery have **been deferred to the next regulatory period**. The most notable example of which is the deferral of the Geospatial Visualisation program representing an avoided direct cost of $3.2 million.

Our collaborative approach to defining the forecast costs and services of Roadmap include:

- **Leveraging external expertise** in project deliverability. The process involved rigorous testing and challenging of cost projections with our Digital team managers and external expertise to ensure feasibility and accuracy.
- The Water Markets program has already been in operation for approximately three years, providing a solid foundation for developing forecasts based on **actual performance and trends**.
- We **engaged with water users** to refine the scope of these programs to better meet their needs. This included five sessions with the **Working Groups (WWG)** that comprise of customers from various regions who provided feedback on different levels of investment ie, 'do something', 'do a little', or 'do a lot'.
- We continually **consulted with government** to ensure that our proposal **aligns with government objectives, customer service expectations, and policy goals**. This scrutiny helped resolve potential risks through genuine and direct engagement.
- Proposed investments align to our **Investment Prioritisation Framework** to ensure a balanced approach to decision-making that aligns investments with strategic, customer-driven, and mandatory outcomes while managing risk and cost efficiency.
- Costs and assumptions were independently **tested and validated** through an externally engaged consultant, and **further scrutinised by government** to ensure robustness and alignment with broader objectives.
- WaterNSW **adopted a P50 approach in forecasting capital expenditure** for the Technology roadmap. This means that the proposed expenditure represents the most likely outcome, with an equal likelihood of project costs being higher or lower than forecast, avoiding unnecessary contingency costs.

WaterNSW's Core digital programs provide critical support to the business

In conjunction with delivering the Technology Roadmap, WaterNSW maintains systems and programs that have significant contribution to the operation of the business and a subsequent impact (and benefit) for our customers.

Cloud computing is an important area for the business. Cloud computing costs alone are projected to increase at 16% per year. This compares favourably with the average increase across NSW Government at 26% per year (2% month on month).[7] Microsoft releases new cloud service updates every 6 months, meaning WaterNSW must release new updates to ensure that it complies. In addition to the use of cloud computing, there has been continual improvement in BAU cyber security, telecommunications, ensuring compliance with Essential Eight and supporting changing business requirements.

A significant portion of WaterNSW's core digital expenditure is the cost of software licence renewals and maintenance. The price of these licences has been increasing and is expected to continue rising over the 2025–30 Determination Period. These increases are largely outside of WaterNSW's control. As a price

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[7] Although WaterNSW is experiencing rising costs associated with Cloud computing, our analysis demonstrates that the 16% increase compares favourably with the average increase across NSW Government at 26% per year (2% month on month).

taker of these services, WaterNSW has leveraged prices negotiated by the NSW Government where possible, such as Microsoft products. In other cases, we undertake a stringent process to test the market for best value for money offers and the pursuit of longer term contracts for higher discount levels.

Box 3-1 Customer engagement to our digital plans - what we heard and how we have responded

Feedback from WaterNSW's customers:

In addition to our ongoing engagement with customers, WaterNSW undertook dedicated and extensive engagement in building our digital plans for the 2025-30 determination period.

Key insights from WaterNSW's customer engagement on our digital program include:
- **Simplifying processes:** customers stressed the need to simplify ways of working to make interactions more efficient and user-friendly.
- **Increased transparency:** customers want more transparency through information sharing and increased access to accurate and timely data to support their decision making.
- **Affordability concerns:** maintaining affordability is crucial to our customers. Customers have urged WaterNSW to manage costs effectively.

Key insights from customers to digital services across the shared technology ecosystem:

Feedback from the broader NSW Water Sector agencies and WAMC's customers mirrored the above themes, with additional insights obtained through consultations with First Nations peoples, Customer Advisory Group members, and participants of the 2025-30 Water Working Groups.

- **Integrated systems:** customer indicated a need for better integration between different water management systems to avoid duplication and enhance efficiency.
- **A unified approach:** customers recommended a unified approach to managing water resources to maximise benefits and minimise costs to all stakeholders involved.
- **Enhanced customer experience:** related to integrating systems, was a demand for improved overall customer experience, particularly in relation to reducing bureaucratic hurdles.
- **Data quality and governance:** NSW water sector agency customers indicated a need for robust data governance frameworks to ensure data quality and reliability across all agencies.

How we have responded:

Each program, and the options within them, were assessed for prudency against the WaterNSW **Investment Strategy & Prioritisation Framework** to determine the best value approach that meets regulatory and risk management obligations.

The Technology Roadmap adopts the "Conservative scope," where a partial scope of programs will be delivered in the 2025-30 period, with some programs delayed to the 2030-2035 period. Partial benefits will be realised by 2025-30, with full realisation expected by 2030-2035. From this consultation, the final portfolio delivers:

- **Process Redesign:** Simplifying and automating processes to enhance efficiency and user experience.
- **Transparency Initiatives:** Implementing measures to improve information transparency and accessibility.
- **Cost Management:** Adopting a conservative investment approach to maintain affordability while addressing key issues and compliance requirements.
- **Integrated Solutions:** Developing interconnected systems and shared platforms to facilitate seamless operations across the ecosystem.
- **Customer-Centric Innovations:** Focusing on delivering solutions that directly address customer needs and improve service delivery.

3.2.1 Projects under the Technology Roadmap

WaterNSW's total forecast expenditure toward the Technology Roadmap – Bulk Water and WAMC - is $112.1 million over the 2025-30 determination period. This substantial program aligns to our customers' needs and builds on the progress and lessons learned during the 2020-25 determination period to deliver a seamless and integrated customer experience. It represents a coordinated program of works for the NSW Water Sector and will drive efficiencies for all agencies.

Maximising the benefits to customers: Approach to assessing the benefits of the Technology Roadmap programs

Initiatives under the Technology Roadmap have gone through a rigorous process to understand the benefits to customers. A key metric to guide this evaluation was the use of a benefit cost ratio (BCR), used to weigh each program's total cost against its derived benefits. Additionally, WAMC agencies have also applied a Total Economic Benefit BCR to each program, which considers both hard and soft benefits. The combination of the two methods provides a comprehensive assessment. Estimates are based on a P50 basis, ensuring a high probability of achieving or exceeding the best estimate.

It is important to note that the estimates exclude baseline operational costs and non-core software subscriptions. By dividing the benefits by the cost of each project, WaterNSW determines the viability of implementing and operating these initiatives in the long run.

Among the major Bulk Water projects contributing to the Technology Roadmap for WaterNSW, the Communication Network Upgrade, Asset Lifecycle Management & Planning and Water Insights Portal are the three largest programs (in terms of planned investment). Of these, the **Asset Lifecycle Management & Planning** represents the largest total Economic Benefits (145/100), which considers both hard and soft benefits, encompassing advantages for customers and business operations. With a total cost of $16 million, the program delivers **$23.1 million in realised benefits over FY25-34, comprising $4.9 million in hard benefits and $18.2 million in soft benefits**.

Table 3-4 – Joint Technology Roadmap including Bulk Water and WAMC initiatives - forecast expenditure for WaterNSW investment in Technology Roadmap programs over the 2025-30 determination period

Technology Roadmap Project Forecast ($m, $2024-25)								
Programs	2025-26	2026-27	2027-28	2028-29	2029-30	Total cost 2025-30 regulatory period - Total	Direct Roadmap (prior to overhead adjustments)	Overheads
Total Technology Roadmap	**$29.77**	**$35.58**	**$28.98**	**$13.16**	**$4.62**	**$112.10**	**$97.60**	**$14.50**
Asset Lifecycle Management	$1.45	$5.77	$6.16	$1.06	$0.96	**$15.40**	$15.32	$0.07
Communications Network Upgrade	$3.57	$4.84	$5.05	$3.96	$2.87	**$20.28**	$18.44	$1.84
Cybersecurity Resilience	$1.41	$0.74	$0.62	$0.63	$0.39	**$3.79**	$3.09	$0.70
Shared Technology Ecosystem Data Strategy*	$2.52	$3.76	$3.62	$0.95	$0.00	**$10.86**	$8.82	$2.04
Future Workforce	$1.78	$1.92	$0.46	$0.08	$0.07	**$4.31**	$3.73	$0.58
Integration Business Planning and Automation	$1.54	$4.09	$0.62	$0.00	$0.00	**$6.25**	$5.15	$1.10
Metering Systems*	$3.48	$3.51	$1.39	$0.26	$0.00	**$8.64**	$7.00	$1.64
Digital Operations Support	$1.03	$1.03	$1.03	$0.21	$0.00	**$3.30**	$3.30	$0.00
Risk Safety and Compliance	$3.21	$0.00	$0.00	$0.00	$0.00	**$3.21**	$2.58	$0.63
Water Insights Portal	$1.90	$1.86	$2.07	$1.65	$0.33	**$7.81**	$7.31	$0.50
Water Market Systems*	$7.88	$8.04	$7.96	$4.36	$0.00	**$28.25**	$22.87	$5.38

* WAMC initiatives

Table 3-5 – Summary of Technology Roadmap Bulk Water and WAMC initiatives including, WaterNSW's proposed investment (capex) and benefits that will be achieved

Project	Forecast Cost (FY26–FY30) ($m, $2024-25)	Description	Driver	Benefits
Water Insights Portal	$7.81	The increased audience for the current Water Insights Portal are unable to efficiently access the data they need. Current complex process for accessing historical and current/real-time data	To implement a personalised digital platform for customers and the community to view water data, regulations, and decisions made by the water sector. Greater data sharing across the water sector including both government agencies and external partners.	• **Community engagement:** The water insights portal will enable engagement with the community through the • display of insightful water trends and news. Improvements to allow for greater personalisation will allow community members to access the information they need, when they need it, and so increase the level of trust the NSW community has in WaterNSW. • **Community information & education:** The water insights portal will educate the community by providing the latest water information and by making complex regulation and legislation changes more accessible. • **Customer notification:** Personalised alerts will add value to customers, enabling them to choose the • information they want to be updated on and how they want it to be communicated to them.
Technology Ecosystem Data strategy, use cases and Governance*	$10.86	To implement a personalised digital platform for customers and the community to view water data, regulations, and decisions made by the water sector. Greater data sharing across the NSW Water sector including both government agencies and external partners.	Data assets are not currently leveraged across the NSW Water Sector. There is a missed opportunity to make informed, aligned decisions. Data quality and integrity is low, with unnecessary effort spent on data cleansing and rework. Data operating model, governance and shared data platforms are not in place to enable data sharing.	• **Community engagement:** The portal will enable engagement with the community through the display of insightful water trends and news. Improvements to allow for greater personalisation will allow community members to access the information they need, when they need it, and so increase the level of trust the NSW community has in WaterNSW. • **Community information & education:** The water insights portal will educate the community by providing the latest water information and by making complex regulation and legislation changes more accessible. • **Customer notification:** Personalised alerts will add value to customers, enabling them to choose the information they want to be updated on and how they want it to be communicated to them.
Cybersecurity Resilience	$3.79	A program of continuous improvement in the organisation's cyber security resilience in the presence of an increasing cyber threat environment. ███████████ ███████████████ ███████	Ever increasing cyber threat environment requiring continuous improvement and enhancement of cyber security maturity.	• A **strong security posture,** ████████████ ████ leads to stronger ability to mitigate against potential threats, avoiding financial losses from fines, legal action and remediation. • **Increased productivity** as agreed classifications of records ensures consistent handling across the NSW water sector. • ███████████████████████████

WaterNSW

Project	Forecast Cost (FY26–FY30) ($m, $2024-25)	Description	Driver	Benefits
Future workforce	$4.31	Implementation of strategic workforce systems and processes for planning. Gap identification between the current skills baseline and the future skills and roles needed in the water sector.	Needs output calculated on a P50 basis in line with effort required.	• **Reduction in the cost and complexity** of ongoing maintenance of the Safety People and Culture (SPC) application portfolio through use of a modern, scalable, and simplified technology platform. • **Improved Employee Experience:** By upskilling and training existing employees they are equipped with new skills and capabilities to explore and expand into new roles and maintain in-demand skills in the market. • **Productivity improvements** through increased automation and integration resulting in higher operational efficiency that allows SPC to focus on strategic, valued-adding activities. • **Improved efficiency** of Human Capital Management (HCM) services across the organisation through streamlined processes and increased automation and integration • **Increased self service capabilities**, allowing users to address their needs at a time that suits them • **Reduced risk of human error** and higher data quality from automation of key processes.
Integrated Business Planning and Optimisation	$6.25	Improvements in financial planning GRC and contracts management will enable better management of and holistic reporting on operational and capital expenses across the NSW water sector, improved risk, safety and compliance.	Intensive manual effort is required monthly, across the business to support budgeting and forecasting. The lack of an enterprise contracts management solution means that contract management processes are inconsistent across the business and drives manual work arounds to manage contract compliance.	• Reduced risk of human error and **higher data quality** from automation of key processes. • **Productivity uplift** to shift effort away from manual tasks • **Evidence-based billing and grant management** through captured timesheet data • Integrated applications allowing **consistent data capture** and reduced reliance on spreadsheets • Automated reporting **reduces manual efforts** • Consistent processes reduces risks by creating better adherence.
Asset lifecycle management & planning	$15.40	Enhanced works management systems and processes to enable better planning, implementation and monitoring of physical infrastructure projects and activities. AI based workload planning and scheduling based on skills, location, vehicle and equipment to allocate the right team member or crew to the job or group of jobs, including route optimisation. Uplifts to the capabilities that enable field workers to capture data when completing work as	Lack of integration between multiple assets management systems as well as gaps in the information flow impede work order generation, scheduling, and the efficient dispatch of human (and non-human) resources, leading to significant manual effort and inefficient job allocation. Limited connectivity of mobile solutions leading to manual work arounds and inefficient practices.	• A fit-for-purpose Field Mobility allows field information to be recorded in a structured way on a single platform, **minimising duplicate efforts and improving data accuracy and consistency**. • Strong connectivity allows field staff to communicate accurate data and information and to have access to • near real-time updates. This reduces the likelihood of errors, increases data quality and streamlines decision-making. • Ability to forecast, plan and schedule resources including human and non-human, parts and contractors • An automated asset maintenance program will reduce downtime, improve operational safety, and optimise field resource allocation. In-day changes to schedules will be automatically updated to maintain efficiency and productivity

Project	Forecast Cost (FY26-FY30) ($m, $2024-25)	Description	Driver	Benefits
		part work order and hazard management.		
Customer Metering Systems*	$8.64	Customer metering involves measuring and monitoring water consumption by customers. The end-to-end installation of water meters allow the NSW water sector to acquire data concerning a customer's water usage and generate accurate billing.	Current legacy systems are struggling to adapt to unexpected complexity introduced from both the NUMR (Non-Urban Metering Reform) and FPH (Flood Plain Harvesting) regulations. Customers have limited access to their own metering data.	• Improved reporting on regulatory and compliance requirements within the time frames required from access to higher quality metering data • Customers are able to better manage their own usage and ensure compliance with relevant legislation and licence conditions • Reduced time for NRAR staff investigating potential non-compliance by having access to better and more timely meter and water data • Reduce overall costs in meter data management.
Water Market Systems*	$28.25	Water market systems (WMS) provide a single digital experience in a preferred channel enabling customers to transact with the NSW water sector. Through the online portal, customers will be able to view their licences and entitlements, manage their orders, pay bills, respond to requests for information and report issues and risks.	Multiple customer portals and front doors exist, creating a fragmented experience for the customer that may engage the NSW water sector. This leads to inefficiencies, reduced levels of compliance and community frustration.	• Avoiding, in part, the projected increase in the number of FTEs required to meet the growing customer data demands although data constraints will continue to exist • Some reduction in the risk and complexity for customers needing to access multiple systems to perform similar capabilities and cross reference multiple sources of information, risking error. • Some reduction in the time spent by customers and WaterNSW staff in accessing water market information and data through the customer portal.
Risk, Safety & Compliance	$3.21	The uplift of risk and compliance practices, procedures and tooling across the NSW water sector will involve implementing a fit for purpose risk monitoring tool across the organisation to proactively measure compliance, enhancing reporting capability against compliance levels and leveraging automation to monitor and respond to risks in real-time.	Improve the Governance, Risk and Compliance (GRC) capability across the organisation. The current Risk Assurance & Compliance System is largely used for incident logging and tracking, safety hazards recording, and actions logging and tracking for specific areas of the business. It is not used as a GRC tool, leaving many stakeholders relying on spreadsheets to manage their risk and compliance obligations.	• Avoiding the potentially high cost of remediation through more timely detection of increased risks. • Higher levels of compliance from an uplift in the maturity of compliance tools and practices. • Greater efficiency in the organisation wide management of risks through automation of reporting and timely data collection and monitoring.

WaterNSW

Project	Forecast Cost (FY26-FY30) ($m, $2024-25)	Description	Driver	Benefits
Communication Network Upgrade	$20.28	Upgrade of communications network (Fibre, 5G, etc.) to support better communications and technology in the field. This would include improving network infrastructure and upgrading connectivity technologies.	Often poor and inconsistent communications to remote dams/ offices. Renew end-of-life hardware and improve cyber security in line with SOCI legislation.	• Increased productivity of field staff as they are able to access systems and information in a timely manner when working in the field. • Improved safety as it facilitates faster response to emergencies as well as being able to communicate with personnel in remote locations. • Reduces risks associated with working in remote locations and being unable to contact other personnel.
Digital Operations Support	$3.30	Examine the feasibility of advanced operations support monitoring technologies and automated control systems, delivering enhanced operational capability with increased security, reliability, reduced cost and operational risks building preliminary foundations for centralised control.	Automation reduces manual intervention, cuts operational expenses, strengthens security against cyber threats, and ensures consistent system performance. These innovations also minimise operational risks, such as human errors, while enabling centralised management of dispersed systems for streamlined and simplified control.	• Financial Benefit – Cost savings: Reduced reliance on individual workers performing works in the field with automated devices collecting information. • Non-Financial Benefit (Risk) – Safety: Improved safety by reducing the need for operators to work onsite in hazardous environments and remote locations. • Non-Financial Benefit (Risk) – Risk Reduction: Increased reliability of operations as monitoring is proactively managed in real-time. • Efficiency improvements, cost reduction, enhanced security, increased reliability, risk mitigation, and centralised control are benefits for adopting advanced operations support monitoring technologies.

Table 3-6 –Joint Technology Roadmap including Bulk Water and WAMC initiatives – forecast expenditure for WaterNSW investment in Technology Roadmap programs over the 2025-30 determination period

Roadmap Costs - by Determination ($m, $2024-25)						
	2025-26	2026-27	2027-28	2028-29	2029-30	Total (FY26-30)
Total Roadmap	**$29.77**	**$35.58**	**$28.98**	**$13.16**	**$4.62**	**$112.10**
Greater Sydney	$7.48	$9.51	$7.42	$3.32	$1.97	$29.70
Rural Valleys	$8.41	$10.75	$8.59	$4.26	$2.65	$34.65
Total Bulk Water	**$15.88**	**$20.26**	**$16.01**	**$7.58**	**$4.62**	**$64.35**
WAMC (WaterNSW only)	**$13.88**	**$15.32**	**$12.97**	**$5.57**	**$0.00**	**$47.75**

3.3 Operating expenditure for Digital over the 2025-30 regulatory period

3.3.1 WaterNSW operating expenditure for Digital

WaterNSW's Bulk Water total forecast opex is $164.91 million over the 2025-30 determination period. This is comprised of $95.84 for Greater Sydney and $69.07 million for Rural Valleys.

Under IPART's Water Regulation Handbook, IPART expects water businesses to present their opex for the proposed determination period (2025-30) in line with its base-trend-step (BTS) format (for details on WaterNSW's BTS approach see **Attachment 8: Base-Trend-Step Operating Expenditure**).

The below section presents the Digital portfolio's opex in line with the BTS format and provides supporting justification for the major drivers behind our base adjustments and trends, as well as a small step change as it related to Software Licensing & Maintenance. This section should be read in conjunction with Attachment 8.

3.3.2 Base-trend-step approach to operating expenditure for Digital

The major drivers of the Digital portfolio's opex fall under four categories of expenditure, these are:

1. Software licencing and maintenance
2. Telecommunications and networks
3. People related costs
4. Cloud computing

The associated base adjustments, trends and step change are presented in Table 3-7 below.

Table 3-7 – Digital opex presented in a BTS format for the 2025-30 determination period ($m, $2024-25)

Digital Base-Trend-Step opex for the 2025-30 determination period ($m, $2024-25)					
Digital BAU Opex Expenditure Area	**FY23 BAU Actual ($m)**	**Base Adjust FY23-25 ($m)**	**FY25 Budget ($m)**	**Step & trend ($m)**	**FY30 BAU forecast ($m)**
Software licensing & maintenance	6.90	5.79	12.69	0.76	11.46
Telecommunications and networks	2.94	1.88	4.82	0.41	5.23
People related costs	17.06	8.72	25.78	-4.47	23.31
Cloud computing	2.78	0.45	3.23	3.31	6.54
Total	**29.68**	**16.84**	**46.52**	**0.02**	**46.54**

3.3.3 Increases in our operating expenditure for the 2025-30 determination period

The below section details the drivers behind the four key areas of the Digital portfolio's operating expenditure for the 2025-30 determination.

Software Licencing and Maintenance

- **Software licencing:** Across the utilities sector, businesses are taking advantage of cloud services to meet growing technology demands. While these subscription-based services offer many advantages, the costs associated with data and storage are rising globally due to increasing data volumes and advancements in technology.

  Prices for licences, including associated maintenance agreements, under WaterNSW's digital program are anticipated to see increases of between 3.3% to 23% (for services without contracted pricing protection). For example, Microsoft customers (including WaterNSW) face price increases of between 5% and 15% due to factors such as product cost increases, regional pricing adjustments, loss of discounts, entitlement changes, and new product requirements. Additionally, software costs are projected to rise by another 40% by 2027 due to generative AI product pricing and packaging.

  While these increases are largely outside of our control, WaterNSW has attempted to mitigate or offset these increases where possible, including utilising whole of government pricing negotiated by the NSW Government.

- **Security:** WaterNSW complies ███████████████████████████████████ ████████████████████████████████████ which support the business to protect itself from cyber threats and improve our capability, maturity as well as regulatory and licence obligations. In addition to the practices contained within these frameworks, WaterNSW is required to undertake additional safeguarding measures to ensure it complies with the amendments to the SOCI Act.

  Uplifts in security costs are well understood across government. The Regulation Impact Statement for the SOCI Act, states that the average cost for a critical water infrastructure entity to manage cyber and information security hazards as required by the Act is approximately $5.1m in one-off costs and $2.1m in ongoing costs (35.6% of $14.4 million in one-off costs and $6.1 million in ongoing costs for the average critical infrastructure organisation in the water sector). [8]

  Within Australian Water utilities, uplifts in opex relating to licencing and cyber security are also understood. For example, Greater Western Water in its 2024 price submission to the Essential Services Commission (ESC), noted a step change increase of **$15.77 million for licensing fees**, captured as an identified transformation efficiency. The business also noted **a $4.5 million step change to uplift digital programs in line with Security of Critical Infrastructure legislation**. [9]

  Broader legislative, policy, and regulatory changes are also placing upward pressure on our costs. Direct impacts of the SOCI Act and cyber security requirements on digital expenditure are being compounded with other obligations such as those to comply with modern slavery obligations and ESG reporting, which are likely to impact on our supply chain and procurement processes. Regulatory changes, such as data sharing agreements with DCCEEW and NRAR, and increasing obligations from water sharing plans, add to our cost base. Furthermore, changes to our Operating Licence are expected to result in higher capital and operating expenditures (see clauses 43 and 44 of the Operating Licence).

Telecommunications and networks

- **Telecommunications and networks:** Costs have been steady at $3.2m each year for telecommunications services provided by carriers such as Telstra across FY23, 24 and 25 with additional costs coming during this period for additional network coverage and performance

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[8] Department of Home Affairs, Cyber and Infrastructure Security Centre, 2022, Regulation impact statement: a risk management program framework for critical infrastructure assets, available at < https://oia.pmc.gov.au/sites/default/files/posts/2023/02/Impact%20Analysis.pdf >

[9] Greater Western Water (2024) 2024 Price Submission

improvements. While these cost increases do not have a material impact on digital opex trends, it has contributed to our adjusted base (see Attachment 8, Base Trend Step for more information). [10]

FY25 represents a time of higher risk, uncertainty and change, which drives potential for higher costs including, shutdown of Telstra's 3G network, increased bandwidth to offices to support changing work practices, rollout of CCTV, additional telemetry sites, additional licences for the customer help desk, provision of additional reliability for flood affected sites and recontracting of telecommunication services.
Where possible we will drive deferrals and stringent cost management throughout future years, and will continue to identify and implement cost savings as part of our Business Transformation program.

People Related Costs

Our people related costs will increase to support the delivery of WaterNSW's strategic objectives over the 2025-30 determination period. WaterNSW is investing in closing the gap on critical new capabilities to increase efficiency of delivery and improved services. Our investments towards uplifting our capabilities fall under three key areas, these are:

1. Closing critical capability gaps on a prioritised basis, eg uplift in cybersecurity and operations teams ███████████████████████████████
2. New capabilities required as a result of new legislative and regulatory compliance obligations eg Operating Licence, SOCI Act amendments, Cyber Legislation, Privacy Act
3. Resources to support increasing demands from the NSW water sector eg Creation, maintenance and negotiation on data sharing agreements, costs to manage and comply with the data sharing agreements and management of Digital and Information Office (DIO) support arrangements.

Cloud Computing

Cloud computing is an important area for the business. Cloud computing costs alone are projected to increase at 16% per year ██████████████████████████. While significant for the business, the rate of increase compares favourably with the average increase across NSW Government of 26% per year (2% month on month). [11]

Many software-as-a-service providers release updates on a regular schedule that need to be validated and tested, for example, ServiceNow releases new cloud service updates regularly, meaning WaterNSW must validate and test these new updates to ensure they are operationally stability and compliant. The upward trend in cloud computing costs is expected to continue in line with NSW Government cloud first architectural principles. Within WaterNSW we move services into the cloud where it adds benefit to the business. The adoption of cloud services means we can respond to customer demand in a shorter timeframe and allows rapid development of new functionality.

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[10] Many locations have had a bandwidth increase from 10mb to 50mb to support video conferencing and new ways of working, these costs have been offset by continual cost savings where possible. Costs for FY23 were understated by $0.4m due to those costs not being correctly invoiced and paid until FY24, and by another $0.46m due to the Data Acquisition System (DAS) not having been factored into our cost base. The remainder of the increase is an additional $1m which has been allocated for telecommunication service payments in anticipation of further growth.

[11] Department of Home Affairs, Cyber and Infrastructure Security Centre, 2022, Regulation impact statement: a risk management program framework for critical infrastructure assets, available at < https://oia.pmc.gov.au/sites/default/files/posts/2023/02/Impact%20Analysis.pdf >

4. Capital expenditure over the 2025-30 regulatory period

4.1 WaterNSW capital expenditure

WaterNSW Bulk Water is proposing to spend a total capex of $104.29 million over the 2025-30 determination period, representing a 77.6% increase from our actual expenditure over the 2020-25 determination period ($58.72 million).

The technology roadmap is the most significant part of WaterNSW's total Digital Bulk Water capex program ($64.35 million), representing 61% of our proposed expenditure.

In addition to the technology roadmap upgrading and renewing applications is a contributor for our increased capex. Broader trends among utilities show an increased focus on ICT, with non-network ICT capex rising as a percentage of total capex and revenue. Typically, organisations with a greater level of ICT investment relative to operating expense view ICT as a strategic enabler, improving business performance and productivity.

5. Key terms and concepts

Table 5-1 defines the key terms and concepts relevant to the information contained in this Attachment.

Table 5-1 – Key terms and concepts contained in this attachment

Key Terms	Definition
BTP Status report – Digital	Project Status Report for the WaterNSW Cost Transformation Program, focusing on Digital Initiatives for cost reduction and cost avoidance.
Digital Business Unit Plan	Business plan for the Digital Portfolio of WaterNSW and each of its Technology Business Units, that: (i) justifies the existing IT cost base, the workload undertaken by IT personnel and the material and software subscription costs incurred to provide existing services on an ongoing basis (ii) provides a statement of intent for how digital outcomes will be delivered, ie a delivery model and alignment to investment governance and budgeting processes within the organisation (iii) identifies the basis for uplift costs compared to the base year costs for the Digital Portfolio to absorb new systems into the business, as a result of investments including material, software subscriptions and staff (iv) outlines a basis for cost reductions, offsetting some uplift costs, resulting from system consolidation or retirement, or cost transformation initiatives.
Joint Agency ICT Steering Committee (JAICT)	A committee established under RRA - Schedule 7 (ICT and Data Services), that meets monthly to do the following (including but not limited to): (i) monitor the delivery of all activities to design, build and implement changes (ii) monitor ongoing operational activities (iii) report to the Steering Group in relation to matters arising under the Schedule (iv) carry out the functions in accordance with its Terms of Reference.

Key Terms	Definition
JAICT Commitment Statement	A Statement of Commitment published by WaterNSW to the JAICT regarding its commitment to agencies on how it shall consult to provide access to its future systems and its data.
NSW Water sector Long-term ICT Strategic Plan (Technology Roadmap)	The joint Technology Roadmap that outlines the direction and intent of digital investment, alignment to corporate strategy and benefits and justification for the investments changing the digital landscape for WaterNSW. The joint Technology Roadmap considers the needs of all parties (WaterNSW, NRAR and NSW DCCEEW), as outlined in the RRA – Schedule 7 (ICT and Data Services)
Strategic Business Case (SBC)	The Board approved Portfolio Roadmap, listing ICT and Data Services Programs of work for the 2025-30 investment period. The SBC sets out needs for all agencies involved in the NSW water sector, including the proposed funding source for each program.
WaterNSW cost allocation methodology	A cost allocation methodology based on analysis of costs using the standard WaterNSW chart of accounts to draw a clear link to the services consumed by business areas in providing business services to customers and stakeholders. This is an input cost to the prices included in the building block analysis undertaken by IPART.
WaterNSW Digital Service Catalogue and Cost Model Summary	The WaterNSW Digital Services Catalogue and Cost Model Summary focuses on modelling all FY24 budget costs determining all relevant BAU inputs and mapping those as service offers. This was done through the creation of a WaterNSW aligned digital subscription service catalogue and allocation of BAU input costs to those services. Requestable services are included in the service catalogue as being associated with a particular service offer.
WaterNSW Systems and Process Review	Ahead of the 2025 price determination for WaterNSW (and others), IPART saw merit in using pre-reviews of processes and systems to verify that a business has effective systems, processes, data and long-term planning in place. FTI Consulting was engaged by IPART in September 2023 to undertake a review of WaterNSW's key business systems and processes that contribute to its: (i) decision making on capex and opex (ii) forecasts of its capital works program (iii) asset and service performance. The objective of the engagement was to review the appropriateness and maturity of WaterNSW's key business systems and processes. IPART will use this information as part of its assessment of WaterNSW's pricing proposal, and to make decisions on the prices that should apply from 1 July 2025.