



# **Keeping Sydney liveable, productive and thriving for a sustainable future**

Response to IPART's Issues Paper  
21 October 2019

Sydney  
**WATER**



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# 1 Executive summary

## 1.1 Our response to IPART's Issues Paper

Sydney Water's Price Proposal for 2020–24 was released on 1 July 2019. In it we outlined the journey we are on to becoming a lean, corporatised provider of essential services, providing value for money to customers and a financial return for government. We presented an overview of the dynamic environment in which we operate, and our plans to keep Sydney liveable, productive and thriving. We also highlighted how we engaged with our customers to help shape our proposals. We set out the capital and operating expenditure needed to deliver our commitments to our customers, forecast water demand and customer numbers, proposed prices for our services, and overall bill impacts.

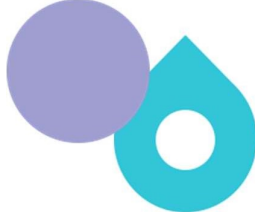

Since submitting our Price Proposal, our operating context has changed. There has been little rain over the winter, a deteriorating outlook for drought and a government decision to commence planning for the expansion of the Sydney desalination plant. We are now much more certain that in the next four years we will need to deliver new critical infrastructure projects and that we will need to maintain for longer a higher level of our operational response to the system performance pressures we face. Together, this means we need to submit a revised package with greater emphasis on improving the resilience of our water and wastewater system across Greater Sydney. This will require expenditure of at least \$1 billion more than we proposed in July 2019. Some of this expenditure will result in a permanent bill increase, while some will only be required during drought, and so would have a temporary impact on bills.

We anticipate providing updated financial information, proposed prices and bill impacts to IPART on 12 November 2019. This may have implications for IPART's review process, given the need for effective stakeholder consultation ahead of 1 July 2020. However, we must deal with the circumstances we now face and ensure our revised proposal is the best possible for our customers. In the meantime, this submission presents our responses to the 57 questions raised in IPART's Issues Paper.

## 1.2 Why we need to revisit our funding approach

In July 2019, we excluded the costs of managing drought from our Proposal but committed to ensuring necessary investment would take place when it is required. We now need to revisit that position. We will deliver the investments that are needed, and we will maintain the service performance standards to which we are committed in the face of challenging climatic conditions. However, it is not prudent for us to commit to meeting those commitments with the financial package we presented in July 2019.

Our proposed prices will continue to be based on demand in expected average weather conditions. It is increasingly likely, although not certain, that water demand will be lower than the level associated with average conditions. Water restrictions are set to continue and appear likely to still be in place next July when the new period commences. We need to provide for that potential



impact on our revenues. This can be done through the use of IPART's existing demand volatility adjustment mechanism.

However, in addition, the scale of the increased expenditure that we need to undertake in the next period is now both more certain (that is, we consider it will be sustained across 2020–24) and sufficiently material for us to seek increased funding from customers. Where that need is clear and certain, we will increase our proposed expenditure and adjust our proposed prices accordingly. We will do so with regard to improving the resilience of water and wastewater systems for the future. One of the lessons we draw from the drought is that due to the combination of adverse weather, climate change, population growth and the expansion of the city to the west, we need to invest consistently at a higher level to meet future challenges.

Where anticipated increases in expenditure will not be needed if the drought breaks, we will propose that we will be able to recover those costs only if defined triggers are hit. Customers will then only pay for those costs while they are needed (for instance, while water restrictions are in place).

The November 2019 update to our proposal will set out the activities we expect to undertake, the outcomes they provide, the costs likely to be incurred, our proposed method of cost recovery and the potential impact to customer bills.

## 1.3 Changing external factors

### 1.3.1 Deepening drought

A fundamental issue for this review is the continued drought conditions in eastern Australia. In our Price Proposal we noted that we expect to incur \$78 million in unanticipated expenditure in 2019–20, with further activity and expenditure likely over 2020–24, should drought conditions continue.

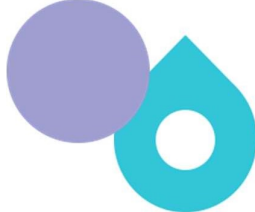

Dams have fallen steadily since early 2018. NSW is experiencing the worst drought on record, with Sydney storages dropping from around 90% to 50% in around two years. This is a much faster depletion rate than the last drought. In January 2019 dams reached 60% - only seven months later in August 2019, they had already dropped to 50%.

These conditions have had an impact on many fronts. Dry soils have contributed significantly to deterioration in the performance of our water and wastewater networks, with more leaks and breaks and wastewater chokes. Our experience and analysis of system impacts in recent months has given us a greater understanding of the likely sustained nature of these impacts and the workloads they will require of our maintenance crews over 2020–24.

The 2017 Metropolitan Water Plan, the overarching framework to ensure Sydney's future water supply through drought and beyond, sets out portfolios of measures to be undertaken at different dam levels.<sup>1</sup> The Plan notes that higher average temperatures and more extreme weather events are telling us that our water supply system and our communities must be even more resilient to a

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<sup>1</sup> NSW Government, 2017, *2017 Metropolitan Water Plan – Water for a liveable, growing and resilient Sydney*.



changeable environment.<sup>2</sup> Its second of four key outcomes, *Outcome 2: Our water supply system is resilient to stresses and shocks*, sets out measures to respond to drought and provide additional water supplies if needed. At the time, dams were around 90% full.

Sydney Water, WaterNSW and Sydney Desalination Plant all work together to provide the water supply for Greater Sydney; in line with the Plan, the industry has increased the scale, cost and complexity of its response to drought with each successive drop in dam storage levels. As overall risks have intensified, we have implemented new measures:

- Drought planning has intensified, in line with the Metropolitan Water Plan requirement to initiate a drought supply options study when dams reach 60%. This requirement has for the first time been hard-wired into our new 2019–23 Operating Licence.
- In January 2019 the desalination plant began to operate for the first time in seven years. It reached full production at the end of July 2019 – two months ahead of schedule.
- On 1 June 2019 the NSW Government introduced Level 1 water restrictions, ahead of the Metropolitan Water Plan trigger point of dams reaching 50% (dam levels were then at 53.4%).

When we submitted our Price Proposal, Greater Sydney's combined dam levels were at 52.1%. In the intervening months we have seen further changes:

- We have ramped up our high-profile advertising campaign encouraging customers to save water.
- Dam levels dropped below 50% in August 2019.
- The NSW Government has announced preliminary planning to expand the desalination plant, in line with the Metropolitan Water Plan requirement to do so when dam levels reach 50%. Doubling its production capacity from 250 to 500 million litres a day will enable it to produce 30% of Sydney's supply, an important supplement that will extend stored water supplies and slow dam depletion. The project will move to detailed planning should dam levels drop to 45% and to construction at 35%.

Since the introduction of restrictions we have already seen a decline in water sales. This is encouraging, as it means water restrictions and our drought awareness campaigns are having an effect. However, it impacts our ability to fund drought response measures and deliver services to our customers, which have largely fixed costs. As noted above, impacts on our revenue can be addressed using the existing demand volatility adjustment mechanism. Under the current framework, this does not occur until the next price period (that is, 2024–28). To protect our revenues against the risk of larger falls in demand as restrictions tighten, a yearly adjustment may help to ensure sufficient funding to maintain our activities during drought. This is a better solution for customers than borrowing to cover the shortfall, as that would incur debt that would require us to recover the extra cost from customers at a later point.

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<sup>2</sup> 2017 Metropolitan Water Plan, p. 28.



### 1.3.2 Changing environmental regulation

We have a wet weather overflow abatement program, designed to limit the harm from wastewater overflows which occur when rain infiltrates sewers. The forecast for this program in our Price Proposal was developed so we could deliver our view of the reasonable level of cost-effective abatement, while meeting EPA expectations. However, in August 2019, the EPA advised that it would be revising our Environment Protection Licences to require us to meet a higher standard. The EPA has also noted a perception of low expenditure since 2012 and heightened community expectations. Our Proposal will be adjusted to reflect the EPA's requirements.

### 1.3.3 Drinking water link from Prospect to Macarthur water delivery system

We operate the water delivery system as a single network, directing flows between storage reservoirs and distribution systems to optimise demand and supply and meet our Operating Licence requirements on continuity, quality and pressure. To increase our system resilience for this drought and beyond, we now expect to invest in network upgrades to enhance our ability to treat and transfer water from different sources around our water supply network to the areas that need it most.

The current drought is causing the southern dams, which supply the Illawarra and Macarthur water distribution systems, to deplete more quickly than Warragamba Dam, which supplies 80% of Sydney's water. To maximise our resilience to drought conditions, we will link the Prospect South and Macarthur water distribution systems. During drought conditions, customers in the Macarthur water distribution system will be able to receive water from Warragamba instead, slowing the depletion in Avon Dam. This investment will also help us supply new customers as population grows in parts of the south-west.

### 1.3.4 Network upgrades related to expansion of the desalination plant

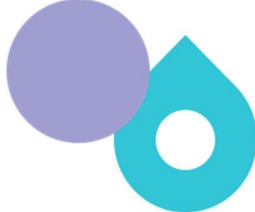

If drought conditions worsen the NSW Government may need to expand the desalination plant, so that it can deliver 30% of our water supply, significantly enhancing system resilience. We do not need to directly seek funding for this as part of our expenditure forecasts. However, if and when the expansion takes place, its costs will be recovered from our customers, in a similar way to the recovery of costs for the current desalination plant. In addition, we will need to upgrade our water distribution system to accommodate the extra flow from a larger plant. We propose that we should be able to recover these costs from customers, if and when we are sure that the expansion will go ahead.

## 1.4 IPART's key issues for the review

Below we present our view on the key issues IPART identified for this review in its Issues Paper:

### **Is the large increase in expenditure required and sufficiently justified? Are Sydney Water's planned investments to service Sydney's growing population efficient?**

The program of expenditure we set out in July is good value for customers. One particular point raised by IPART was that we have adopted a more proactive asset management strategy. At times



IPART describes this new approach as more conservative, with the implication that this drives higher costs. We set out that a new asset management approach is required for our wastewater reticulation assets, in the light of their performance, and we do present a case for increased funding in this area. However, beyond that, our expenditure for renewal of our assets is driven by improved information about asset condition and performance. We now better understand the condition of our assets and the performance risk that they pose. This provides a good basis for determining our renewals expenditure. It is not correct to say that we are approaching our asset management in a more conservative manner as a general statement.

**Should Sydney Water’s efficient costs be based on “average” weather conditions, or expected conditions over the next four years?**

Anticipating future weather conditions is a key risk that we manage for our customers. We consider that our proposed approach is an appropriate way to manage this uncertainty, through enhanced resilience. Our planning and forecasting of water demand continue to be based on average weather conditions, to ensure a consistent approach to planning around the likely trajectory of weather and operations over time.

However, given the risks associated with climate change and the need to meet Metropolitan Water Plan *Outcome 2: Our water supply system is resilient to stresses and shocks*, we will include some expenditure to bolster our long-term resilience for this drought and beyond. These costs will form part of our baseline expenditure, regardless of weather.

We separately plan for the impact of severe drought conditions and how it will affect our activities in the next four years. We will only recover drought costs when needed, and in the best way to protect customers, while recovering our funding requirements. We will provide more detail in our 12 November update to IPART.

**Setting cost-reflective water and wastewater usage prices, by developing more accurate estimates of the long run costs of providing these services.**

We propose maintaining the water usage charge at the 2019–20 level in real terms for our proposed prices. This is within the range of our estimated long run marginal cost (LRMC) of water supply and has broad customer support. IPART has raised the need for a review of LRMC methods. We agree and look forward to working with IPART in such a review.

**How can Sydney Water’s customer engagement be improved to inform future pricing proposals?**

We are proud of our ongoing efforts to integrate customer engagement into our normal business processes. This is significant transition for us. We will continue to pursue a more customer-centric approach to everything we do. We recognise there is much more we need to do to more fully integrate customer insight into our business planning. We agree with IPART that we have many opportunities to pursue in this area.





## **Sustainability of price decreases, and the possible role of developer charges**

As noted in our Proposal, we are likely to spend at least \$18 billion to service growth by 2044. This could make it difficult to keep bills affordable over the longer term, particularly if interest rates and the cost of capital rise. Currently, the full cost of water infrastructure is recovered from customers over the life of the assets. There has been no contribution from developers for our water, wastewater and stormwater capital investment since the government set these developer charges to zero in 2008. While we strive to keep the costs as low as possible, servicing the expected population growth in greater Sydney will require significant infrastructure investment.

## **1.5 Summary of our responses to Issues Paper questions**

### **1.5.1 Customer engagement**

#### **1. Do you agree that Sydney Water has improved on its customer engagement since the 2016 Determination? In what ways could Sydney Water's customer engagement be improved to inform future pricing proposals?**

We agree that our customer engagement to inform the Price Proposal has improved significantly since 2016. We are making customer engagement part of normal business planning. We look forward to hearing stakeholder responses and participating in discussions with IPART on continuing to move towards a more customer and outcomes-focused framework.

#### **2. In future, should Sydney Water's customer engagement program focus more on environmental outcomes and performance?**

Customer engagement should be part of our normal business practice, with an ongoing program shaped by what matters to our customers. Outcomes of customer engagement relating to environmental performance will primarily inform negotiations with our environmental regulator, the EPA. Future price proposals will still need to be based on expenditure needed to meet current and anticipated Environment Protection Licence (EPL) conditions.

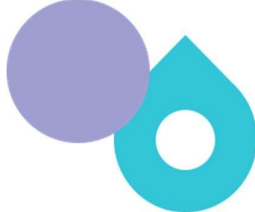

#### **3. How should customer preferences be considered, alongside economic principles when deciding Sydney Water's price structures? What other factors should we consider?**

Economic principles and customer preferences are not two separate factors in decision making. Economic principles provide a framework for decision making based on insight about customer preferences. We would support moving towards a regulatory framework that allows a larger role for customer input. We are happy to continue working with IPART on potential changes to the price review framework that could be applied from the next review.

#### **4. Are there any other factors we should consider in deciding whether to accept Sydney Water's proposed discretionary expenditure?**

We are confident that our customers want us to deliver the projects we included in our Proposal, based on a range of best-practice engagement activities and techniques. We encourage customers and stakeholders to provide further feedback.





We have a different view from IPART on what projects should be classified as discretionary expenditure. We consider only the Vacluse-Diamond Bay project to cease untreated wastewater outfalls in dry weather is discretionary expenditure, as classified in our Proposal and in Chapter 4 of IPART's Issues Paper.

**5. Do you have any comments on Sydney Water's proposed discretionary projects?**

Customers strongly supported the projects we put forward in our Proposal. We look forward to hearing comments from stakeholders. We have a different view from IPART on whether all of these projects fall within the category of discretionary expenditure. See our response to Question 4 for our views on the categorisation of these projects.

**6. How should the costs of discretionary expenditure be recovered from customer bills? Should it be identified as a separate charge on the bill?**

We support including discretionary expenditure with all other costs and recovering the costs from water, wastewater or stormwater prices (as appropriate for the service being provided). We do not support recovering the costs of discretionary expenditure as a separate charge on customers' bills. This would be administratively costly and potentially misleading.

**1.5.2 Efficient capital expenditure**

**7. Is Sydney Water's expected capital expenditure over the 2016 determination period efficient?**

It is our view that our capital expenditure over 2016–20 has been efficient in challenging circumstances characterised by unprecedented dwelling growth and an infrastructure investment boom in Sydney. In the period, we have implemented a range of systemic improvements across capital program management and optimisation, value engineering, cost-estimating and procurement.

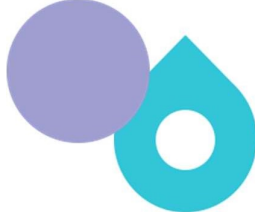

**8. Has Sydney Water's capital expenditure over the 2016 period delivered appropriate levels of service?**

We have delivered against our service performance standards, with some exceptions. We acknowledge the pressing need to improve environmental performance in relation to wastewater overflows and plans are already in place.

While it is important to consider how capital expenditure impacts service outcomes, efficient and appropriate service delivery also depends upon appropriate operations (for example, incident response) and maintenance (for example, minor repairs). Even with appropriate plans in place, external factors can influence service performance.

**9. Is Sydney Water's proposed capital expenditure including expenditure related to growth and existing mandatory standards over the 2020 determination period efficient?**

Our capital expenditure forecast is efficient. As noted in the Issues Paper, we applied project specific efficiency reductions and then imposed a top down efficiency challenge to many component programs. The result is we face significant commercial pressure to deliver the projects



we have set out, within the allowance we have requested, ensuring our customers are getting an appropriate return for their investment.

**10. Do you have any comments on Sydney Water’s approach to planning and forecasting costs associated with growth?**

Our approach to planning and forecasting growth investment aims to ensure we can offer a service if requested, if it is commercially viable. We incorporate information from a range of sources to ensure that there are plans in place to service growth in a timely and efficient way.

Various steps in our process seek to ensure that the forecast is efficient and that the risk of uncertainty in growth is not all borne by customers.

**11. Do you agree that we should adopt our 2018 WACC methodology when setting the WACC in the 2020 Sydney Water price review?**

We maintain our view that IPART should exercise discretion when selecting a point estimate weighted average cost of capital (WACC). We are concerned that if IPART decides to apply its 2018 WACC method without exercising judgement when selecting a WACC point estimate, this may impact our ability to generate a reasonable return on the capital invested in the business.

**12. Do you agree that we should account for annual changes in the cost of debt with a regulatory true-up in the following pricing period?**

We support IPART’s preliminary view to accept our proposal to account for annual changes in the cost of debt with a true-up in the following pricing period.

**13. Do you have any comments about Sydney Water’s performance against the output measures in Appendix E?**

The targets set out in Appendix E of the Issues Paper do not reflect adjustments required at the end of the 2016–20 Price Review process. In Appendix 9A of our Price Proposal we reported performance against adjusted targets. The outputs delivered were closer to these revised targets.

**14. Do you have any comments on what output measures we should use for the 2020 determination period?**

We propose that IPART uses the 23 output measures detailed in Table A1-10 of Appendix 9A in our Price Proposal.

Outputs of the capital investment programs are only one indicator of performance. We are keen to work closely with IPART to formulate additional measures that can assist in transitioning to a more outcome-focused approach for the next price review.



### 1.5.3 Efficient operating expenditure

#### **15. Is Sydney Water's proposed operating expenditure over the 2020 determination period efficient?**

We consider our proposed operating expenditure is efficient. We will provide an amended opex forecast on 12 November 2019 to address the changes outlined in our Executive Summary.

#### **16. How should our review account for the risks of drought and support water conservation?**

Our preference is for uncertain (and uncontrollable) drought and water conservation risks to be accounted for within period, generally via a cost pass through mechanism. We will provide more detail in our 12 November 2019 update.

#### **17. Are Sydney Water's proposed bulk water costs reasonable? Do you agree with Sydney Water's allocation of corporate costs to bulk water?**

We consider our proposed bulk water costs are reasonable.

We also consider our proposed allocation of corporate costs to bulk water is appropriate and consistent with the principles outlined in IPART's Cost Allocation Guide. This aligns with the allocation of costs under our proposed Cost Allocation Manual (CAM), where common costs are allocated in proportion to direct costs, including bulk water costs.

We understand that the bulk water costs proposed by WaterNSW in its submission includes drought costs in the baseline. In our view, drought costs that have not yet been triggered or may not be needed if the drought breaks should not be included in the baseline. Instead, where the costs meet IPART's criteria for cost pass-throughs, this should be the mechanism for recovering these costs.

#### **18. Are Sydney Water's proposed pricing principles for the Hawkesbury Nepean offset scheme appropriate? For example, should the cost risks for R&D projects be passed on fully to customers, or appropriately shared between customers and Sydney Water?**

The principles in our Price Proposal are designed to efficiently share the risks of the Hawkesbury Nepean Offset Scheme between Sydney Water and our customers. As a result, we see the principles as consistent with IPART's existing risk sharing approaches and therefore appropriate.

### 1.5.4 Water demand and customer numbers

#### **19. Are Sydney Water's forecast water sales, customer numbers and billable wastewater volumes for the 2020 determination period reasonable?**

We consider our forecasts of water demand and customer numbers are robust and reasonable. We assurance test our outputs via hindcasting, expert peer review and checking for consistency with other government data sources.

**20. Is Sydney Water’s demand forecasting model, and inputs used to estimate the model, appropriate?**

We consider our model and the inputs we use are robust and appropriate. Our forecasting is for average weather conditions with appropriate adjustments for the effects of climate change. However, this does not take account the impact of water restrictions should they continue in the next period and we need to make provision for the possibility that this will be the case.

**21. Is Sydney Water’s adjustment to its demand forecasts to account for climate change appropriate?**

Our demand forecast, based on climate projections from the NSW and ACT Regional Climate Modelling (NARCLiM) project, is appropriate. Without these adjustments, it is likely we would under-forecast demand.

**22. Is Sydney Water’s proposal to return about \$30 million of revenue to customers over the 2020 period, for higher-than-forecast water sales, reasonable?**

We welcome IPART’s preliminary position to apply the demand volatility adjustment mechanism using the method outlined in our Price Proposal, based on three years of actual water sales for the current Determination. Our revised calculation incorporating actual data for 2018–19 is \$15.3 million.

**23. Is Sydney Water’s proposal for the application of a volatility adjustment to be lagged by one year reasonable?**

We welcome IPART’s preliminary position to accept our proposal to lag the existing demand volatility mechanism by one year. This will align forecast sales with actual sales only, improving the administrative simplicity of any revenue true up in future price determinations.

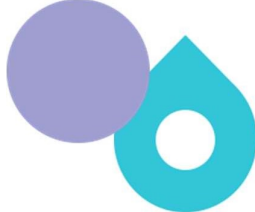

**24. What factors should we consider in deciding whether to implement the demand volatility adjustment?**

We consider key factors that should be considered include:

- a. if any variation was within Sydney Water’s control
- b. the impact of affordability on our customers
- c. the impact on Sydney Water’s financeability
- d. the degree to which the tariff structure set during the determination was cost reflective.

**25. Should we maintain the demand volatility adjustment mechanism to address over or under recovery of revenue during the 2020 determination? Does a ±5% materiality threshold remain appropriate?**

We welcome IPART’s preliminary position to retain the demand volatility adjustment mechanism. The mechanism provides a strong incentive for Sydney Water to continuously improve its demand forecasting approaches for normal conditions.



We consider a 5% materiality threshold based on forecast water sales remains appropriate. We propose amending how this mechanism would apply when water restrictions are in place, due to their significant impact on demand.

### 1.5.5 Prices and price structures

#### **26. Is Sydney Water's proposal to maintain the 2019–20 water usage charge reasonable?**

We consider our proposal to maintain the water usage charge at the 2019–20 level in real terms is reasonable as it is within the range of our estimated LRMC of water supply and has broad customer support.

#### **27. Is the method that Sydney Water has used to estimate the long-run marginal cost (LRMC) of water reasonable?**

We consider both our method of estimating LRMC and the customer selected LRMC are reasonable. There are no established rules or agreed best practice as to what constitutes a reasonable method for estimating LRMC. In practice, the reasonableness of an approach requires consideration of the many factors which could be used to estimate LRMC

#### **28. Should we make changes to the SDP usage charge uplift to more closely reflect the marginal costs of producing water?**

We understand that IPART is proposing that the Sydney Desalination Plant (SDP) usage charge uplift is calculated as the average incremental cost (AIC) of using the SDP (equal to the incremental SDP cost divided by the SDP generated volumes), as opposed to the incremental SDP cost averaged across total water demand. While we see merit to a higher water usage charge to provide a stronger price signal to customers during times of low supply, there are conceptual and practical issues with applying IPART's proposed approach.

#### **29. Are Sydney Water's proposed water service charges reasonable?**

We welcome IPART's preliminary position to maintain the current approach to setting water service charges.

#### **30. Should we increase the deemed usage for unmetered customers, and if so, by how much?**

Our investigations in 2011 found that unmetered properties typically consume around 180kL/year. As these properties represent a declining portion of all customers and their characteristics remain largely unchanged, an increase in deemed usage is not warranted at this time.

#### **31. Is Sydney Water's proposed unfiltered water usage price reasonable?**

We agree with IPART's preliminary position to accept our proposed unfiltered water usage price. We consider it is reasonable, as the price difference between our proposed usage prices for unfiltered and for treated water reflects the difference in treatment costs for these two products.



### **32. Is LRMC a more appropriate basis for setting wastewater usage prices than SRMC?**

In principle we support pricing based on LRMC; however, in practice we do not consider LRMC is an appropriate basis at the present time for the reasons set out in our Price Proposal. We consider that there are fewer distortions to efficiency from setting a lower short run marginal cost (SRMC), relative to LRMC. In addition, since most wastewater use is relatively inelastic and unmetered, LRMC pricing signals will not have any practical impact on levels of consumption.

### **33. To what extent does the direct discharge of wastewater from customers affect capital costs, and how should this be taken into account in estimating the LRMC and setting the wastewater usage charge?**

Direct discharge (or customer generated discharge) of wastewater from customers on average has a minor effect on capital costs. We consider the use of LRMC based prices to be less efficient at this point in time, and not necessarily in the long run interests of consumers as outlined in response to Question 32. Estimating the LRMC of wastewater would need to consider a number of factors, such as the need to size wastewater networks to accommodate wet weather flows and wastewater costs that are unrelated to discharge volumes.

### **34. Is Sydney Water's proposed wastewater usage charge reasonable?**

Based on our responses to Questions 32 and 33, we consider our proposed wastewater usage charge based on SRMC is reasonable. Applying a SRMC based usage charge usage is, efficient, stable (relative to LRMC) and administratively simple and transparent, particularly in light of improvements to our SRMC calculation making use of our CAM.

### **35. Should we remove the deemed wastewater discharge allowance for non-residential customers?**

We do not support removing the discharge allowance for non-residential customers. Such a change would result in increased administrative costs and is unlikely to lead to increased efficiency for the majority of non-residential customers who have similar wastewater usage volumes and characteristics to residential customers.

### **36. Should we introduce explicit residential wastewater usage charges?**

We support IPART's preliminary view that replacing the deemed wastewater discharge amount with an explicit wastewater usage charge based on water usage may not be equitable or efficient.

### **37. Should we use different discharge allowances for houses and apartments when setting wastewater service charges?**

We consider using a single discharge allowance of 150kL/year for houses and apartments remains appropriate. This represents the typical discharge from residential customers, based on analysis of wastewater flows.



**38. Should we remove the discharge factor applying to wastewater service charges?**

Applying discharge factors to the wastewater service charge provides a reasonable method to estimate customers' relative draw on the capacity of the wastewater system.

**39. Are Sydney Water's proposed stormwater prices reasonable? Is the current constrained area based charging method appropriate?**

We consider the proposed stormwater prices are reasonable, and that constrained area-based charging remains appropriate.

**40. Is it reasonable for IPART to defer setting prices for Sydney Water's recycled schemes over the 2020 determination period?**

We welcome IPART's preliminary position to defer setting prices for our recycled water schemes over 2020–24.

**41. Are Sydney Water's proposed trade waste prices in Appendix G reasonable?**

Our trade waste pollutant and cost allocation models have recently been reviewed in accordance with IPART's pricing principles. The changes made to these models are reflected in our proposed trade waste prices for 2020–24.

**42. Are Sydney Water's proposed changes to how it manages non-compliant Wastesafe customers appropriate?**

We consider our proposed change to how we manage non-compliant Wastesafe customers is appropriate. We propose to remove the charge for a Missed service (pump out) inspection and replace with higher charges for discharge from non-compliant waste traps. Under our proposal, all pollutants would be charged at the same \$/kg rate for both commercial and industrial customers for all discharges from non-compliant waste traps.

**43. Are Sydney Water's proposed miscellaneous and ancillary services prices in Appendix H reasonable?**

We consider our proposed prices for miscellaneous and ancillary services are reasonable and reflect the outcome of a detailed review of most ancillary services prices.

**44. Are Sydney Water's proposed reductions in the Rouse Hill drainage charges reasonable?**

We consider the proposed reductions in the Rouse Hill drainage charge to be reasonable.

**45. Are Sydney Water's proposed late and declined payment fees reasonable?**

We consider our proposed prices for late and declined payments fees to be reasonable. These fees are based on the costs incurred by Sydney Water.



**46. Do you have any comments about Sydney Water's Developer Direct application and construction services in terms of price and service?**

Our position on price and service for application and construction services is set out in our Price Proposal.

**47. Should the construction services provided by Sydney Water Developer Direct be price regulated, or is price monitoring by IPART more appropriate?**

We consider the prices for the bundled Sydney Water Developer Direct service should be monitored. Construction services are a part of this bundle.

**48. If we were to regulate the price of construction services provided by Sydney Water Developer Direct, how should these prices be determined?**

Our preference for the use of an imputation test to set prices broadly on the bundled Sydney Water Developer Direct services (of which construction services are an element) is outlined in our Price Proposal and our detailed response to Question 47. This should ensure that efficient competitors are able to remain in the market by offering customers improved services for sharper prices.

**1.5.6 Form of regulation**

**49. How long should we set prices for in the 2020 determination?**

We support IPART's preliminary position to retain a four-year price determination.

**50. Should the length of Hunter Water's determination period factor into our consideration for Sydney Water's determination period?**

The factors that affect the length of Hunter Water's price determination are not relevant to the length of Sydney Water's determination. The utilities are independent with independently run price reviews. We see no clear administrative savings in aligning determination periods.

**51. Do you support a price cap as an appropriate form of price control for Sydney Water?**

We are not proposing a change to the form of regulation in this determination. As a result, we support retaining maximum prices for both water and wastewater usage and fixed charges.

**52. Do you support maintaining the option of unregulated pricing agreements between Sydney Water and large customers?**

We support IPART's preliminary position of maintaining unregulated pricing agreements. We consider there to be potential benefits for our customers, at negligible administrative cost to Sydney Water, from maintaining the availability of such arrangements.

**53. Are there any barriers preventing the uptake of unregulated pricing agreements? Can the framework be changed to encourage greater uptake without disadvantaging other customers?**

The potential for a future Tribunal to remove the option of unregulated pricing agreements and the possible stranding of investments with a cost recovery period greater than the determination period for large customers is a barrier to the uptake of unregulated pricing agreements

**54. How should we share Sydney Water's non-regulated revenue with customers?**

We support IPART's proposed approach to maintain non-regulated revenue sharing for Biobanking at 10%. This balances administrative simplicity and incentives for Sydney Water.

We do not support IPART's preliminary position to retain a 50:50 revenue sharing rule for rental income. This is inconsistent with economic and regulatory principles that aim to make customers no worse-off from Sydney Water's engagement in unregulated activities.

**55. Should we continue to apply an efficiency carryover mechanism (ECM) to Sydney Water's operating expenditure?**

We support IPART's preliminary view to retain an efficiency carryover mechanism (ECM) for 2020–24. While we have not delivered qualifying savings in this period, this mechanism helps underpin and support our commitment to drive efficiency in our operations in the next period.

**56. If we implement a cost pass-through mechanism for drought related costs in the concurrent WaterNSW price review, should we include a subsequent cost pass-through mechanism for Sydney Water to pass through costs to customers?**

In principle we support a cost pass-through mechanism for Sydney Water, should a cost pass-through mechanism be adopted for WaterNSW.

**57. Do you agree that we should maintain the current cost pass-through for SDP-related bulk water costs and Shoalhaven transfer costs?**

We support IPART's preliminary position to retain the current SDP and Shoalhaven transfer cost pass-through mechanisms.



## 2 Structure of this response

For simplicity of referencing, we have largely structured our response to mirror the structure of IPART's Issues Paper.

In our Executive Summary (Chapter 1), we respond to IPART's key issues for this review, and provide a short response to each of the 57 questions in the Issues Paper.

In the following sections, we provide additional comments and clarification around issues that IPART raises in its corresponding chapter in the Issues Paper. We also provide more detailed responses to IPART's questions and preliminary views, where relevant.

Responses to specific questions are included in the chapters noted below:

- Chapter 3 – Customer engagement covers Questions 1 to 6
- Chapter 4 – Efficient capital expenditure covers Questions 7 to 14
- Chapter 5 – Efficient operating expenditure covers Questions 15 to 18
- Chapter 6 – Demand and customer numbers covers Questions 19 to 25
- Chapter 7 – Prices and price structures covers Questions 26 to 48<sup>3</sup>
- Chapter 8 – Form of regulation covers Questions 49 to 57.

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<sup>3</sup> This chapter combines responses for IPART's questions from both Chapter 7: Water, wastewater and stormwater services and Chapter 8: Prices for other minor services of the Issues Paper.

# 3 Customer engagement

## 3.1 Responses to Issues Paper questions

**Question 1 – Do you agree that Sydney Water has improved on its customer engagement since the 2016 Determination? In what ways could Sydney Water’s customer engagement be improved to inform future pricing proposals?**

We agree that our customer engagement to inform the Price Proposal has improved significantly since 2016. We are making customer engagement part of normal business planning. We look forward to hearing stakeholder responses and participating in discussions with IPART on continuing to move towards a more customer and outcomes-focused framework.

We are proud of the customer engagement we used to inform our Price Proposal and the recent Operating Licence review. This included our proposed price structures, the service standards regulated by the Operating Licence (covering unplanned water interruptions, wastewater overflows onto private properties and water pressure failures) and a range of specific projects and service offerings.<sup>4</sup>

Since 2016, our engagement to inform the price review has improved in a number of ways, including:

- covering a much broader range of topics
- using techniques to engage with hard-to-reach customers
- applying a multi-phase approach with feedback and validation mechanisms.

We are making customer engagement part of our ongoing business and will keep improving our engagement to deliver effectively on our customers’ priorities.

We have a new Operating Licence requirement to understand our customers’ preferences and willingness to pay for service levels, which will likely have flow-on effects for our next price review.<sup>5</sup> We are also well placed to engage with customers and the community on broader issues that could have implications on prices. For example, engagement to underpin the next metropolitan water plan for Greater Sydney.

We are keen to continue working with IPART, stakeholders and customers to move towards a regulatory process that is more outcomes-based, and amenable to customer input. This input should be focused on areas that have greatest value and impact to customers.

<sup>4</sup> Our program covered all three areas noted by IPART in its Guidelines for Water Pricing Submissions.

<sup>5</sup> 2019–2023 Operating Licence, Clause 6.6.1.

We note IPART's comment that there did not appear to be a clear link between the six customer priorities identified in the 2018 engagement program and the program's specific topic areas.<sup>6</sup> Ideally, we would have used customer priorities to shape our 2018 program, which was not designed to cover our whole proposal. Even so, our program covered a much broader range of customer priority areas than in past price reviews, as noted in Figure 3-1.

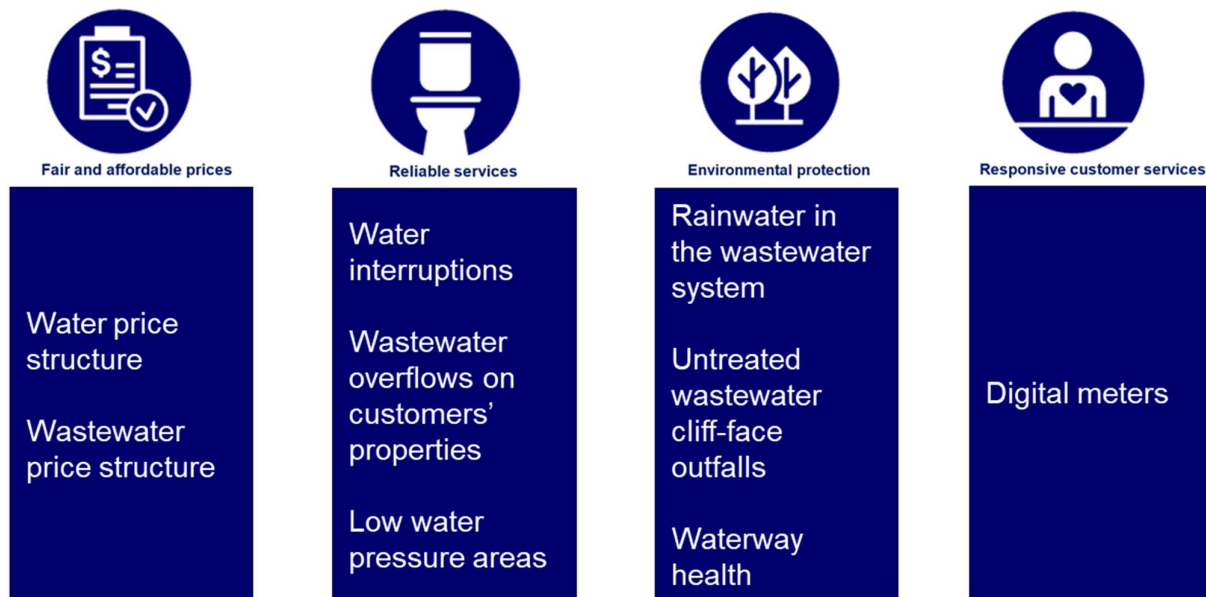
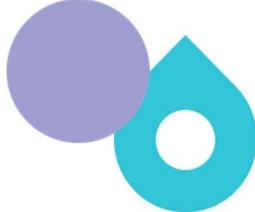



Figure 3-1 Topics mapped to customer identified priorities

While we want to do more customer engagement in the future, there is always going to be a degree of targeting needed. Topics chosen for our 2018 program were based on a range of criteria including whether engagement was required to meet IPART submission guidelines, customer impact and feasibility.<sup>7</sup>

<sup>6</sup> IPART Issues Paper, p. 34.

<sup>7</sup> The CIE and Woolcott Research and Engagement, *Customer Engagement Plan Final Report – 2019 operating licence and 2020 pricing submissions to IPART*, prepared for Sydney Water, November 2017, p. 37. The initial topic list was subsequently revised in response to evolving circumstances including environmental requirements and areas of interest for IPART.



## Question 2 – In future, should Sydney Water’s customer engagement program focus more on environmental outcomes and performance?

Customer engagement should be part of our normal business practice, with an ongoing program shaped by what matters to our customers. Outcomes of customer engagement relating to environmental performance will primarily inform negotiations with our environmental regulator, the EPA. Future price proposals will still need to be based on expenditure needed to meet current and anticipated Environment Protection Licence (EPL) conditions.

Given environmental outcomes are such a large part of our business – particularly in relation to the provision of wastewater services – it is essential we engage with customers on this area in the future. However, outcomes of future engagement relevant to environmental performance will primarily inform discussions with the EPA, as our environmental regulator. Potential amendments to EPL conditions based on customer engagement will need to be supported by scientific studies and analysis of the environmental impact of the proposed changes. The environmental regulatory framework does not, at this time, accommodate customer views in the same way as the pricing regulatory framework. When considering changes to EPL conditions, the EPA is required to consider the likely pollution to be caused and the impact of that pollution on the environment.<sup>8</sup> Gathering the evidence to support a change to an EPL often requires undertaking scientific studies and/or monitoring over several years. In terms of the price review, regardless of customer engagement, we will be required to meet our EPL conditions and other environmental legislative obligations (that is, these are mandatory standards).

Future engagement on environmental outcomes will likely cover a range of areas, not just environmental regulation, for example:

- What do our customers value about the environment, particularly the environmental values of waterways?
- What areas of environmental performance do they consider could be improved?
- What do our customers/community expect from us? What is our role compared with other government agencies, landowners and local government?
- Customer willingness to pay for environmental outcomes that are above regulated standards.

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<sup>8</sup> *Protection of the Environment Operations Act 1997*, Section 45, Matters to be taken into consideration in licensing functions.

**Question 3 – How should customer preferences be considered, alongside economic principles, when deciding Sydney Water’s price structures? What other factors should we consider?**

Economic principles and customer preferences are not two separate factors in decision making. Economic principles provide a framework for decision making based on insight about customer preferences. We support moving towards a regulatory framework that allows for more customer input. We are happy to continue working with IPART on potential changes to the price review framework that could be applied in the next review.

Decisions about price structure typically involve using judgement to balance conflicting objectives. IPART’s existing pricing principles include both economic principles and a reference to customer preferences.<sup>9</sup> We agree that you can, and should, consider both efficiency and customer preferences through price structure decisions. That is why our engagement on preferred water usage prices limited options to those within our range of LRMC estimates.

In their current form, IPART’s pricing principles appear to give primacy to the economic principle of reflecting costs. The final sentence lists a range of ‘other factors’, one of which is customer preferences. Where clear and robust evidence of customer preferences is available, customer interests would be served by placing a greater weight on that evidence than the weight implied by the current pricing principles. This would ensure that genuine costs and benefits are not assumed away and that decisions would better reflect the price structure outcomes that would notionally develop in a competitive market.

We acknowledge that engaging customers on price structures is challenging. To a large degree, preferences tend to relate to individual bill impacts from changes to price structure. These changes can impact an individual’s bill but have a net impact of zero over the customer base. Therefore, they are typically omitted from economic analysis and decided using separate judgements about equity impacts. Our engagement found that customer preferences can be more complex than the usual assumptions underpinning the standard economic approaches to pricing. For example, while customers were favourable towards the concept of a wastewater usage charge, they did not support introducing this charge using a discharge factor for residential customers. They saw the discharge factor as inaccurate and unfair. It will therefore be important to consider these preferences in addition to standard efficiency and equity considerations or to modify the assumptions underpinning efficiency considerations.

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<sup>9</sup> IPART Issues Paper, p. 24.



#### Question 4 – Are there any other factors we should consider in deciding whether to accept Sydney Water’s proposed discretionary expenditure?

We are confident that our customers want us to deliver the projects we included in our Proposal, based on a range of best-practice engagement activities and techniques. We encourage customers and stakeholders to provide further feedback.

We have a different view from IPART on what projects should be classified as discretionary expenditure. We consider only the Vacluse-Diamond Bay project, to cease untreated wastewater outfalls in dry weather, is discretionary expenditure, as classified in our Proposal and in Chapter 4 of IPART’s Issues Paper.

#### Vacluse-Diamond Bay

The Vacluse-Diamond Bay project was identified under the ‘Discretionary Standards’ driver in our Price Proposal.<sup>10</sup> The untreated wastewater discharges at these locations are allowed under our current EPL for this wastewater system. However, these are the only such ocean outfalls in NSW and in 2016 the EPA required us to study the impact of the discharges. We found that there was an environmental impact and some risk to human health in the locality of the cliff-face outfalls. We proposed investment to cease this untreated discharge during dry weather under a ‘discretionary standard’. To support this, we engaged with both the local community and our broader customer base. Customers expressed a strong preference to address the issue and supported a bill increase of \$2.30 per year to do so (based on available project cost estimates at the time). The forecast capital expenditure of \$63.5 million included in our Price Proposal results in a lower bill impact than this.

#### Other expenditure areas

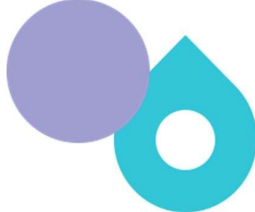

We do not consider the other two expenditure areas noted in Chapter 2 of the Issues Paper (‘source control’ and ‘waterway health’) to be discretionary. These projects contribute to meeting environmental licence conditions and our obligation to provide, operate and manage our stormwater network. Accordingly, they were included in ‘New Mandatory Standards’ and ‘Existing Mandatory Standards’ in our Price Proposal.<sup>11</sup>

#### a) Source control on private property

Source control describes a new approach to reducing wet weather wastewater overflows which forms part of the efficient approach to meeting a new mandatory standard. The EPA is introducing new EPL requirements for the four large coastal wastewater systems to address the impact of wet weather overflows. As part of meeting these requirements, we plan to reduce infiltration and ingress of rainwater to the wastewater system from both our own assets and private plumbing (‘source control’). Stopping rainwater from entering our wastewater system is a lower cost and

<sup>10</sup> Sydney Water Price proposal 2020–24, Attachment 9: Capital expenditure, section 2.5, Discretionary Standards investment.

<sup>11</sup> As reproduced in Table 4-2 in the IPART Issues Paper, p. 52.



lower community impact alternative to amplifying our systems and constructing wet weather storage (which requires large volume storage infrastructure to be built). We engaged with customers to better understand their views on funding source control work on private assets, where this would deliver lower bills for all customers. To achieve the required level of credit points under the new EPLs, the alternative to source control on private assets is to do more expensive work on our assets.

To be an effective, lower cost solution, private property source control needs to occur across a targeted area, not in a piecemeal fashion. This is why we proposed to fully fund this work, rather than canvassing options such as a co-payment, which could act as a disincentive to some customers to participate. Similarly, IPART's suggested use of a 'surface water drainage' rebate would not provide the certainty needed to meet new environmental standards.<sup>12</sup> Unlike in Sydney, which has separate stormwater and wastewater systems, the UK has combined stormwater and wastewater systems connected to most properties, and UK utilities charge customers for collection of rainwater from their properties.<sup>13</sup> The surface water drainage rebate applies to properties that retain their stormwater onsite and encourages disconnection of stormwater from the combined system.<sup>14</sup> In this way, it is akin to Sydney Water's low impact stormwater charge.<sup>15</sup> Applying a similar rebate would not effectively solve the problem of high infiltration from faulty or cracked wastewater pipes. Moreover, any rebate alternative would have to be very significant to outweigh the cost to the customer of rectifying private plumbing issues (estimated at \$13,000 per property).

#### b) Waterway health

As set out in our Price Proposal, we have engaged with many stormwater customers and stakeholders since 2016.<sup>16</sup> This engagement indicates strong support for managing the impact of stormwater pollution via naturalisation projects. Engagement on this aspect of stormwater management for the Price Proposal also strongly supported the level of investment proposed under the Waterway Health program. The bulk of expenditure in this program will be to manage pollution impacts of stormwater, with only 7% being spent on additional 'amenity' items, such as parks. The cost of amenity items such as walkways is offset by avoided project costs for land or land access, resulting from negotiations with partnering councils.

Appropriately managing pollution impacts from stormwater is integral to providing a stormwater service, not an extra discretionary service. Managing pollution impacts from stormwater can be done through the use of land (including naturalisation projects, the use of wetlands and bioretention zones and managing riparian zones) or infrastructure (such as pollutant traps).<sup>17</sup>

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<sup>12</sup> IPART Issues Paper, p. 42.

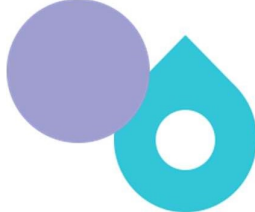

<sup>13</sup> See explanation of UK management of surface water drainage and rebates at: <https://www.ofwat.gov.uk/households/your-water-bill/surfacewaterdrainage/>.

<sup>14</sup> Even if eligible for the surface water drainage rebate, UK customers still pay for the management of 'highway drainage', recognising the public space aspect of stormwater management.

<sup>15</sup> Under the low impact stormwater charge, if you own a house in a declared stormwater catchment area and store and re-use most of the stormwater on your property you can apply for a discount on stormwater charges. Eligible properties will pay \$6.19 per quarter in stormwater charges, the same as a strata unit price, instead of \$19.83 per quarter (\$2019–20 prices). A similar low-impact charge is available for non-residential customers.

<sup>16</sup> Sydney Water Price proposal 2020–24, Attachment 9: Capital expenditure, p. 34.

<sup>17</sup> Both methods are referenced in the Operating Licence definition of a stormwater drainage system.



The Sydney Water Act 1994 and our Operating Licence require us to provide, operate, manage and maintain a Stormwater Drainage System in certain parts of our area of operations.<sup>18</sup> The 2019–2023 Operating Licence includes a clarification note that the provision of stormwater services may include “stormwater quality management and other measures as necessary to manage impacts of stormwater on waterway health.”<sup>19</sup> This addition was strongly supported by stakeholders in the licence review.

The Greater Sydney Regional Plan and District Plans include strategies and actions to improve the health of catchments and waterways and reinstate more natural conditions in highly modified urban waterways.<sup>20</sup> These strategies and actions are consistent with the NSW Water Quality Objectives set by the Office of Environment and Heritage.<sup>21</sup>

#### Question 5 – Do you have any comments on Sydney Water’s discretionary projects?

Customers strongly supported the projects we put forward in our Proposal. We look forward to hearing comments from stakeholders. We have a different view from IPART on whether all of these projects fall within the category of discretionary expenditure. See our response to Question 4 for our views on the categorisation of these projects.

#### Question 6 – How should the costs of discretionary expenditure be recovered from customer bills? Should it be identified as a separate charge on the bill?

We support including discretionary expenditure with all other costs and recovering the costs from water, wastewater or stormwater prices (as appropriate for the service being provided). We do not support recovering the costs of discretionary expenditure as a separate charge on customers’ bills. This would be administratively costly and potentially misleading.

A better place to start a conversation about the information provided to customers on bills would be to consider how customers source their information now about their water and wastewater charges, and the role and use of the bill in that context. Customers tend to not distinguish between government corporations and agencies or between different types of regulatory processes used to produce particular outcomes. In that context, defining discretionary expenditure endorsed by customers as different to expenditure approved by IPART through the traditional regulatory process as a relevant differentiator for customer billing purposes would not be a customer-driven approach to defining the information we are required to provide to customers.

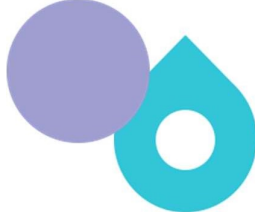

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<sup>18</sup> *Sydney Water Act 1994*, Section 14(1)(b) and Operating Licence 2019–2023, Clause 2.1.3. Our Operating Licence defines the Stormwater Drainage System as “the stormwater drainage channels, **land for drainage**, pipes, **detention structures and stormwater quality improvement devices and other equipment** that Sydney Water provides, manages, operates and maintains under the Act to provide stormwater services” (emphasis added).

<sup>19</sup> 2019–2023 Operating Licence, Clause 2.1.3. The new licence is expected to commence on 1 November 2019.

<sup>20</sup> Greater Sydney Commission, *Greater Sydney Regional Plan: A Metropolis of Three Cities – connecting people*, March 2018. District Plans can be accessed via the Greater Sydney Commission’s website at [www.greater.sydney](http://www.greater.sydney).

<sup>21</sup> Sydney Harbour and Parramatta River Water Quality Objectives can be accessed at [https://www.environment.nsw.gov.au/ieo/SydneyHarbour/report-03.htm#P405\\_33547](https://www.environment.nsw.gov.au/ieo/SydneyHarbour/report-03.htm#P405_33547).



A separate charge on the bill for a particular project is likely to create customer confusion. This confusion could be compounded by the addition of further separate charges at subsequent price reviews as we seek to develop business plans that focus on the outcomes that customers care about – outcomes that may include aspects of service quality that are currently unregulated. As we move towards a more customer-focused regulatory framework, there should be less need to distinguish between expenditure decided primarily by regulation and expenditure that is supported by customers.

Our preference is to better accommodate customer preferences within the regulatory price setting process, rather than delineate between mandated and discretionary expenditure. If required, accountability and transparency of expenditure on discretionary projects can be achieved through other methods, such as reporting on discretionary expenditure and corresponding service outcomes in price reviews. This would be a cheaper and easier way to achieve the benefits of a separate charge on the bill while avoiding customer confusion.

Meanwhile, as we become more customer-driven, we would expect that to be reflected in an evolution in how we provide information to customers, based on feedback about the usefulness of different channels of communication, including bills.

## 4 Efficient capital expenditure

As noted in Section 1.2, we plan to submit updated capital expenditure forecasts to IPART on 12 November 2019. This will include updates for items relating to drought, increasing system resilience, and other variations that have occurred since July 2019.

### 4.1 Responses to Issues Paper questions

#### Question 7 – Is Sydney Water’s expected capital expenditure over the 2016 determination period efficient?

It is our view that our capital expenditure over 2016–20 has been efficient in challenging circumstances characterised by unprecedented dwelling growth and a wider infrastructure investment boom in Sydney. In the period, we have implemented a range of systemic improvements across capital program management and optimisation, value engineering, cost-estimating and procurement.

We consider that our capital expenditure over 2016–20 has been efficient at a challenging time which included:

- unprecedented growth in various parts of Sydney which triggered major investment in areas of low (or no) capacity
- increasing costs for labour, plant, materials and professional services driven by the ongoing infrastructure construction boom in NSW
- the impact of higher than average temperatures and low rainfall on our assets which influenced some asset renewal plans.

We recognised these challenges and implemented systemic improvements in capital program management and optimisation, value engineering, cost-estimating and procurement. Areas where we consider have delivered efficiency savings include:

- technology and innovation – for example our ‘Customer Hub’, bespoke critical sewer silt removal methods and photonic sensor monitoring approaches
- integrated planning – we have improved the identification of synergies between growth and renewal portfolios (for example, delivery of a combined solution for Liverpool Reservoir)
- regionalisation of the capital delivery function – our new work allocation strategy for specialist services underpinned by incentivised contract arrangements
- key performance indicator-based work allocation – which is driving supplier performance and relationship management through competitive contractor ‘league tables’
- project management optimisation – we overhauled our project management processes to allow a leaner approach for low and medium complexity projects

- Project See – our flagship improvement program that revolutionised the approach to maintenance and renewals planning for treatment facilities which resulted in immediate benefit.

### **Question 8 – Has Sydney Water’s capital expenditure over the 2016 period delivered appropriate levels of service?**

We have delivered against our service performance standards, with some exceptions. We acknowledge the pressing need to improve environmental performance in relation to wastewater overflows and relevant plans are already in place.

While it is important to consider how capital expenditure impacts service outcomes, efficient and appropriate service delivery also depends upon appropriate operations (for example, incident response) and maintenance (for example, minor repairs). Even with appropriate plans in place, external factors can influence service performance.

While customer satisfaction has remained high, we have experienced a significant increase in water leaks and breaks, wastewater network chokes and dry weather wastewater overflows to waterways. This was due to a combination of factors, including weather, soil moisture levels and past reductions in preventative maintenance and response programs.

As outlined in our Price Proposal, we have complied with most Operating Licence conditions. However, we did not meet the Water Continuity Standard in 2018–19, largely due to a small number of high impact critical water main failures.

We have met most conditions in Environment Protection Licences (EPLs) but not all. In particular, we did not comply with requirements relating to dry weather wastewater overflows to waterways. We are strongly committed to improving environmental performance and have begun to implement initiatives to do this. We are engaging with the EPA on our performance improvement plans.

We have worked hard to improve customer experience, for example through the new Customer Hub. This initiative seeks to improve proactive communication with our customers and to reduce the impact of service faults.

### **Question 9 – Is Sydney Water’s proposed capital expenditure including expenditure related to growth and existing mandatory standards over the 2020 determination period efficient?**

Our capital expenditure forecast is efficient. As noted in the Issues Paper, we applied project specific efficiency reductions and then imposed a top down efficiency challenge to many component programs. The result is we face significant commercial pressure to deliver the projects we have set out, within the allowance we have requested, ensuring our customers are getting an appropriate return for their investment.

As identified in IPART’s Issues Paper, our forecast capital expenditure is the result of optimisation of a bottom-up forecast. In order to ensure it was efficient, the initial bottom-up forecast was reduced based on:

- identifying and 'pricing-in' program-specific efficiencies that we are confident will materialise in the next period (for example, smart-lining water pipes)
- applying further efficiency factors to most programs in line with a 'top down' efficiency challenge to reduce the overall forecast but deliver the same outcomes
- continued use of the 'risk-sharing' approach in growth in light of the high growth forecast, so that customers are not asked to pay for growth driven investment that may not materialise if growth rates slow during 2020–2024.

The combined impact of these steps was to reduce the proposed capital expenditure forecast without any material impact on planned outcomes.

**Question 10 – Do you have any comments on Sydney Water’s approach to planning and forecasting costs associated with growth?**

Our approach to planning and forecasting growth investment aims to ensure that we can offer a service if requested, if it is commercially viable. We incorporate information from a range of sources to ensure that there are plans in place to service growth in a timely and efficient way.

Various steps in our process seek to ensure that the forecast is efficient and that the risk of uncertainty in growth is not all borne by customers.

Our approach to planning and forecasting growth investment aims to meet our Operating Licence obligation to provide services to properties within our area of operations:

*Sydney Water must ensure that Drinking Water and Wastewater Services are available on request for connection to any Property situated in the Area of Operations.<sup>22</sup>*

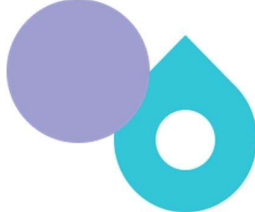

This helps facilitate a growing economy while our 'risk-sharing' approach ensures our customers do not pay upfront for less certain development that may or may not occur later in the price period. Our growth servicing planning has two parts:

- planning to deliver infrastructure in time (but not too early) to offer connection and optimising the proposed investment
- adjusting the investment forecast to account for uncertainty in growth – this is the risk-sharing element.

To optimise the 2020–24 network growth investment, candidate projects were assessed based on a range of factors. We considered the likelihood and confidence of the level of development which could occur. We then applied a less aggressive but prudent delivery profile based on Greater Sydney Commission housing targets, emerging market conditions, as well as overall deliverability.

<sup>22</sup> Sydney Water Corporation Operating Licence 2015–2020, Clause 1.6.1, p. 4. Clause 1.6.2 constrains the above point with regard to connection being financially viable.





The 'risk-sharing' reduction was then applied to the remaining growth capital expenditure forecast across both network and treatment. The resulting reduction of \$600 million reflects the uncertainty in the level of growth out to 2024 and its application means that customers do not bear all the risk.

If higher growth does materialise, we will invest in assets in line with our servicing obligations and will seek to recover efficient costs at the next price review. We will bear the financing cost for this additional investment in the interim.

#### **Question 11 – Do you agree that we should adopt our 2018 WACC methodology when setting the WACC in the 2020 Sydney Water price review?**

We maintain our view that IPART should exercise discretion when selecting a point estimate weighted average cost of capital (WACC). We are concerned that if IPART decides to apply its 2018 WACC method without exercising judgement when selecting a WACC point estimate, this may impact our ability to generate a reasonable for return on the capital invested in the business.

IPART recently reviewed its WACC method. While this resulted in several improvements, market conditions have since changed dramatically and our view is that IPART's 2018 WACC method is not suited to the current market.

The Issues Paper states that IPART supports our approach because it is consistent with IPART's methodology.<sup>23</sup> While our proposed prices contained a WACC of 4.1% for practical reasons, we strongly opposed IPART using its 2018 WACC method without judgment.

#### **Our concerns with IPART's 2018 WACC method**


In our Price Proposal, we noted our concern with IPART's 2018 WACC method and foreshadowed a WACC final decision that provided insufficient returns for us to operate our business in a financially sustainable way. Our proposal presented five reasons why discretion is required:<sup>24</sup>

1. Market conditions have changed since the time IPART conducted its WACC review. Specifically, the data underpinning the risk free rate, which is the yield on 10-year Australian Government bonds, are currently extraordinarily low and are at never-before-seen levels. IPART's 2018 WACC method may be producing unintended consequences in the current conditions.
2. We expect that IPART's 2018 WACC method could produce a very low WACC value when IPART sets our prices in 2020. This may have implications to our ability to service debt, provide a return to our shareholders and remain financeable.
3. We may not recover sufficient revenue to fund our regulated business. As demonstrated in our proposal<sup>25</sup>, IPART's 2018 WACC method could produce a midpoint WACC value as low as 3.4%. At this level, our analysis indicates there could be implications for our

<sup>23</sup> IPART, Issues Paper, p. 56.

<sup>24</sup> Sydney Water Price Proposal 2020–24, Attachment 6: Weighted average cost of capital, pp. 7–10.

<sup>25</sup> Sydney Water Price Proposal 2020–24, Attachment 6: Weighted average cost of capital, p. 9, Table 3-1.



financeability as the Moody's metrics suggest our credit rating could fall below a Baa2 rating.

4. WACC values have reduced substantially. Between 2016 and the February 2019 biannual market update, the WACC has reduced by 80 basis points. IPART's August 2019 market update provides us guidance that IPART's 2018 WACC method would now produce a midpoint WACC of 3.8%. This is 110 basis points lower than the WACC in our current prices set in 2016, which, all else equal, would reduce our revenue allowance by around \$220 million each year. We noted that the effect of changes of these magnitudes require careful consideration.
5. There are well-established downward biases and inaccuracies in IPART's 2018 WACC method. This is because IPART uses one of the earliest and simplest versions of the capital asset pricing model (CAPM). IPART has recognised the biases and when it is applied to 'low-equity beta stocks (such as regulated natural monopoly firms)'.<sup>26</sup>

#### Our views on IPART's proposed approach to use the 2018 WACC method

In the Issues Paper, IPART proposes to apply the 2018 WACC method, without clarifying whether it will exercise judgment when selecting a WACC point estimate. The Issues Paper restates IPART's commitment to develop and monitor more sophisticated cost of equity models before the next review.<sup>27</sup>

We support this commitment, but caution that it does not address the task at hand, which is setting our prices commencing 2020. IPART considers that these models are 'untested'.<sup>28</sup> We disagree that alternative CAPMs are new or untested. Alternative models to the SL CAPM have been developing over the decades following the birth of Modern Portfolio Theory. For example, the Black CAPM was developed in 1962 and the Fama-French model was developed in 1993. The evolution is ongoing because asset pricing models, like all models, are imperfect representations of the real world. Using evidence from a number of models could lead to better-informed, higher-quality WACC decisions.

IPART has noted our concerns that the low interest rate environment may have implications for our financeability and our ability to provide a reasonable return to our shareholders.<sup>29</sup> To clarify, our concern is that IPART's single-risk factor CAPM (the Sharpe-Lintner CAPM, or the SL CAPM) is the cause of the downward bias in the 2018 WACC method, not the low interest rate environment. The low interest rate environment merely exacerbates the bias, as demonstrated in the box below.

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<sup>26</sup> IPART 2018, *Review of our WACC method – Final Report*, February 2018 p. 49.

<sup>27</sup> IPART, Issues Paper, p. 58.

<sup>28</sup> IPART, Issues Paper, p. 58.

<sup>29</sup> IPART, Issues Paper, p. 57.

## Limitations of the Sharpe-Lintner CAPM are magnified in the current low interest rate environment

The limitations of the SL CAPM have been embedded in prior IPART decisions. But with government bond yields at current lows, the impact of these limitations is magnified. Consider the following example. Suppose that shareholders' required return on investing in a 60% leveraged water utility was equal to the market return (that is, the true cost of equity equals the sum of the risk free rate and the market risk premium).

Now compare the regulated rate of return under the assumption equity beta of 0.7 and that the SL CAPM holds. The midpoint real WACC using 31 January 2019 data would be 4.1%. But if the true cost of equity is equal to the expected market return, the midpoint real WACC estimate would increase to 5.0%. This means that the regulated rate of return would be 18% below the true cost of funds.<sup>a</sup> At higher levels for the risk free rate, the shortfall between the true cost of funds and the estimate generated by the SL CAPM is reduced. For example, suppose that we do the same computations using a risk free rate of 5.0% and market risk premium of 6.0% (assume no difference in current and long-term figures). In this example the true post-tax real WACC would be 6.5% versus an estimate of 5.8% generated using the SL CAPM for equity, a shortfall of 11%.

a. That is,  $4.11\% \div 4.97\% = 0.82$ .

## Further evidence that the 2018 WACC method is producing unintended consequences

IPART's WACC calculation in the August 2019 biannual market update contains a 'current' risk free rate of 2.1%, combined with an inflation adjustment was 2.3%. This implies a real bond yield of -0.2%, which is out of step with market conditions. On average, during September 2019 the 10-year Australian government bond yield was just 1.0%, and the inflation rate implied by 10-year inflation-indexed government bond yields was just 0.8%.

For the 'current' part of the cost of equity computation, the risk-free component of the return is just 1.0% in nominal terms and, in real terms, 0.2% if inflation is estimated using inflation-indexed bond yields.

If we forecast the WACC to the end of April 2020, when IPART is due to make its final decision for our prices, the effect of this is likely to be more pronounced, assuming government bond yields remain constant over the next seven months to April 2020.

## IPART's method allows discretion

IPART has set out a process to introduce judgment when markets are 'abnormal', regardless of whether the uncertainty index has been breached. In 2013, IPART noted that:

*In an unlikely event that the index of economic uncertainty is neutral but other financial market information suggests that the midpoint WACC underestimates or overestimates*

*market expectations for the cost of capital, we will choose a point estimate above or below the midpoint WACC.<sup>30</sup>*

IPART confirmed this approach in its 2018 review of the WACC. It stated that it would:

*...continue to use our discretion to determine the appropriate weighting of current and historic average market data when the market is in an abnormal state, and to consult with stakeholders before we make our decisions.<sup>31</sup>*

We appreciate that IPART prefers not to use a new equation for the cost of equity in a particular company's price review. However, when IPART endorsed the exclusive use of the SL CAPM, it was during a period of much higher government bond yields and inflation. The sharp decline in government bond yields, and the impact of the cost of equity, is likely to have been an unintended consequence of the WACC method. Under IPART's current method for setting allowed returns, it is open to IPART to exercise judgement when selecting a WACC point estimate. We consider the exercise of this judgment to be a suitable transitional arrangement.

IPART has provided guidance on how it would exercise judgment in its recent WACC review. It stated that it would consult with stakeholders and retain the discretion to modify the decision rule in light of market information at the time.<sup>32</sup> We support this course of action as it allows the regulatory framework to be responsive to market conditions at the time of the decision.

**Question 12 – Do you agree that we should account for annual changes in the cost of debt with a regulatory true-up in the following pricing period?**

We support IPART's preliminary view to accept our proposal to account for annual changes in the cost of debt with a true-up in the following pricing period.

**Question 13 – Do you have any comments about Sydney Water's performance against the output measures in Appendix E?**

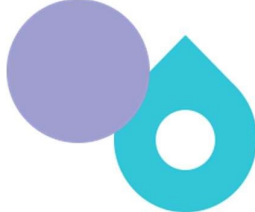

The targets set out in Appendix E of the Issues Paper do not reflect adjustments required at the end of the 2016–20 Price Review process. In Appendix 9A of our Price Proposal we reported performance against adjusted targets. The outputs delivered were closer to these revised targets.

In our 2016 Price Proposal we put forward 31 output measures with targets commensurate with the proposed investment profile. Atkins Cardno's final report on our 2016–20 expenditure then proposed a reduced list of 20 output measures, noting that targets would need to be amended to

<sup>30</sup> IPART, WACC methodology – Draft Report, September 2013, p. 35.

<sup>31</sup> IPART, *Review of our WACC method – Final report*, February 2018, p. 70.

<sup>32</sup> IPART, *Review of our WACC method – Final report*, February 2018, p. 70



reflect capital reprofiling and scope reductions expected in IPART's Final Report and Determination.<sup>33</sup>

In Appendix 9A of our 2019 Price Proposal we reported 2016–20 performance against output measure targets which were adjusted in this way. The targets set out in Appendix E of the Issues Paper do not reflect these adjustments. Actual work delivered is closer to the revised output targets.

While output targets provide some indication of what capital expenditure delivers, it is not unusual for investment plans to be adjusted when circumstances change during a price period. In such situations there may be variances against output targets set at the start of the period.

**Question 14 – Do you have any comments on what output measures we should use for the 2020 determination period?**

We propose that IPART uses the 23 output measures detailed in Table A1-10 of Appendix 9A in our Price Proposal.

Outputs of the capital investment programs are only one indicator of performance. We are keen to work closely with IPART to formulate additional measures that can assist in transitioning to a more outcome-focused approach for the next price review.

## 4.2 Additional comments and clarifications

Some commentary in the Issues Paper suggests that details about our investments and processes may have been misinterpreted. These occurrences are noted below, with brief clarifications.

### Executive summary and Section 5.2 – asset management

IPART states that there has been a large increase in capital expenditure driven by investment in wastewater assets to meet future growth and the costs of more conservative asset management practices.<sup>34</sup> IPART refers to a more conservative asset management strategy as a driver of proposed operating expenditure.<sup>35</sup> We have not implemented a more conservative approach. Instead, improvements in our asset management processes and practices are from the use of more detailed information about risk and consequence.

### Section 2.4.2 – source control

IPART describes the objective of source control as being to reduce illegal stormwater connections to Sydney Water's wastewater system by fixing privately owned plumbing in areas with high inflow and infiltration.<sup>36</sup> Source control does not seek to reduce illegal connections as an end in itself. It is simply a lower cost way of reducing wet weather overflows. Source control on private assets



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<sup>33</sup> Atkins Cardno, *Sydney Water Corporation - Expenditure Review*, version 1.6, 21 December 2015, p. 56.

<sup>34</sup> IPART Issues Paper, p. 5.

<sup>35</sup> IPART Issues Paper, p. 62.

<sup>36</sup> IPART Issues Paper, p. 27.



reduces ingress and infiltration into the wastewater system from poor condition pipes, as well as from unapproved stormwater connections. We proposed implementing source control on our own assets, as part of the wet weather overflow abatement program.

#### Section 4.3 – wastewater assets expenditure

The additional expenditure incurred for wastewater assets noted in Section 4.3 appears to mischaracterise some of our actual spend. Additional spend on wastewater treatment plant renewals was required in light of new asset condition and performance information, not poorer condition than previously expected.<sup>37</sup> Also, this was not the largest component of the \$476 million variance. The major variance was in growth (\$290 million).

#### Section 4.3 – dry soil conditions

IPART states that the overspend of \$191 million for existing mandatory standards was driven by extremely dry soil conditions which resulted in an increase in sewer chokes caused by tree roots.<sup>38</sup> The largest portion of the existing mandatory standards overspend was in Corporate renewals (including replacing of our legacy billing system, as explained in our Price Proposal). Work on reticulation sewers made a much smaller contribution.<sup>39</sup>

#### Section 4.4 – growth and renewals

In Section 4.4, IPART states that increased dwelling growth as one of the factors resulting in the need for higher asset renewal investment to meet existing mandatory standards.<sup>40</sup> Growth in new dwellings is not a driver in increased renewals spend.

It states the \$305 million on the replacement and renewal of wastewater treatment plants is partly driven by servicing new growth.<sup>41</sup> Growth is not a driver of the Wastewater Treatment Plant Renewals program.

#### Section 4.4 – reprioritisation of growth programs

In Section 4.4, reprioritisation of growth programs is listed as a contributing to identified efficiencies.<sup>42</sup> However, growth programs have not been reprioritised. We reduced the amount of the growth forecast to account for the fact that growth is inherently uncertain and outside of our control and hence customers should not bear all the risk of this. This is the risk-sharing approach applied successfully in the current price period. If the growth projections of the NSW Government come to fruition over 2020–24, the additional funds will be required.

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<sup>37</sup> IPART Issues Paper, p. 50.

<sup>38</sup> IPART Issues Paper, p. 51.

<sup>39</sup> Sydney Water Price proposal 2020–24, Attachment 9: Capital expenditure, pp. 6 and 13.

<sup>40</sup> IPART Issues Paper, p. 53.

<sup>41</sup> IPART Issues Paper, p. 53.

<sup>42</sup> IPART Issues Paper, p. 55.



## 5 Efficient operating expenditure

As noted in Section 1.2, we plan to submit updated forecasts for some operating expenditure to IPART on 12 November 2019. This includes updates for items relating to drought, increasing system resilience, and other variations that have occurred since July 2019.

### 5.1 Responses to Issues Paper questions

#### **Question 15 – Is Sydney Water’s proposed operating expenditure over the 2020 determination period efficient?**

We consider our proposed operating expenditure is efficient. We will provide an amended opex forecast on 12 November 2019 to address the changes outlined in our Executive Summary.

We are now participating in an efficiency review of our proposed expenditure, including operating expenditure. The review is being conducted for IPART by Atkins Cardno. We look forward to engaging with IPART in the next steps of the efficiency review.

#### **Question 16 – How should our review account for the risks of drought and support water conservation?**

Our preference is for uncertain (and uncontrollable) drought and water conservation risks to be accounted for within the price period, generally via a cost pass through mechanism. We will provide more detail in our 12 November 2019 update.

#### **Question 17 – Are Sydney Water’s proposed bulk water costs reasonable? Do you agree with Sydney Water’s allocation of corporate costs to bulk water?**

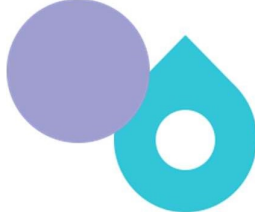

We consider our proposed bulk water costs are reasonable.

We also consider our proposed allocation of corporate costs to bulk water is appropriate and consistent with the principles outlined in IPART’s Cost Allocation Guide. This aligns with the allocation of costs under our proposed CAM, where common costs are allocated in proportion to direct costs, including bulk water costs.

We understand that the bulk water costs proposed by WaterNSW in its submission includes drought costs in the baseline. In our view, drought costs that have not yet been triggered or may not be needed if the drought breaks should not be included in the baseline. Instead, where the costs meet IPART’s criteria for cost pass-throughs, this should be the mechanism for recovering these costs.

For cost allocation purposes, we consider operating costs for bulk water purchases should be treated the same as all other operating costs that we incur in delivering our services. That is, there





should be a consistent approach to cost allocation across all our services. Therefore, where costs are allocated on the basis of direct costs, these should include all direct operating costs. For water supply, this includes bulk water costs.

From the point of view of contestability, we note that IPART's current wholesale pricing determination uses a retail minus reasonably efficient competitor costs to determine the wholesale price. Since our proposed cost allocation would not affect reasonably efficient competitor costs, the margin between the retail price and the wholesale price would remain unchanged.

The CAM was developed for third party access to our declared wastewater services. Our proposed allocation method will ensure consistent principles across regulatory regimes, equal treatment of common costs and the right signals for efficient entry, should a third party wish to access the system.

**Question 18 – Are Sydney Water's proposed pricing principles for the Hawkesbury Nepean offset scheme appropriate? For example, should the cost risks for R&D projects be passed fully to customers, or appropriately shared between customers and Sydney Water?**

The principles in our Price Proposal are designed to efficiently share the risks of the Hawkesbury Nepean Offset Scheme between Sydney Water and our customers. As a result, we see the principles as consistent with IPART's existing risk sharing approaches and being therefore appropriate.



Research and development (R&D) of offset projects in 2020–24 is required to discover knowledge of the most cost-effective way to manage and achieve the required outcomes for the Hawkesbury Nepean River. For this reason, we proposed to treat R&D projects in 2020–24 as operating expenditure, in line with relevant accounting treatments.<sup>43</sup> This R&D is required to test that proposed future expenditure under the new offset scheme will be effective in terms of environmental impacts. If not done, we will not be able to effectively understand and manage the risks associated with environmental offset projects. The impact being that we will not be able to confidently invest in lower cost offset projects in favour of higher cost traditional wastewater solutions.

More completely, the financial accounting treatment of R&D is to initially expense costs and then capitalise the costs in future years if it is known with certainty that benefits will accrue from any asset generated from the R&D knowledge.<sup>44</sup> This position was not made explicit in our Price Proposal. For clarity, we are proposing to treat R&D expenditure as follows:

1. Expense R&D expenditure in 2020–24
2. Should the R&D yield an asset with benefits, reverse the expense in 2024–28 (or future price period), capitalise the expense (now an asset) and charge customers a return on and of capital for a period matching the benefit.

<sup>43</sup> Australian Accounting Standards Board (AASB) 138, *Accounting for Intangible Assets*, Paragraphs 42-43.

<sup>44</sup> Australian Accounting Standards Board (AASB) 1011, *Accounting for Research and Development Costs*, citation.30-.33.



Through this approach to R&D, customers will directly benefit by avoiding future wastewater costs expected to be multiples greater than the proposed \$13 million of R&D expenditure (potentially billions of dollars of expenditure) by bearing only a small level of risk in 2020–24.

Beyond 2024 we expect all future expenditure to be treated as any other typical regulatory capital and operating expenditure, balancing risks efficiently between all parties and retaining incentives in the form of regulation for Sydney Water.

# 6 Water demand and customer numbers

IPART mentions that it will request further information from us on a range of issues relating to the demand forecast. We look forward to the opportunity to respond to IPART's requests.

## 6.1 Responses to Issues Paper questions

### Question 19 – Are Sydney Water's forecast water sales, customer numbers and billable wastewater volumes for the 2020 determination period reasonable?

We consider our forecasts of water demand and customer numbers are robust and reasonable.

We assure our outputs via hindcasting, expert peer review and by checking for consistency with other government data sources.

#### Water sales

We prepared our forecast water sales using an appropriate model which captures the major drivers of demand and is able to closely reproduce their impact in assurance testing (see response to Question 20). We used appropriate and reasonable inputs.

Our model has been independently peer reviewed by third party experts. We can provide the review report to IPART if required.

#### Customer numbers

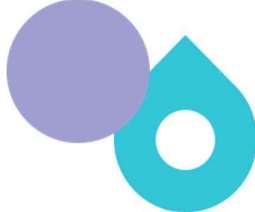

Our forecast residential growth is consistent with Greater Sydney Commission housing targets as well as household projections in the 2016 NSW State and Local Government Area Household Projections and Implied Dwelling requirements.<sup>45</sup>

Our forecast non-residential property growth is consistent with observed historic short-term property and meter growth in our customer billing system.

Customer number forecasts are based on appropriate sources. Existing residential and non-residential customer numbers are sourced from our billing system. Forecast residential dwelling growth is provided by the NSW Government as approved by the Common Planning Assumptions Group.<sup>46</sup> Non-residential customer growth is forecast based on historical trends in our billing system, development approvals in the Department of Planning, Industry and Environment's Local

<sup>45</sup> These forecasts can be found at: <https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections>.

<sup>46</sup> A cross-government group with the undertaking to align relevant data, policies, assumptions, government strategies, investment decisions, projects and funding in a coordinated way. See <https://www.transport.nsw.gov.au/data-and-research/common-planning-assumptions>.



Development Performance Monitoring system and development applications in our eDeveloper system.

### Billable wastewater volumes

Billable wastewater volume forecasts are based on our chargeable wastewater model, which we described in our submission to IPART's 2016 price review.<sup>47</sup> The model forecasts the effect of the decreases in the daily discharge allowance during the current 2016–20 price period.

We amended the model in 2018 to correct an underestimation of billable wastewater in recent years. We found that the underestimation was due to under forecasting of the growth in non-residential water consumption. It was not due to an inherent flaw in the model's approach to modelling the impact of changes to the daily allowance.

We consider the 2020–24 forecast to be reasonable. It is consistent with recent actual volumes (see section 6.2 Additional comments and clarifications). We forecast volumes to grow only slightly. This reflects an assumption of no further reductions in the daily allowance and our forecast growth in non-residential water demand.

We agree that if IPART decides to change the non-residential discharge allowance, this will impact billable wastewater volumes. We are happy to work with IPART to review the forecast in light of whatever charging structures IPART proposes.

#### **Question 20 – Is Sydney Water's demand forecasting model, and the inputs to estimate the model, appropriate?**

We consider our model and the inputs we use are robust and appropriate. Our forecasting is for average weather conditions with appropriate adjustments for the effects of climate change. However, this does not take account the impact of water restrictions should they continue in the next period and we need to make provision for the possibility that this will be the case.

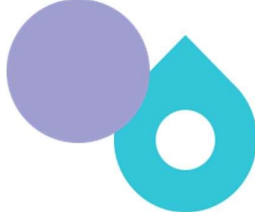

Our demand forecasting model is appropriate for its purpose and estimated using appropriate inputs. Our model uses a combination of detailed segmentation of the customer base and econometric modelling of demand in each segment. Segmentation means that the model can account for the different water consumption patterns and property growth rates exhibited by each segment. This helps us avoid the potential for aggregation bias in models based on more aggregated data.

The segment-specific regression models mean the model can account for short-term fluctuations due to weather conditions. This helps us produce a forecast which is representative of appropriately defined average weather conditions and avoids forecasts that are unduly affected by recent anomalous conditions.

We built the model using property-specific consumption data (meter readings) taken from our billing system. We combined this with localised weather data obtained from the Bureau of

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<sup>47</sup> Sydney Water, *Our plan for the future: Sydney Water's prices for 2016–20*. Appendices – Public version, June 2015.



Meteorology. The price variable we use in the model is the real water usage price (the appropriate marginal price).

We demonstrated the appropriateness of the model to capture the main drivers of demand in our Price Proposal. A hindcast of demand from 2009-10 which was prepared using the model, closely reproduced the observed trend in demand due to property growth and the year-to-year variations around that trend due to weather.<sup>48</sup>

We showed that the deviations of actual demand from forecast demand in the current price path (2016–20) are not due to flaws in the model itself. They are largely explained by major inputs such as population growth and weather deviating from their assumed values. There remained some variations that could not be attributed to these factors. These were addressed in the updated model which was used to produce the forecast for 2020–24.

We acknowledge that the model by itself is not sufficient to forecast demand under water restrictions. It can provide a baseline, unrestricted demand forecast that is appropriate for price setting. We employ additional methods to adjust the forecast for the impact of restrictions, as required.

#### **Question 21 – Is Sydney Water’s adjustment to its demand forecasts to account for climate change appropriate?**

Our demand forecast, based on climate projections from the NSW and ACT Regional Climate Modelling (NARCLiM) project, is appropriate. Without these adjustments, it is likely we would under-forecast demand.

The adjustment is based on regional climate projections prepared by the NARCLiM project.<sup>49</sup> We consider these to be the most appropriate projections available for our purpose. NARCLiM provides specific projections for the period 2020–2040. Its high-resolution projections are compatible with the spatial and temporal resolution of our model.

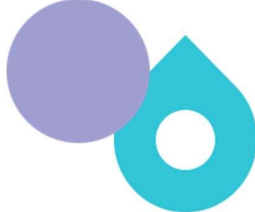

NARCLiM produced an ensemble of projections. Our final forecast is based on the NARCLiM ensemble member which results in the median demand forecast. This is an appropriate approach to dealing with the uncertainty present in these types of projections. The Common Planning Assumptions Group has endorsed the NARCLiM projections.

#### **Question 22 – Is Sydney Water’s proposal to return about \$30 million of revenue to customers over the 2020 period, for higher-than-forecast water sales, reasonable?**

We welcome IPART’s preliminary position to apply the demand volatility adjustment mechanism using the method outlined in our Price Proposal, based on three years of actual water sales for the current Determination. Our revised calculation incorporating actual data for 2018–19 is \$15.3 million.

<sup>48</sup> Sydney Water Price proposal 2020–24, Appendix 8A: Water demand forecasting model, July 2019, Figure 1-2, p. 12.

<sup>49</sup> <https://climatechange.environment.nsw.gov.au/Climate-projections-for-NSW/About-NARCLiM/>.



IPART's preliminary position to apply the demand volatility adjustment mechanism over the first three years of the 2016–20 Determination is appropriate. However, further analysis is needed on the appropriate amount to be passed through to customers.

First, the amount should reflect updated data on actual volumes. The amount of \$30 million included in our Price Proposal was partly based on forecast water demand for 2018–19. We now have a complete year of data on actual water sales in 2018–19, which were lower than forecast. Using the method outlined in our Price Proposal with updated data for 2018–19, the revised amount to return to customers for the first three years of the 2016–24 Determination is \$15.3 million.

Based on our most up to date forecast, we now expect water demand in 2019–20 to be close to the forecast used in the 2016 Determination. This is largely the result of increased drought awareness and Level 1 water restrictions now being in place in Sydney. We expect the reduction in water demand in 2019–20 will be large enough to bring total water sales over 2016–20 within 5% of the forecast used for the 2016–20 Determination.

This forced reduction in demand following the introduction of Level 1 water restrictions highlights one of many uncertainties we face in the case of continuing drought. Given the increased likelihood of drought continuing, there is a need to consider how to effectively manage such uncertainties in the interests of customers during 2020–24 (see our response to Question 25).

Second, there is a need to consider the treatment of any additional efficient expenditure incurred to serve the additional demand above the 5% threshold.

In its Issues Paper, IPART notes that it will consider the extent to which Sydney Water incurred efficient expenditure to meet the increased demand, and that such efficient expenditure may be funded by customers in line with other efficient expenditure.<sup>50</sup> In line with the intent of the demand volatility mechanism, we consider it appropriate for Sydney Water to absorb any changes in costs associated with variations in demand within the 5% threshold. However, where actual demand was outside the 5% threshold, it would be reasonable to adjust for any associated changes in costs when determining the amount we should return to customers, and vice versa.

We estimate the incremental operating cost of purchasing and producing drinking water to meet demand above the 5% threshold from 2016–17 to 2018–19 to be \$1.3 million. This has already been accounted for in the updated revenue calculation of \$15.3 million.

Additional system operating costs because of hot weather across 2016–20 are not included in the \$1.3 million of incremental operating costs. We are not claiming these additional costs via the demand volatility mechanism.

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<sup>50</sup> IPART Issues Paper, p. 82.

Table 6-1 Demand volatility adjustment mechanism - 2016–20 Determination period

Concept	2016–17	2017–18	2018–19	Total
<b>Water demand</b>				
IPART decision (ML) - potable metered*	470,600	477,499	481,681	1,429,780
Sydney Water actual (ML)	490,101	526,210	492,823	1,509,134
	4.1%	10.2%	2.3%	5.6%
<b>Revenue over-recovery</b>				
Demand of 5% deadband (ML)				71,489
Actual demand above deadband (ML)				7,865
Water usage price (\$/kL, \$2019–20)				\$2.11
Revenue over-recovery (\$m, \$2019–20)				\$16.6
<b>Additional cost to meet the additional demand (above deadband)</b>				
Short run marginal costs (\$/kL, \$2019–20)**				\$0.17
Incurred operating expenditure				\$1.3
<b>Revenue over-recovery to pass through (\$m, \$2019–20)***</b>				<b>\$15.3</b>

**Notes:**

\* Water usage price used is 2019–20 actual water usage charge. The proposed price of \$2.13/kL was escalated with the forecast CPI = 2.2% in our Price Proposal.

\*\* This is the average of 2016–17 to 2018–19 marginal costs, including energy, chemicals, water purchase costs from WaterNSW, etc.

\*\*\* This figure has not taken into consideration the relevant holding cost/gain (ie for 2019–20) to be applied before its inclusion in the Notional Revenue Requirement for 2020–21 to 2023–24.

**Question 23 – Is Sydney Water’s proposal for the application of a volatility adjustment to be lagged by one year reasonable?**

We welcome IPART’s preliminary position to accept our proposal to lag the existing demand volatility mechanism by one year. This will align forecast sales with actual sales only, improving the administrative simplicity of any revenue true up in future price determinations.



## Question 24 – What factors should we consider in deciding whether to implement the demand volatility adjustment?

We consider key factors that should be considered include:

- a. if any variation was within Sydney Water's control
- b. the impact of affordability on our customers
- c. the impact on Sydney Water's financeability
- d. the degree to which the tariff structure set during the determination was cost reflective.

### a. If any variation is within Sydney Water's control

We understand the primary purpose of the demand volatility mechanism is to provide Sydney Water with an incentive to reveal true and accurate demand forecasts. In this way risks are shared efficiently and equitably with our customers for variations in demand that are greater than the +/- 5% band and uncontrollable.

In its Issues Paper, IPART questions whether the higher-than-forecast demand in the first three years of the current pricing period was truly unpredictable and states it will consider this in its decisions on adjustments to our revenue allowance.<sup>51</sup> We note that the demand forecast used in our 2016 Determination was reviewed, adjusted and approved by IPART before being used to set prices. IPART revisiting a prior decision due to now having perfect hindsight would introduce inappropriate regulatory risk and is contrary to the premise of incentive regulation. If a different true-up mechanism to adjust more fully for differences between forecast and actual demand is desired, it should not apply retrospectively. Further, any adjustment mechanism should treat actual demand above or below forecast symmetrically.

In line with IPART's findings in 2016, we maintain that the basis for our demand forecast in 2016 was reasonable and robust, having regard to the information available at that time. We consider the significantly higher than predicted customer growth and the significantly hotter and drier climate during 2016–20 could not have reasonably been predicted.

We note that IPART expressed concern at the time that the demand elasticities used in our forecast would under-estimate the impact on demand from our proposed price reduction. Accordingly, IPART adjusted the 2016 demand forecast to account for this, before determining prices. Having analysed the effect of the price decrease, we acknowledge that customers appear to have responded to the price decrease more strongly than we anticipated. We have updated the relevant elasticities in our demand forecast modelling to account for this.

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<sup>51</sup> IPART Issues Paper, p. 83.



## b. The impact of affordability on customers

Recovering large revenue shortfalls as a result of uncontrollable declines in demand in future Determination periods will tend to increase bills in future periods, and will possibly introduce affordability concerns for some customers.

To avoid price distortions (and a large administrative burden), the recovery (or rebating) of demand revenue should occur via the (equal) service charge for each customer type. This is also a simpler method that will be revenue neutral. However, such an approach is likely to have disproportionate affordability impacts on customers. In contrast, recovery via the usage charge will allow individual customers to manage their own demand responses to new prices most equitably. However, this approach may not be revenue neutral and could require additional rounds of rebates or clawbacks.

We recommend IPART consider the potential affordability impacts of demand revenue recovery by:

- monitoring yearly variations between actual and forecast demand
- based on yearly monitoring, considering if demand revenue recovery should occur within Determination period (via a pricing formula)
- considering the least distortionary way to recovery revenue from customers.

## c. The impact on Sydney Water's financeability

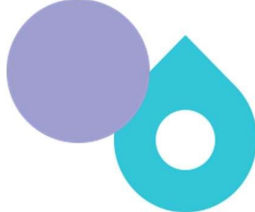

Large demand variations may impact on our ability to finance our business.

If demand revenue is to be returned to customers, the financeability impact may be in future periods when we will forego revenue. However, we acknowledge that as excess revenue will have been collected (with additional costs being incurred to purchase, treat and transport water), a prudent utility will likely accrue excess revenues in preparation for lower allowed future revenues, minimising financeability impacts in future periods.

If significant demand revenue shortfall is to be recovered in future periods, the financeability impact will be immediate as insufficient revenue will likely be collected to fund costs (net of avoided costs to purchase, treat and transport water). In this case the firm must find additional efficiencies to fund its operations or increase its borrowing, without compensation of those funding costs in future revenue periods.

## d. The degree to which the tariff structure set during the Determination was cost reflective

IPART's pricing principles seek to set cost reflective tariff structures. That is, fixed costs are recovered via service charges and variable costs via usage charges. The closer the tariff structure matches the underlying cost structure of the firm, the lower the impact revenue risk from demand variations a utility bears and the greater the risk customers bear. The lower the revenue risk a utility bears, the lesser the need for a demand volatility mechanism to either be implemented (or adopted).



Urban water tariff structures are not set with reference to our underlying water cost structure. Service charges are set as a residual after LRMC is established.

LRMC is recalculated and customer preferences are taken into account every four years. As a result, tariff structures may be more or less representative of water cost structures in any given determination period, altering the revenue risk we face.

We request that IPART takes into consideration these risks when considering whether to implement the demand volatility mechanism; when risks are high the likelihood of implementation ought to be higher and vice versa. Such an approach would ensure that efficient incentives and risk sharing between Sydney Water and customers is maintained.

**Question 25 – Should we maintain the demand volatility adjustment mechanism to address over or under recovery of revenue during the 2020 determination period? Does a +/-5% materiality threshold remain appropriate?**

We welcome IPART's preliminary position to retain the demand volatility adjustment mechanism. The mechanism provides a strong incentive for Sydney Water to continuously improve its demand forecasting approaches for normal conditions.

We consider a 5% materiality threshold based on forecast water sales remains appropriate. We propose amending how this mechanism would apply when water restrictions are in place, due to their significant impact on demand.

IPART proposes to adjust the demand volatility mechanism so that it is triggered in the case of a 5% variation in **revenue** from water sales, rather than where water sales vary by more than 5%.<sup>52</sup> We disagree with this proposed amendment. There are a range of reasons why revenue from water sales may not align with volume of water sold, including various concessions, rebates, timing of bill payments and unpaid bill amounts.

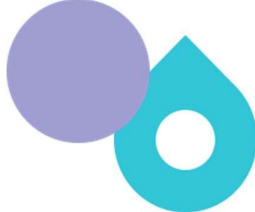

The primary purpose of the demand volatility adjustment mechanism is to encourage accurate demand forecasts. Using revenue from sales as the trigger variable weakens the link with our demand forecasts. The current volume-based approach better aligns with long-term customer outcomes and with how risks are shared under the price determination.

The question of whether an +/-5% materiality threshold remains appropriate is a statistical one. We have recently updated and improved our long run demand forecasting model to include the impact of climate change induced weather. As a result, we consider that our model forecasting accuracy is improved, and it could be argued that the mechanism should adopt a narrower band to reflect this improvement. However, until the model has been tested in practice, the effect of a narrower band would be uncertain. Therefore, we propose retaining +/-5% threshold for the 2020 Determination.

As an alternative to adjusting the 5% threshold, we propose amending the application of the mechanism when water restrictions are in place. As noted in our response to Question 24, the

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<sup>52</sup> IPART Issues Paper, p. 83.



impact of restrictions on water sales is significant and is wholly outside our control. A yearly adjustment if water restrictions are in place would improve the efficiency of revenue recovery, send (weak) price signals during times of low supply and help manage any possible financeability impacts resulting from events outside our control.

## 6.2 Additional comments and clarifications

### Table 6.3 – customer numbers

There appears to be a mistake in Table 6.3 of IPART’s Issues Paper. The residential and non-residential customer numbers for 2019–20 to 2023–24 as shown in this table are in fact our projections for 2018–19 to 2022–23. For example, the figure for 2021–22 of 1,964 thousand residential customers is actually our forecast figure for 2020–21.

Also, the forecast average residential growth is about 36,000 dwellings per annum, not 37,000.

### Table 6.1 and 6.3 – water sales

The volumes labelled as “Water Sales (ML)” in Table 6.3 do not correspond with what is usually understood by this term. It appears water sales may have been confused with “Total water available for sale to own customers”: the volumes shown in Table 6.3 as water sales correspond with the volumes for total water available for sale to own customers in the Annual Information Return (AIR).

However, water sales is not the same as total water available for sale to own customers. Water sales refers to billed metered consumption and billed unmetered consumption (see the definitions included in our proposal).<sup>53</sup> Sometimes only billed metered consumption is included, see IPART’s 2016 determination.<sup>54</sup>

The difference between water sales and water available for sale is material. Water sales make up about 90% to 91% of total water available, depending on whether billed unmetered demand is included.

These comments also apply to Table 6.1, that is, volumes shown there are total demand volumes, not water sales.

### Billable wastewater volumes – increase between 2018–19 and 2019–20

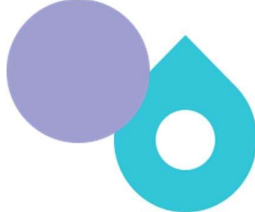

In its Issues Paper, IPART states that Sydney Water forecasts billable wastewater volumes to increase by 4% between 2018–19 and 2019–20 and then remain relatively flat over the 2020 determination period, and that we did not provide an explanation for this increase.<sup>55</sup> This statement suggests that we forecast a large increase in volumes in the last year of the current price period

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<sup>53</sup> Sydney Water Price proposal 2020–24. Appendix 8A: Water demand forecasting model. Sydney Water, July 2019, Figure 1-2, p. 12.

<sup>54</sup> *Review of prices for Sydney Water Corporation from 1 July 2016 to 30 June 2020. Water – Final Report.* IPART, June 2016, p. 139.

<sup>55</sup> IPART Issues Paper, p. 77.



(2019–20), followed by relatively flat demand during 2020–24. The increase between 2018–19 and 2019–20 is in fact in line with forecast increases in later years.

IPART arrives at the apparent large upfront increase of 4% between 2018–19 and 2019–20 by comparing a preliminary actual for 2018–19 that was included in the AIR with the forecast for 2019–20. However, this actual for 2018–19 was too low.

An updated actual for billable wastewater volumes in 2018–19 is now available. Based on this updated actual (79,935 ML), the forecast increase between 2018–19 and 2019–20 is 0.2%, which is in line with the forecast increases in later years.

The actual for 2018–19 as included in the AIR that IPART used had to be prepared well before the year was completed to meet the deadline for Sydney Water’s submission to IPART. We therefore took a preliminary actual for the first six months of 2018–19 (July to December 2018) and combined this with a forecast for the last six months (January to June 2019). Unfortunately, the actual for the first six months was too low. There is a technical reason for this, primarily due to the lag between consumption and meter readings and the fact that meter reads are taken on a rolling basis (that is, not all meters are read at the same time but over a 10-week period every quarter). We are happy to provide a more detailed explanation to IPART, if desired.

#### Residential and non-residential water sales – increase between 2018–19 and 2019–20

The apparent large upfront increase in water demand between 2018–19 and 2019–20 that IPART presents in the Issues Paper relates to IPART using a preliminary actual for 2018–19 that is too low.

Based on the preliminary actuals for 2018–19 included in the AIR and Sydney Water’s forecasts for 2019–20, IPART states that our forecast residential water sales to increase by 5.1% between 2018–19 and 2019–20 and then an average of 1.6% in the following years.<sup>56</sup> Similarly, IPART states that non-residential water sales are forecast to increase by 8.1% between 2018–19 and 2019–20 and 0.2% per year in following years.<sup>57</sup>

An updated actual for 2018–19 is now available, which is 494,785 ML (including unfiltered water). Based on this figure the forecast increases between 2018–19 and 2019–20 is in fact only 2.8%.

This is still higher than the forecast increase over the 2020–24 period of about 1.3% per year. However, the actual for 2018–19 was affected by our drought awareness campaign which started in late 2018 and encouraged customers to save water, as well as the introduction of water restrictions in June 2019. By contrast, the forecast for 2019–20 included in our Proposal was prepared assuming no drought-related water conservation activities. In other words, the 2018–19 actual and 2019–20 forecast are not directly comparable as the former is affected by drought related water conservation activities while the latter assumes no such activities.

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<sup>56</sup> IPART Issues Paper, p. 75.

<sup>57</sup> IPART Issues Paper, p. 76.

# 7 Prices and price structures

As noted in Section 1.2, we plan to submit an update to IPART on 12 November 2019 on activities we expect to undertake in 2020–24 to address drought and increase system resilience. This update will include the potential impact to prices and customer bills.

## 7.1 Responses to Issues Paper questions

### Question 26 – Is Sydney Water’s proposal to maintain the 2019–20 water usage charge reasonable?

We consider our proposal to maintain the water usage charge at the 2019–20 level in real terms is reasonable as it is within the range of our estimated LRMC of water supply and has broad customer support.

The results of our customer engagement show customers prefer either maintaining the usage price at the current level or increasing it slightly (within the range of LRMC estimates presented to customers). We consider customer preferences should be given appropriate consideration when setting prices and service levels. Increasing the water usage charge above \$2.45/kL would result in a negative service charge (disregarding any potential impacts due to price elasticity of demand). Further details of our results on LRMC modelling and customer engagement on the water usage charge are set out in our Price Proposal.<sup>58</sup>

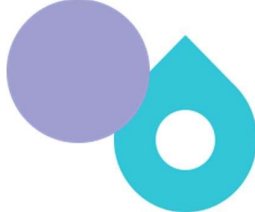

### Question 27 – Is the method that Sydney Water has used to estimate the long run marginal cost (LRMC) of water reasonable?

We consider both our method of estimating LRMC and the customer selected LRMC are reasonable.

We note there are no established rules or agreed best practice as to what constitutes a reasonable method for estimating LRMC. In practice, the reasonableness of an approach requires consideration of the many factors which could be used to estimate LRMC.

LRMC methods and estimates must strike a balance between the incorporation of known historical data and uncertain forecasts and other assumptions about the future. This makes sensitivity analysis and customer consultation crucial in judging the reasonableness of a LRMC method and estimate. Judgement is needed as to the amount of sensitivity testing that might be employed. Strictly speaking, an infinite level of sensitivity testing is possible, which is unnecessary.

<sup>58</sup> Sydney Water Price Proposal 2020–24, Attachment 3: Customer engagement, and Appendix 4C: Long run marginal cost for water services.



We conducted a sensitivity analysis on most parameters in our model where there was a low administrative cost in doing so. This generated 164 independent LRMC estimates. We then presented what we considered to be the most plausible range to customers to select their preferred outcome. Our aim was to remain within a technically plausible range of LRMC estimates balanced by customer preferences. In doing so we have balanced the need to retain the efficiency of the price signal and incorporated customer preferences.

IPART has raised the need for a review of LRMC methods.<sup>59</sup> We agree and look forward to working with IPART in such a review.

**Question 28 – Should we make changes to the SDP usage charge uplift to more closely reflect the marginal costs of producing water?**

We understand that IPART is proposing that the SDP usage charge uplift is calculated as the average incremental cost (AIC) of using the SDP (equal to the incremental SDP cost divided by the SDP generated volumes), as opposed to the incremental SDP cost averaged across total water demand. While we see merit to a higher water usage charge to provide a stronger price signal to customers during times of low supply, there are conceptual and practical issues with applying IPART's proposed approach.

IPART's proposal would set the usage charge to be the sum of long run marginal cost (LRMC) and the short run production cost of the SDP. We do not consider this value has an economic rationale. This value is not the scarcity value of water,<sup>60</sup> which should reflect the opportunity cost of water use and change with changes in dam levels. We consider the usage price should reflect either LRMC (which balances price stability and efficient use over the long-term) or scarcity value of water (which focuses more on efficiency), depending on the value placed on price stability and efficiency in the short run.

IPART's proposal would have a significant price impact. We have estimated the AIC of using the SDP to be approximately 70c/kL, increasing the water usage price by 33% to \$2.83/kL. This is compared to our proposed 13c/kL usage price increase designed primarily to recover costs.

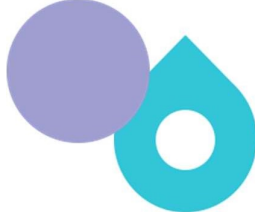

Increases in usage prices will have equity implications that increase with the size of the price increase. Since we do not have robust estimates of elasticity at a \$2.83/kL usage price level (which would result in a \$0 service charge to ensure cost recovery), accurately forecasting the demand impact of the price change is difficult. We expect that, all else equal, a 33% price change for inelastic demand is likely to result in a substantial over recovery of revenue. Reallocating this revenue to customers comes with a risk of significant winners and losers. An increase in usage charges not primarily designed to recover costs, coupled with a significant reduction in the service charge (potentially to \$0) may benefit some customers whose usage is low but disadvantage others, including tenants that only pay usage charges. A rebate scheme could be developed to

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<sup>59</sup> IPART Issues Paper, p. 90.

<sup>60</sup> When water is held in storage the SRMC will reflect the opportunity cost of not using the water in the future, which in turn will reflect the future costs of augmentation.





minimise the cost impacts; however, this would require careful consideration and would take time and to develop.

In our 12 November update we will propose recovering the costs of other drought measures in 2020–24 and outline our proposed cost recovery mechanisms. If IPART chooses to increase the usage price to recover these costs, we may see a significant increase in the usage price. Any changes to the SDP usage charge uplift should be considered in the context of other price mechanisms.

#### **Question 29 – Are Sydney Water’s proposed water service charges reasonable?**

We welcome IPART’s preliminary position to maintain the current approach to setting water service charges.

The water service charge is calculated to recover the share of the relevant revenue requirement that is not expected to be recovered via water usage charges. Therefore, assuming IPART finds our cost base to be efficient, the proposed service charges are reasonable.

We note that IPART states that all non-residential customers are charged based on their actual meter sizes.<sup>61</sup> This is not accurate. Our analysis shows that there are approximately:

- 5,000 (4%) small non-residential customers who are charged on the basis of a 20mm equivalent meter, like residential customers
- 3,000 (2%) unmetered non-residential customers<sup>62</sup>
- 30,000 (24%) non-residential customers who are without an individual meter (but having a common meter within non-residential multi premises).<sup>63</sup>

#### **Question 30 – Should we increase the deemed usage for unmetered customers, and if so, by how much?**

Our investigations in 2011 found that unmetered properties typically consume around 180kL/year. As these properties represent a declining portion of all customers and their characteristics remain largely unchanged, an increase in deemed usage is not warranted at this time.

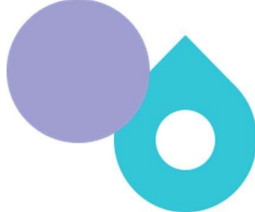

As part of our 2012 Price Proposal, we reviewed the water use for a sample of metered properties of a similar type and size. This indicated that the average quarterly water usage for residential unmetered properties is less than 50kL and similar to the average non-residential consumption. We proposed and IPART agreed to a common unmetered water charge for residential and non-residential properties that included an average quarterly consumption of 45kL or 180kL/year.

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<sup>61</sup> IPART Issues Paper, p. 87.

<sup>62</sup> These customers have a service charge that is equal to [notional consumption 180kL x usage price] + 20mm service charge, in accordance with Clause 6, Schedule 1 in Sydney Water’s 2016 Price Determination.

<sup>63</sup> These customers pay a share of common meter charges, in accordance with Clause 4, Schedule 1 in Sydney Water’s 2016 Price Determination.



The type of unmetered residential properties has remained the same. These are generally terraces in the inner city that have small front and back gardens, as well as a small number of flats/strata blocks. There has been very little change in household characteristics in these areas since we conducted our analysis. Therefore, we maintain that 180kL/year continues to be an appropriate deemed usage for unmetered properties.

Importantly, the total number of unmetered properties continues to decline. While the number of unmetered residential properties has only reduced slightly, the number of unmetered non-residential properties has significantly reduced, by over 50%.<sup>64</sup> As such, we do not consider that the administrative cost to increase the deemed usage charge is warranted at this time.

We note the majority of unmetered properties are located in built-up areas where the installation of a water meter would be high cost.

#### **Question 31 – Is Sydney Water’s proposed unfiltered water usage price reasonable?**

We agree with IPART’s preliminary position to accept our proposed unfiltered water usage price. We consider it is reasonable, as the price difference between our proposed usage prices for unfiltered and for treated water reflects the difference in treatment costs for these two products.

#### **Question 32 – Is LRMC a more appropriate basis for setting wastewater usage prices than SRMC?**

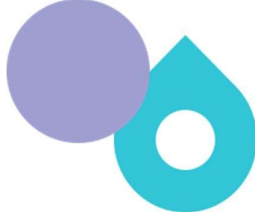

In principle we support pricing based on LRMC; however, in practice we do not consider LRMC is an appropriate basis at the present time for the reasons set out in our Price Proposal. We consider that there are fewer distortions to efficiency from setting a lower short run marginal cost (SRMC), relative to LRMC. In addition, since most wastewater use is relatively inelastic and unmetered, LRMC pricing signals will not have any practical impact on levels of consumption.

The LRMC of a wastewater service is the capital and operating cost of supplying one additional unit of the service to meet demand. Pricing in this way lets our customers make the decision if the costs of demanding more of the service outweighs the benefits, giving LRMC an efficiency role in customer choice. In contrast, SRMC is the operating cost of supplying an additional unit of demand assuming the current configuration of the network. In this way SRMC has a role in managing congestion in the existing network.

Given the large forward-looking data requirements for 27 individual wastewater systems, we do not consider estimating retail LRMC prices is possible for the 2020–24 Determination.

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<sup>64</sup> The number of unmetered residential and non-residential properties in 2012 was around 11,000 and 6,600 respectively and is currently around 10,250 and 3,120 respectively.



It is presently unclear if applying a LRMC wastewater retail price will have benefits over the current SRMC based retail price, at least until a thorough analysis is conducted and key issues as raised by IPART<sup>65</sup> are addressed by all stakeholders.

Specifically, we see that SRMC retail pricing is currently more beneficial relative to LRMC as it is:

- well understood and administratively simple
- is likely to be more stable than LRMC
- is more efficient relative to a poorly estimated LRMC.

We outline our position on these and related issues below.

In our Price Proposal we maintained a SRMC-based retail price in line with IPART's 2012 rationale.<sup>66</sup> We updated our SRMC to use improved cost drivers and allocations following our new CAM. In this regard we have estimated SRMC to be the variable costs of supplying the wastewater service which are on a per unit basis common across all wastewater systems.

In this case we see that the SRMC will be stable and never exceed LRMC. That is LRMC is estimated as the expansion costs (primarily capital) driven by user generated demand of wastewater systems. If these costs are small, SRMC will approximate LRMC.

While the water system is connected, there are 27 localised and unconnected wastewater systems with differing demand driven expansion costs resulting in LRMC estimates for each system.

Under a postage-stamp pricing arrangement, the wastewater usage charges would be averaged across the 27 networks for a single LRMC. This means a single charge will be too high for some and too small for others.

We consider the negative consequences of too-high a LRMC price are greater than one that is too-low. That is, a LRMC that is too-high will encourage potentially inefficient investments in wastewater reduction technologies & approaches, which result in stranded or under-utilised Sydney Water assets in wastewater systems which have a lower LRMC relative to the postage stamp price LRMC signal.

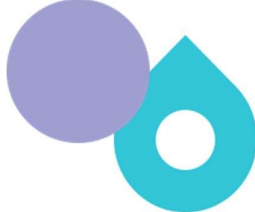

Conversely, a LRMC or SRMC that is too-low, may discourage efficient investments. The risk of under-investment can be mitigated through direct intervention by Sydney Water. Sydney Water's new Operating Licence requirement to publish servicing information on current and projected capacity constraints for each major water and wastewater system could assist privately owned utilities to identify opportunities for market entry.<sup>67</sup> Alternatively, should a wastewater system be approaching a capacity constraint, Sydney Water may directly work with large dischargers to reduce the demand on the system or may make the efficient investments to meet peak demand in our own network. This is similar to the Hawkesbury Nepean offset scheme. That is, the wastewater systems along the Hawkesbury Nepean river are facing system constraints. Sending a location

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<sup>65</sup> IPART Issues Paper, pp. 99–100.

<sup>66</sup> IPART, 2016, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater drainage and other services from 1 July 2012 to 30 June 2016. Water – Final Report*, pp. 103-104 and 120-121.

<sup>67</sup> Sydney Water Operating Licence 2019–2023, Clause 8.2.1.



based LRMC for the system would be beneficial in curbing user generated discharges and potentially avoiding costly system upgrades and higher environmental compliance costs.

However, since wastewater use is inelastic, LRMC pricing may not send strong enough price signals to motivate efficient changes in consumption. This suggests that the potential benefits of a higher (LRMC) wastewater usage charge are likely to be small.

Further, at the margin, developers are likely to be responsive to changes in price through costs to development than through charges to users for direct discharge. Therefore, locational-specific developer charges provide an appropriate mechanism to resolve this issue, controlling demand through discouraging development in locations where wastewater costs are higher. We note that an additional advantage of location specific developer charges is that the LRMC of wastewater is likely to be more strongly correlated to Equivalent Tenements (ETs) than any estimate of kL discharged. As such, in absence of direct discharge measurements, IPART's new connections charging determination, which results in a price per ET, should provide a more efficient price signal than a LRMC price based on estimated usage.

Finally, an advantage of our proposed pricing approach is that it is more consistent with prior changes. Until a more thorough review is undertaken, we are concerned that the changes in the distribution of costs amongst our customers will have significant equity impacts.

We strongly support IPART's proposal for a LRMC review to address a number of these issues.

**Question 33 – To what extent does the direct discharge of wastewater from customers affect capital costs, and how should this be taken into account in estimating the LRMC and setting the wastewater usage charge?**

Direct discharge (or customer generated discharge) of wastewater from customers on average has a minor effect on capital costs. We consider the use of LRMC based prices to be less efficient at this point in time, and not necessarily in the long run interests of consumers as outlined in response to Question 32. Estimating the LRMC of wastewater would need to consider a number of factors, such as the need to size wastewater networks to accommodate wet weather flows and wastewater costs that are unrelated to discharge volumes.

Regarding wastewater transport infrastructure, the marginal impact of direct discharge on capital costs has the potential to be very small. Our pipes are typically sized so that up to 60% of the total volume manages customer flows – the remaining 40% is primarily for wet weather flows – and is likely to vary substantially by wastewater system. Specifically:

- Pipes are sized in accordance with peak, rather than average, flows. A marginal increase in average flows may have only a small effect on peak flows. However, this will not be the case in systems where marginal contributions to average flows translates into a similar increase to peak flows.
- The marginal impact of increased volume is small because the size (and thus the cost) of pipe infrastructure increases at a lesser rate than the capacity required. For example, a doubling of the size of the pipe will more than double the capacity of a pipe.

- Where capacity is currently sufficient, an increase in the wastewater usage charge will have no impact on cost.

Regarding treatment infrastructure, the impact of direct discharge of wastewater on the capital cost of treatment infrastructure is limited. Primary treatment infrastructure is sized to manage peak volume including wet weather flows. The cost of treatment plants is mainly driven by factors such as localised environmental requirements, the type of treatment technology adopted, and catchment characteristics such as the size, density and topography of a system. Consequently, the marginal impact of discharge volumes is relatively small.

On the point of localised environmental requirements, offset schemes in the Hawkesbury Nepean will create a stronger link between the discharge by users and our costs of obtaining offsets. In general, greater wastewater discharge by customers will lead to a high cost of obtaining offsets and vice-versa. However, in some locations additional wastewater volume may be desirable for maintaining flow to the environment and consequently additional wastewater discharge will have a benefit.

The secondary and tertiary treatment stages of a wastewater plant are primarily built to manage load (wastewater content) rather than volume; however, they must still be sized to handle the additional load delivered by peak flows. Consequently, some but not all, of the capital costs for these assets should be included in estimates for the LRMC of wastewater. These complexities highlight the variability in cost outcomes that can occur across wastewater systems following an increase in wastewater discharges.

Economies of scale in provision of treatment plants are important. This is especially relevant if growth is located outside of existing catchments. Economies of scale mean that:

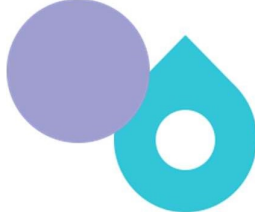
- the marginal capital cost can be smaller than average capital cost
- treatment plants often have excess capacity to accommodate growth.

Finally, where there are no foreseeable constraints that would affect capital costs, and as outlined in our response to Question 32, the marginal impact of direct discharge is simply the variable costs of pumping and treatment (the operating SRMC).

The above factors must be considered in estimating LRMC. Potentially, once the data is available, the proportions of cost to attribute to LRMC usage charges could be taken into account by estimating how capital costs would change in response to a marginal but permanent change in direct discharge. However, as discussed above, these factors may vary substantially by system and would take time to estimate.

#### **Question 34 – Is Sydney Water’s proposed wastewater usage charge reasonable?**

Based on our responses to Questions 32 and 33, we consider our proposed wastewater usage charge based on SRMC is reasonable. Applying a SRMC based usage charge usage is efficient, stable (relative to LRMC) and administratively simple and transparent, particularly in light of improvements to our SRMC calculation making use of our CAM.



The improvements to our new CAM have had the impact of improving the accuracy of cost allocations and improving efficiency, by removing from bills enduring subsidies based on the current usage charge borne by non-residential wastewater customers. Any bill assessments made relative to a usage charge of \$1.18/kL (as the current charge used in our Proposal) should take this improvement into consideration.

In this light, we acknowledge that, all else being equal, relative to the current \$1.18/kL usage charge, our proposed 61c/kL usage charge will increase residential bills by around \$16 a year for a residential customer. However, in relation to the impact on non-residential customers, we are unable to verify IPART's estimated bill reduction of approximately \$100 per year per customer due to the large degree of heterogeneity within the group. That is, there is no 'typical' non-residential customer. The majority of non-residential customers have usage profiles closer to residential customers and will likely experience the same price increase as the typical residential customer.

We consider our proposed new bills are more reflective of actual underlying costs and, as a result, are more accurate and efficient.

#### **Question 35 – Should we remove the deemed wastewater discharge allowance for non-residential customers?**

We do not support removing the discharge allowance for non-residential customers. Such a change would result in increased administrative costs and is unlikely to lead to increased efficiency for the majority of non-residential customers who have similar wastewater usage volumes and characteristics to residential customers.



The deemed wastewater discharge allowance of 150kL/year for non-residential customers reflects analysis that shows the majority of non-residential customers have similar wastewater usage characteristics to residential customers, both in terms of usage volumes and strength of effluent (load). As such, IPART's preliminary view for residential customers, is equally applicable to small non-residential customers. That is, we consider it may not be equitable or efficient to replace the deemed wastewater discharge amount with an explicit wastewater usage charge based on water usage for the majority of non-residential customers.

While we recognise that eliminating the deemed wastewater discharge allowance for all non-residential customers would result in slightly lower bills for just over half of this group of customers, implementing such a change would likely result in increased administrative costs and is unlikely to lead to increased efficiency.

We consider our proposal to include 150kL of deemed wastewater usage in the bills for non-residential customers, strikes the right balance between setting prices on a purely cost reflective basis (where practical), ensuring prices are equitable and understandable, and minimising inefficient administrative overheads.

We recognise that any inclusion of deemed usage is a deviation from a perfectly cost reflective price. However, introducing an explicit wastewater usage charge for small non-residential customers is far from perfect. A perfectly cost reflective price would signal to the customer the full cost impact of any increase or decrease in their use of a product. However, a wastewater usage





price for smaller non-residential customers, would need to be based on the customer's water use, which may or may not reflect their **wastewater** output. The only practical way these customers could then affect their wastewater usage bill would be to adjust their water use. However, such a change would result in a very small or negligible change in the cost to provide their wastewater service. This is because contaminant loads are the most/one of the most significant driver/drivers of the **variable** component of the cost to provide wastewater services. Reducing or increasing water usage does not change the total mass of contaminants which must be transported, treated and disposed of in an environmentally responsible manner.

While this is also true for larger non-residential customers with estimated wastewater use above 150kL/year, any customer charged explicitly for wastewater usage can request an assessment to determine their individual discharge factor. We support such assessments for larger customers; however, the cost of also allowing all small customers to request such individual assessments would far outweigh the benefits. More generally, there would be limited benefit influencing the consumer behaviour of relatively small non-residential customers as these customers have:

- a relatively low and homogeneous cost to serve
- limited ability to reduce the contaminant loads they need to discharge.

From a practical point of view, introducing a relatively complicated charge on the bills for another 38,000 customers would also likely result in confusion for many customers and a significant increase in customer queries and complaints.

By including 150kL of deemed wastewater usage in the bills for small non-residential customers, we are seeking to recover wastewater costs in a way that is reasonably efficient and equitable (even if not perfect) and with relatively low administrative costs.

#### Question 36 – Should we introduce explicit residential wastewater usage charges?


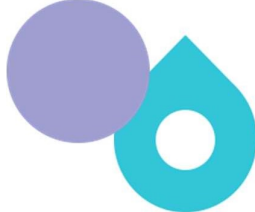
We support IPART's preliminary view that replacing the deemed wastewater discharge amount with an explicit wastewater usage charge based on water usage may not be equitable or efficient.

Including deemed usage in the residential wastewater service fee is equitable, understandable and currently strikes the right balance between minimising administrative costs and setting prices on a purely cost reflective basis (where practical).

As noted in our Price Proposal, we consider introducing explicit residential wastewater usage charges is problematic for a number of reasons:

- An explicit wastewater usage charge would likely need to be estimated by applying an average residential discharge factor to each customer's actual water use. It would therefore act as a pseudo-water usage charge. The only way a customer could affect their wastewater usage bill would be to adjust their water use. If the water usage price has been set to be reasonably efficient, then adding a further explicit wastewater usage charge would consequently result in sub-optimal water consumption.



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- Residential wastewater is not metered and it would currently be prohibitively costly to do so. This prevents direct wastewater usage charges as means of incentivising consumer behaviour.
  - A customer's actual discharge factor is often very different from the average discharge factor. In particular, where customers have installed rainwater tanks, or in houses with large gardens. Household wastewater usage is likely to be more strongly correlated to household composition than water usage.
  - Introducing an explicit wastewater usage charge for residential customers may need to be accompanied by an avenue for customers to dispute the estimated usage and establish an individual discharge factor, similar to the arrangements we have for non-residential customers. The costs of such arrangements would likely well exceed their benefits.

As for small non-residential customers, introducing a relatively complicated charge on the bills for 1.8 million residential customers would likely see considerable confusion and a significant increase in customer queries and complaints.

#### **Question 37 – Should we use difference discharge allowances for houses and apartments when setting wastewater service charges?**

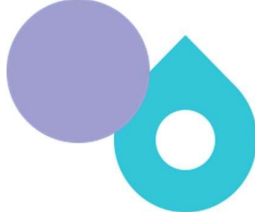
We consider using a single discharge allowance of 150kL/year for houses and apartments remains appropriate. This represents the typical discharge from residential customers, based on analysis of wastewater flows.

When compared with average water usage by houses (220kL/year) and by apartments (160kL/year), 150kL/year equates to discharge factors of 68% and 94% respectively. Assuming a lower discharge factor for houses reflects their greater outdoor use, on average, due mainly to gardens. Greater water use by apartments in Sydney when compared with the Central Coast or other areas may be due to greater density generally (more occupants in each apartment), and higher incomes.

#### **Question 38 – Should we remove the discharge factor applying to wastewater service charges?**

Applying discharge factors to the wastewater service charge provides a reasonable method to estimate customers' relative draw on the capacity of the wastewater system.

We recognise that discharge factor multiplied by the water meter size may not be a perfect indicator of each customer's relative draw on system capacity; however, it is likely a better approximation than using water meter size on its own. In lieu of better information, we consider it appropriate to keep applying the discharge factor to the wastewater service charge. There is insufficient evidence to justify the change in charges and resulting pricing impacts across customers.



**Question 39 – Are Sydney Water’s proposed stormwater prices reasonable? Is the current constrained area-based charging method appropriate?**

We consider the proposed stormwater prices are reasonable, and that constrained area-based charging remains appropriate.

Property size is a factor in demand for stormwater services, but it is far from the sole determinant. There are many drivers for stormwater costs including slope, proportion of impervious area, land use, soil type, on-site retention and reuse. This means that properties of the same size might contribute quite differently to the cost to provide their stormwater service.

In the past IPART agreed with Sydney Water that adopting a charging system based purely on property size would be difficult to justify. That is, IPART recognised that the costs of implementing the complex administrative system to support land area-based charging could be significant compared to stormwater revenue.<sup>68</sup> As a result, IPART applied the constrained banded area-based charging approach in the 2012 and 2016 retail price determinations.

Moving to a purely area-based charge would result in significant price changes for all customer groups. The greatest bill impact would be for properties in the very large and largest property categories, with an increase of 88% and 221% respectively.<sup>69</sup>

**Question 40 – Is it reasonable for IPART to defer setting prices for Sydney Water’s recycled schemes over the 2020 determination period?**

We welcome IPART’s preliminary position to defer setting prices for our recycled water schemes for 2020–24.

Deferring the setting of prices for recycled water services aligns with IPART’s recycled water pricing framework. As noted by IPART in its Issues Paper, we intend to maintain our recycled water usage prices at 90% of the potable water price.<sup>70</sup> This is consistent with IPART’s recently updated pricing principles for recycled water.

Over the coming years, we expect we will need to increase recycling to meet the needs of the growing population in our cities. We are investigating several large-scale integrated water solutions that include a recycled water component. These schemes have the potential to benefit our customers and the community through the economic opportunities and benefits they create. In this context, IPART’s efforts to simplify the recycled water pricing framework are timely and sensible.

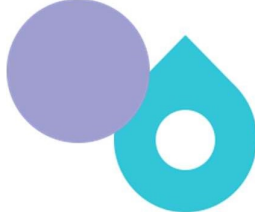

The price structure for our recycled water schemes is currently sending an appropriate, economically efficient signal to the customers in our five recycled water areas. Maintaining recycled water usage prices at 90% of the treated water price is striking the right balance between encouraging customers to use recycled water in preference to treated water, without incentivising

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<sup>68</sup> IPART, *Review of Prices for Sydney Water Corporation from 1 July 2012 - Water - Issues Paper*, June 2011, p. 51.

<sup>69</sup> Sydney Water Price Proposal 2020–24, Attachment 4: Proposed prices, p. 34.

<sup>70</sup> IPART Issues Paper, p. 107.



over-use. This will benefit all water users in the longer term as it minimises dependence on climate dependent supplies.

Although we are not proposing a change to the way we price services at our recycled water schemes now, we agree that, in certain circumstances, it may be appropriate to have both a fixed and usage charge for recycled water. For example, a fixed charge may be particularly useful for schemes where encouraging higher use may enable lower storage costs. We agree with IPART that any future introduction of a fixed charge is best left for utilities to decide after considering customer impacts and willingness to-pay, and where it would not act as a material incentive for customers to disconnect from the recycled water scheme.

#### **Question 41 – Are Sydney Water’s proposed trade waste prices in Appendix G reasonable?**

Our trade waste pollutant and cost allocation models have recently been reviewed in accordance with IPART’s pricing principles. The changes made to these models are reflected in our proposed trade waste prices for 2020–24.

We have recently reviewed and rebuilt our trade waste pollutant model to simplify and improve traceability and clarity.<sup>71</sup> We have reviewed our cost allocation methodology and have changed some of the costs that are allocated to our trade waste services. These reviews revealed that our cost to provide trade waste services is lower than previously estimated. This is why we have proposed lower industrial and commercial pollutant charges.

As a result of the cost allocation review, we have excluded from trade waste services some costs that we found were not directly attributable to trade waste services. For example, wastewater sampling and testing is required for general wastewater service testing only, as sampling and testing is carried out and charged separately for trade waste customers. Other costs have increased. For example, our proposed annual trade waste fee for industrial customers has increased to ensure recovery of efficient corporate costs and increased input costs. We have also proposed a change in how we charge for non-compliance for Wastesafe customers (see our response to Question 42).

Since our Price Proposal, we have continued to undertake further quality assurance checks of our models. A small number of further refinements and optimisations have been discovered which IPART may wish to consider when setting our trade waste pollutant prices. For example, we now consider there is evidence to support further minor adjustments to both industrial and commercial charges (ranging from one to fifteen cents), and a decrease in the commercial pollutant charge for equipment to \$2.879/kL (compared to \$4.148/kL in our Proposal).

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<sup>71</sup> Sydney Water Price Proposal 2020–24, Appendix 4A, Schedule 6: Trade waste services.

### **Question 42 – Are Sydney Water’s proposed changes to how it manages non-compliant Wastesafe customers appropriate?**

We consider our proposed change to how we manage non-compliant Wastesafe customers is appropriate. We propose to remove the charge for a Missed service (pump out) inspection and replace with higher charges for discharge from non-compliant waste traps. Under our proposal, all pollutants would be charged at the same \$/kg rate for both commercial and industrial customers for all discharges from non-compliant waste traps.

The existing charge for a missed service only recovers the cost of assessing the waste trap (administration and site visits) and not the additional costs of treatment of the increased pollutant load. As a result, we are currently under recovering the treatment costs from non-compliant grease traps as these traps discharge higher pollutant loads into the wastewater system.

Our proposed revised charges reflect the additional pollutant loads (quality and quantity) being discharged to the sewer, and the higher treatment costs we are incurring. This includes an increase in the charge for low strength and higher strength BOD food processes, from the current charge of \$2.473/kL and \$4.063/kL respectively to \$13.283/kL in 2020–21.

There may be a number of reasons why a liquid waste trap has missed a service. For example, a premise may have been closed for period when grease trap service was due, or there could be a change in ownership and/or operation, or even a fire at the premises. Therefore, we would carry out a number of steps before charging the higher charges to attempt to understand the reason for the missed service. This may include a desktop evaluation, contacting the customer and/or making a site visit. Our primary objective is to have the grease trap serviced, and if this can be negotiated with the customer without higher charges being applied that is our preferred outcome. Applying the higher charges would be the last step in the process. We anticipate that only a small percentage of missed services will have higher charges applied and charged.

Under our proposal, some customers who have continued non-compliance may see a significant increase in their bills; however, most customers should see a bill decrease. We consider our proposal strikes the right balance between incentivising compliance (to minimise cost to serve) while allowing flexibility to work around exceptional circumstances.

### **Question 43 – Are Sydney Water’s proposed miscellaneous and ancillary services prices in Appendix H reasonable?**

We consider our proposed prices for miscellaneous and ancillary services are reasonable and reflect the outcome of a detailed review of most ancillary services prices.

We conducted a detailed review of 15 ancillary services that included 21 prices. These services accounted for around 92% of all ancillary and miscellaneous customer services transactions. We have proposed revised prices in line with cost-reflective pricing principles. Under our proposal there would be:

- a reduction in 13 ancillary service prices due to changes in contractor costs and efficiencies from our online customer service portal

- an increase in eight ancillary service prices due to an increase in meter contract costs and changes in the overall business and operating environment.

We propose to introduce a new ancillary charge to recover the cost of carrying out an annual test of backflow prevention devices (where a property owner has not done so themselves).

Our proposed prices (those reviewed and those services where we maintained the same price level) also include a small increase of 1.4% each year due to the reallocation of corporate costs.

#### **Question 44 – Are Sydney Water’s proposed reductions in the Rouse Hill drainage charges reasonable?**

We consider the proposed reductions in the Rouse Hill drainage charge to be reasonable.

We have proposed to reduce the Rouse Hill stormwater drainage charge from \$151 per year in 2019–20 to \$114 per year in 2023–24. This is because the operating deficit that IPART has allowed us to recover since 1993 is diminishing. From 2023–24, this deficit is expected to fully diminish, and our forward proposed prices are set to recover the ongoing operating costs only.

We have proposed to reduce the Rouse Hill land charge by 14% from \$392 per year in 2019–20 to \$336 per year from 2020–21. This decrease is because we anticipate there will be significant property growth over the next determination period (so the total costs can be shared by more properties).

#### **Question 45 – Are Sydney Water’s proposed late and declined payment fees reasonable?**

We consider our proposed prices for late and declined payments fees to be reasonable. These fees are based on the costs incurred by Sydney Water.

We conducted a detailed review of these prices during the 2016 price review to ensure our fees accurately reflect the additional costs we incur as a result of overdue accounts or declined payments. For 2020–24, our proposed fees include a small increase due to the continued phasing in of the allocation of corporate costs of 1.4% (cumulative) each year.

We have proposed a late payment and a dishonored and declined payment fee of \$4.81 and \$14.46 (\$2019–20) respectively. Our late payment fees continue to be lower than other service providers such as gas, electricity and telecommunications providers. Our dishonored and declined payment fee is well within the range of fees charged by other service providers.

More detail on our late and declined payment fees, including a comparison with other service providers, is provided in our Price Proposal.<sup>72</sup>

<sup>72</sup> Sydney Water Price Proposal 2020–24, Appendix 4B: Prices for section 12A review.

**Question 46 – Do you have any comments about Sydney Water’s Developer Direct application and construction services in terms of price and service?**

Our position on price and service for application and construction services is set out in our Price Proposal.

Further detail on our position on Developer Director prices can be found in Attachment 7 of our Price Proposal.<sup>73</sup>

**Question 47 – Should the construction services provided by Sydney Water Developer Direct be price regulated, or is price monitoring by IPART more appropriate?**

We consider the prices for the bundled Sydney Water Developer Direct service should be monitored. Construction services are a part of this bundle.

Our preference is for a confidential reporting regime to IPART as part of the Annual Information Return (AIR). We consider this information ought to include a high level, single year imputation (margin squeeze or predatory pricing) test based on the equally efficient cost standard as reported by Sydney Water, along with other relevant market information necessary to appropriately monitor the relevant market, for example, complaints, Net Promoter Scores (NPS), etc.

In our view, the reporting regime should include relevant non-price terms and conditions and changes to these non-price terms and conditions required of Developer Direct customers and Water Servicing Coordinators.

We propose to work with IPART and industry to develop such a reporting regime, should IPART consider this path to be appropriate.

**Question 48 – If we were to regulate the price of construction services provided by Sydney Water Developer Direct, how should these prices be determined?**

Our preference for the use of an imputation test to set prices broadly on the bundled Sydney Water Developer Direct services (of which construction services are an element) is outlined in our Price Proposal and our detailed response to Question 47. This should ensure that efficient competitors are able to remain in the market by offering customers improved services for sharper prices.

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<sup>73</sup> Sydney Water Price Proposal 2020–24, Attachment 7: Regulatory framework and application, Section 3.2, pp. 19-25.

## 8 Form of regulation

As noted in Section 1.2, we plan to submit an update to IPART on 12 November 2019 on activities we expect to undertake in 2020–24 to address drought and increase system resilience. This update will include our proposed methods of cost recovery.

### 8.1 Responses to Issues Paper questions

#### **Question 49 – How long should we set prices for in the 2020 determination?**

We support IPART’s preliminary position to retain a four-year price determination.

#### **Question 50 – Should the length of Hunter Water’s determination period factor into our consideration for Sydney Water’s determination period?**

The factors that affect the length of Hunter Water’s price determination are not relevant to the length of Sydney Water’s determination. The utilities are independent with independently run price reviews. We see no clear administrative savings in aligning determination periods.

#### **Question 51 – Do you support a price cap as an appropriate form of price control for Sydney Water?**

We are not proposing a change to the form of regulation in this determination. As a result, we support retaining maximum prices for both water and wastewater usage and fixed charges.

We consider setting maximum prices for water and wastewater to be the most efficient form of regulation when the water supply is scarce. While a price cap exposes us to revenue and cost risk, IPART’s water demand volatility and pass throughs mitigate this to an extent.

Part 14A(i) of the IPART Act allows IPART discretion in setting a methodology to determine prices which have regard to demand management. It may also be necessary for IPART to consider the role of short run water prices as dam levels change. Short run water prices benefit both us and our customers. This is because short run pricing may defer expensive water restrictions and postpone costly water supply capital augmentations.



**Question 52 – Do you support maintaining the option of unregulated pricing agreements between Sydney Water and large customers?**

We support IPART's preliminary position of maintaining unregulated pricing agreements.<sup>74</sup> We consider there to be potential benefits for our customers, at negligible administrative cost to Sydney Water, from maintaining the availability of such arrangements.

**Question 53 – Are there any barriers to the uptake of unregulated pricing agreements? Can the framework be changed to encourage greater uptake without disadvantaging other customers?**

The potential for a future Tribunal to remove the option of unregulated pricing agreements and the possible stranding of investments with a cost recovery period greater than the determination period for large customers is a barrier to the uptake of unregulated pricing agreements.

In principle we see two potential ways to address these barriers:

- we could consider seeking approval from the NSW Treasurer to set prices for unregulated agreements, which are not equal to the maximum prices set by IPART, for the tenure of any mutual commercial agreement
- a price formula may be considered for unregulated agreements.

We note that the above approaches would apply where an unregulated agreement exists before the commencement of a future determination in which the Tribunal makes the decision to remove the choice of future unregulated agreements. They would only apply for the remaining tenure established in any commercial agreement.

These proposed solutions may help address the stranding risk and help facilitate efficient take-up of the agreements. Further, given take-up will not occur unless there is a mutual benefit for all parties, coupled with the requirement for us to ring-fence the agreements, the proposed approaches are likely to be efficient and without any cross-subsidies.

However, these proposed solutions are likely to be administratively costly, which may mean the regulatory requirements are prohibiting a more economically efficient outcome for customers.

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<sup>74</sup> Sydney Water Price Proposal 2020–24, Attachment 7: Regulatory framework and application, Section 2.5, p. 8.

## Question 54 – How should we share Sydney Water’s non-regulated revenue with customers?

We support IPART’s proposed approach to maintain non-regulated revenue sharing for Biobanking at 10%. This balances administrative simplicity and incentives for Sydney Water.

We do not support IPART’s preliminary position to retain a 50:50 revenue sharing rule for rental income. This is inconsistent with economic and regulatory principles that aim to make customers no worse-off from Sydney Water’s engagement in unregulated activities.

We note that our Biobanking proposal was for incremental costs to be deducted on a case-by-case basis and not a 10% rule of thumb. However, we adopted IPART’s proposed 10% rule, based on grounds of balancing administrative simplicity and the need to provide an appropriate incentive to utilities to engage in unregulated activities.

We do not support IPART’s preliminary position for rental income. We consider that this position is fundamentally inconsistent with the economic principles underlying its 2008 decision and subsequent regulatory evolutions in its Asset Disposals<sup>75</sup> and Biobanking<sup>76</sup> policies.

In 2008, IPART’s 50:50 position of sharing rental revenue between us and our customers was based on the premise that customers should be made no worse-off by our use of a regulated asset paid for by our customers, to generate unregulated revenues, while maintaining an appropriate incentive for us to pursue efficient non-regulated revenue opportunities. As no specific reasoning was given for the 50:50 split, we assume the split was simply an innocuous choice made in the absence of any knowledge of the regulatory costs paid for by customers.

We agree with this basic principle — customers should be no worse off from Sydney Water pursuing productive use of regulated assets. This entails that customers are fully compensated for the costs associated with the provision of non-regulated services or from the sale of surplus assets. On the other hand, further compensation would inappropriately compensate customers as if they were asset owners. Customers should not be compensated for ownership, since we bear the risk associated with ownership.

Sharing 50% of non-regulated revenue means we are not incentivised to pursue efficient non-regulated opportunities where costs incurred may approach or exceed 50% of non-regulated revenue. We have identified a number of small opportunities for non-regulated revenue where costs could approach 50% of revenue.

We have outlined what we consider to be the relevant principles that should be followed when addressing non-regulated income and surplus assets in our positions proposed to IPART for reviews of Asset disposals (specifically surplus land)<sup>77</sup> and Biobanking.<sup>78</sup>

<sup>75</sup> IPART, *Asset Disposal Policy* paper, February 2018.

<sup>76</sup> IPART, Letter re Proposed Regulatory Treatment of Biodiversity Offset Scheme, 16 May 2018.

<sup>77</sup> Sydney Water submission to IPART’s Issues Paper on Asset disposal policy consultation, November 2017.

<sup>78</sup> Sydney Water, Proposed Regulatory Treatment of Participation in the Biodiversity Offset Scheme, 26 March 2018.



Broadly, these principles were:

- customers should be made no worse-off by the generation of non-regulated revenues
- for customers to be made no worse-off, they should be compensated equal to the incremental costs of providing the non-regulated service using the regulated assets (assets paid for by customers through prices)
- these incremental costs include a payment to customers for a return of assets (depreciation, if the asset depreciates), a return on assets (WACC x regulatory asset value), plus an appropriate allocation of opex
- so long as customers are fully compensated for any incremental costs (or quality of the regulated service does not decline as a result of the non-regulated service), customers bear no risk associated with the non-regulated service, and they should not share in non-regulated revenues. We note this principle aligns with the concept of customers having no claim to profits from the sale of surplus land. Rather, their compensation reflects their use-value of the asset, not the value of asset ownership. As a result, their compensation is limited to the regulatory value of the asset, with the market value of the asset having no relevance.

Contrary to what IPART suggests, the level of risk associated with a non-regulated project is not relevant to the compensation of customers if the above principles are followed. The application of these principles would ensure customers are no worse off, while incentivising us to pursue efficient opportunities up to the point where the net financial benefit is zero (that is, where revenue equals cost).

We consider that applying a sharing ratio to total incremental revenue is a poor efficiency incentive. Under this approach, we bear all the risk if incremental costs are more than incremental revenue. Further, the compensation to customers is not linked to the costs of the non-regulated services. This limits the incentive for us to maximise the use of and profit from these assets.

With regards to non-regulated rental income generated from regulated assets, for customers to be made no worse off they ought to be compensated for the following incremental costs:

- $WACC \times \text{proportion of total regulated area of land upon which a rented asset sits} \times RAB \text{ land asset value}$ . We proposed with Biobanking an additional 10% sharing of post-tax profits (on grounds of administrative simplicity) with customers as potential compensation for underwriting the use of shared regulated assets, which IPART did not accept
- no depreciation compensation as land does not depreciate
- no opex compensation as we are not tasked with maintaining the rented assets.

**Question 55 – Should we continue to apply an efficiency carryover mechanism (ECM) to Sydney Water’s operating expenditure?**

We support IPART’s preliminary view to retain an efficiency carryover mechanism (ECM) for 2020–24. While we have not delivered qualifying savings in this period, this mechanism helps underpin and support our commitment to drive efficiency in our operations in the next period.

**Question 56 – If we implement a cost pass-through mechanism for drought related costs in the concurrent WaterNSW price review, should we include a subsequent cost pass-through mechanism for Sydney Water to pass through costs to customers?**

In principle we support a cost pass-through mechanism for Sydney Water, should a cost pass-through mechanism be adopted for WaterNSW.

We have some concerns with WaterNSW’s proposed contingent project mechanisms and associated project risks. WaterNSW’s proposed mechanisms may inefficiently require Sydney Water and our customers to bear risks that are more appropriate for WaterNSW to bear.

We provide more detail in our response to IPART’s Issues Paper for the WaterNSW price review.

**Question 57 – Do you agree that we should maintain the current cost pass-through for SDP related bulk water costs and Shoalhaven transfer costs?**

We support IPART’s preliminary position to retain the current SDP and Shoalhaven transfer cost pass-through mechanisms.

We note WaterNSW’s proposal to update the transfer formula to more accurately reflect elements of WaterNSW’s actual energy contract. We support IPART’s preliminary position that these adjustments should be made if these aspects of the contract are efficient.

We provide more detail in our response to IPART’s Issues Paper for the WaterNSW price review.

