

# Sydney Water's response to IPART's Wholesale Pricing Draft Report and Determination

**IPART's review of prices for wholesale water  
and sewerage services**

**7 December 2016**

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## Executive summary

Sydney Water welcomes the opportunity to respond to the Independent Pricing and Regulatory Tribunal's (IPART's) *Prices for wholesale water and sewerage services – Draft Report* (the Draft Report) and *Draft Determination* (the Draft Determination).

Wholesale prices determined by IPART will apply to services we provide to new entrants in the urban water market. These new entrants – who provide water and wastewater services to their own end-use customers – are licensed under the *Water Industry Competition Act 2006* (the WIC Act).

### Sydney Water's key positions

Our response to IPART's Draft Determination and Report covers the following key points:

- Competition is positive for the community as a whole, where it adds value by increasing efficiency and provides incentives to raise service standards and/or lower prices.
- Where competition raises costs to remaining customers of the incumbent (in this case, the public utility), that needs to be explicitly recognised and those costs allowed to be recovered.
- A retail minus pricing approach for all wholesale services is sensible, given the postage stamp pricing context in which IPART is setting wholesale prices.
- We accept that competition has the potential to produce dynamic efficiency gains over time, but this may be limited by a number of other factors within the urban water market.
- A retail minus reasonably efficient competitor (REC) approach will likely lead to negative impacts on our customers through increased bills.
- Our preference would be to use a retail minus equally efficient competitor (EEC) approach, which would not have negative impacts on our customers.
- If IPART uses a retail minus REC approach, we need an up-front commitment for how we would recover any resulting revenue shortfall.
- Recycled water can provide significant benefits, both localised and to the broader community. Operational and infrastructure savings for water and wastewater provision will differ in type and size depending on the type and location of the recycled water plant.
- Using non-residential prices for wholesale wastewater services provided to WIC Act schemes that also include a recycled water plant is not appropriate where the wholesale customer is also relying on this service to provide wastewater services to its end-use customers. This is our strongest concern with the Draft Determination and Report.
- Using non-residential prices will result in wastewater customers of public utilities cross-subsidising all recycled water plants in WIC Act schemes. Currently, public utilities can only do this to the extent the particular scheme results in demonstrated avoided costs to the water and wastewater network, or the Government decides that a scheme is of such benefit it should be funded by all customers (through a Government Direction).

- Benefits from a recycled water plant under a retail minus pricing approach could be accommodated by a facilitation saving. For a system-wide price, this could include a schedule of deductions for operational savings to the public utility, and any other system-wide deduction that IPART considers appropriate.
- A broader industry review could clarify the Government's objectives for competition, and consider the value and benefits of integrated water cycle management.
- There are a number of significant implementation issues that need to be addressed. We request IPART provide another opportunity for review before the Determination is adopted.
- If IPART makes any significant departures from its draft decisions, we would support a further round of consultation with stakeholders. It is important to get the fundamental pricing approach right in this first determination.

## Establishing the priorities for the urban water market

Sydney Water has always supported competition in the NSW urban water market, to the extent it promotes efficiency, lowers prices or adds value for our customers. This is consistent with IPART's stated objectives for this wholesale price review – to allow new entry into the market for end-use water and wastewater services to occur where this is efficient, for the long-term benefit of consumers.

IPART's proposed pricing approaches are justified by an assumption that the dynamic efficiency gains that would be achieved by wholesale prices that encourage new entry would outweigh any costs to the public utility and/or negative bill impacts on retail customers. We are not convinced that the Draft Report effectively makes this case.

We strongly support the industry moving towards efficient integrated water servicing solutions, including recycling. Recycled water servicing solutions can provide significant benefits to customers and the environment. Where these benefits arise from new wholesale schemes connected to our network, we are happy for this to be reflected in the wholesale wastewater price we charge these parties. A heavily discounted system-wide price suggests that IPART believes that lower costs to the public utility and/or significant benefits arise in all cases. However, this has not been demonstrated by IPART (for example, through independent engineering advice).

In addition, it is important that there is a level playing field for public and private utilities for how they can fund recycled water services. Currently, public utilities are required to ring-fence recycled water costs and cannot cross-subsidise services.

A number of stakeholders throughout this review and others have called for a whole-of-industry review. While the decision to commission such a review is ultimately a matter for Government, given the number of issues being raised, and the interactions between them, it may be timely to examine the Government's objectives for the NSW urban water market and the policy settings needed to support them.

In particular, integrated water cycle management is emerging as a key pillar of servicing growth, especially in a nutrient constrained environment. We would be keen to participate in a review that investigated the best way to enable all players to deliver such solutions.

We do not consider that this means IPART should defer the current review of wholesale prices. We acknowledge that IPART has always had to make pricing decisions based on the existing legislative, regulatory and policy context. However, we believe that the volume of calls for a broader review does point towards a shorter determination period for this first review.

We believe IPART should re-consider its draft decisions relating to pricing for WIC Act schemes with recycled water plants. Given the emerging importance of recycling and integrated water cycle management, to maximise the benefits for the growing city, it is critical that all players, public and private, are able to contribute on an equal footing.

## **Sydney Water's response to IPART's draft pricing approaches**

IPART has identified four wholesale services and proposed different pricing approaches:

1. the on-selling of water services (provided by an incumbent) by a WIC Act licensee to end-use customers – a retail minus approach
2. the on-selling of wastewater services (provided by an incumbent) by a WIC Act licensee to end-use customers – a retail minus approach
3. the provision of drinking water top-up to a WIC Act licensee's recycled water plant by a public utility – a non-residential pricing approach
4. the disposal of waste from a recycled water plant by a WIC Act licensee to public utility's wastewater network – a non-residential pricing approach.

We support a retail minus pricing approach for all wholesale services, as in our view, they all involve the on-selling of a water or wastewater service. As recognised by IPART, retail minus is the only way to maintain the Government policy position of postage stamp pricing, and allow an incumbent public utility and a WIC Act licensee to compete on equal terms (at least under current price structures, which do not include a separate capacity charge).

Under IPART's proposed retail minus approach, the price for the wholesale service is set at the retail price less the costs of providing water or wastewater services from the wholesale connection point to the end-user (for system-wide prices, this includes a deduction for retail and local reticulation services that are provided by the WIC Act licensee). This provides an appropriate reduction from the retail price and reflects the parts of the service the wholesale customer is providing.

In principle, our preference is to use a minus cost standard based on an 'equally efficient competitor', as this would promote efficient new entry and avoid the need for the incumbent or its customers to subsidise WIC Act licensees. We acknowledge that higher wholesale prices may result from the EEC approach. However, using the REC approach does not incentivise new entrants to only enter the market where they are at least or more efficient than the incumbent. Indeed, an approach that allows new entrants' costs to rise to that of REC could create a perverse incentive of driving costs up, not down.<sup>1</sup>

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<sup>1</sup> If a REC approach is adopted, the methodology IPART proposes to use appears reasonable and internally consistent. We have suggested some minor amendments in this submission.

In our view the provision of drinking water top-up by a public utility is not a wholesale service. However, we agree that applying non-residential pricing for this service is appropriate, as it generally reflects the costs and capacity in our network required to provide the service.

This not the case for recycled water waste disposal. Where the wholesale customer is relying on the public utility to provide core components of the wastewater service at all times (and a full wastewater back-up service during low recycled water demand or emergency), this is still on-selling. We do not support the use of non-residential prices in this instance.

A WIC Act licensee who is connected to our wastewater network should pay an appropriate contribution to the costs we incur to provide the service it is relying on. These costs do not necessarily change significantly if the wholesale scheme includes a recycled water plant.

We acknowledge that the provision of recycled water could provide benefits to us in terms of lower costs. However, these will vary according to the location of the plant. A schedule of facilitation savings could be used in a retail minus pricing approach to capture these types of operational benefits in a system-wide price. Alternatively, IPART could set scheme-specific prices for schemes with a recycled water plant. Due to the nature of entry allowed under the WIC Act, this would likely mean a scheme-specific review for every scheme. Broader benefits, such as potential deferral of system augmentation, would always need to be considered on a scheme-specific basis, at least until more experience and data is available to determine appropriate system-wide deductions.

## **Impact of IPART's draft decisions on Sydney Water and its customers**

The NSW regulatory framework is based on the concept of a regulated business having a reasonable opportunity to recover the efficient costs of service provision. However, under the Draft Determination and Report, we now face a risk that we cannot recover the difference between our avoidable costs and the REC cost benchmark. This is not consistent with regulatory precedent or best practice. We would like a clear statement from IPART that a revenue recovery mechanism is necessary to support the type of competitive market it is seeking to support. IPART should also provide a transparent method for recovering the costs of the subsidy we would provide to WIC Act licensees.

Where IPART determines a wholesale price based on non-residential prices, this will have a bill impact for the remaining retail customers of Sydney Water. Our prices are set to recover the efficient costs of providing both wholesale and retail services. The lower the wholesale prices paid by WIC Act licensees and the less wholesale revenue we expect to recover from them, the higher the retail prices we have to charge our remaining retail customers.

Using the examples in the Draft Report, our customers could be funding WIC Act schemes by up to \$5.1 million each year (for a large greenfield scheme). Depending on scheme type, the bill impact on each of Sydney Water retail customers will range from \$0.50 (for a smaller scheme servicing 2,000 customers) to \$2.70 per year (for a larger scheme of 10,000).

This bill impact will be ongoing and cumulative, growing as more schemes enter. For example, if WIC Act licensees were to service 100,000 customers (which could occur in 10 to 15 years), assuming all schemes involved wholesale water and wastewater services and a recycled water plant, the yearly bill impact of IPART's proposed prices would be at least \$20 per retail customer.

The impact will be higher if additional functions (as well as retail and local reticulation) were provided by the WIC Act licensee. We have a fundamental concern with this approach.

If IPART maintains its draft decision to apply non-residential prices for recycled water plant waste disposal, the wholesale price for this wastewater service could be up to around 90 per cent lower than retail minus EEC costs, and up to 85 per cent lower than a wholesale price based on retail minus REC costs. We are concerned about the impact this has on our retail customers. Unlike a REC approach (which, over time, will transition to EEC), there is no opportunity for the impact from non-residential prices to lessen over time. Also, as stated previously, non-residential prices do not include an appropriate contribution to the wastewater network capacity costs we are incurring on behalf of WIC Act licensees.

## Length of determination

This is a new area of regulation for IPART and the industry. Currently, there are a limited number of WIC Act licensees purchasing wholesale services from Sydney Water (particularly on-selling services). We also have limited experience in wholesale services involving recycled water plant operation. This is one of the reasons we strongly support a medium-term period for this initial determination. This will allow for an assessment of whether the regulatory approach is meeting its objectives. We would be concerned by a longer determination length than IPART's draft decision.

## Implementation issues

As it currently stands, IPART's Draft Determination raises a number of technical and implementation issues and would be challenging to apply. We would appreciate IPART providing some worked examples of how prices would be applied in the Final Report. A number of participants requested this at the November 2016 public hearing.

In particular, we are concerned that:

- The definition of on-supplying may:
  - not capture all potential servicing arrangements
  - capture some unintended scenarios.
- There is a lack of clarity about how to apply non-residential prices to wholesales schemes, especially where the public utility is the drinking water service provider. In particular, what water meter or meters should be used as the starting point for the calculation of the non-residential wastewater price?
- There are a number of definitional and operational issues associated with the concept of "bypass". While reasonable in theory, we are unclear how this would be applied in practice, especially when recycled water plants are simultaneously operating and in bypass.

We request that IPART provide further clarification on these issues in the Final Determination and Report. Additionally, due to the number of significant implementation issues that need to be resolved, we request that IPART provide all stakeholders with a further opportunity to review the Determination before it is adopted as final. This should include a sufficient period of time for consideration and comment.

## Need for further review

Due to the number of significant implementation issues that need to be resolved, we request that IPART provide all stakeholders with a further opportunity to review the Determination before it is adopted as final. This should include a sufficient period of time for consideration and comment.

In addition, we agree with the view raised at the recent public hearing that if IPART decides to depart from its draft decisions in a significant way, that there should be further consultation with stakeholders.<sup>2</sup> It is important to take the time necessary to get the fundamental pricing approach and structure right for this first determination, rather than adopt sub-optimal outcomes.

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<sup>2</sup> Transcript of public hearing – 28 November 2016, page 67

# 1 Introduction

## 1.1 Overview

This submission outlines Sydney Water's views in relation to the Independent Pricing and Regulatory Tribunal's (IPART's) *Prices for wholesale water and sewerage services – Draft Report* (the Draft Report) issued on 1 November 2016 along with the *Draft Determination* (the Draft Determination). Our positions are primarily influenced by the potential impact the Draft Determination would have on our customers.

We have also made our best effort to assess IPART's approach from a practical perspective. Where possible, we suggest an alternative approach to address potential gaps or challenges.

Sydney Water's position on each of IPART's draft decisions (noted by bold) is outlined below

### Definition of wholesale services

1. **For the purposes of this review, we have decided a wholesale service is: (a) a service purchased from Sydney Water or Hunter Water by a customer; (b) that is used by that customer to potentially compete with the relevant utility (ie, Sydney Water or Hunter Water) for end-use customers; and (c) that has the following characteristics:**
  - **The service purchased by the wholesale customer is a monopoly service.**
  - **The service purchased by the wholesale customer is used to provide its end-use customers with the same service or a close substitute to one provided by Sydney Water or Hunter Water (the wholesale service provider). In effect, this means wholesale services:**
    - a. **are limited to those used to supply end-use customers with services that Sydney Water or Hunter Water could provide within the limits of their operating licences**
    - b. **can include some transformed services (eg, a wholesale drinking water service to top up a recycled water scheme to provide recycled water).**
  - **The service purchased by the wholesale customer is used (by the wholesale customer or another party that it supplies) to supply end-use customers under a retail supplier's licence under the WIC Act.**

Noted. We generally agree, apart from our concerns raised with the concept of 'transformed services'. Our preference is for wholesale prices to only be set for on-selling. See Section 3.1 and 5.2.

### Approach to implementing wholesale prices for this review

2. **We have decided to adopt a determination period of four years and four months, from 1 March 2017 to 30 June 2021 for the system-wide determinations.**

Noted. We support a period of no longer than four years as it will allow all parties to assess how the determination has worked in practice and make changes in approach as needed. A four-year determination period also allows scope for a potential broader review of the market, without entrenching regulations for the longer term. See Section 4.2.

**3. We have decided the system-wide wholesale price determinations would only apply to new wholesale services (or ‘schemes’).**

Supported. It is appropriate for existing arrangements to not be captured. See Section 4.1.

#### Pricing approach for on-selling drinking water and sewerage services

**4. We have decided to use a retail minus approach to set prices for the wholesale supply of drinking water and sewerage services for the purpose of on-selling to end-use customers.**

Supported. This is the only appropriate pricing approach for on-selling of services within a postage stamp pricing environment and without changing the structure of retail and wholesale markets. See Section 4.3.

**5. We have decided to use the reasonably efficient competitor cost as the minus component in retail minus prices for the wholesale supply of drinking water and sewerage services for the purpose of on-selling to end-users.**

Our preference would be to use a retail minus equally efficient competitor cost (EEC) component, which would result in a better outcome for customers, even in the long-term. See Section 4.4.

**6. We have decided the retail charges in the retail minus reasonably efficient competitor cost prices will be the sum of end-use customer retail charges based on the prevailing Sydney Water or Hunter Water determination.**

Supported, in principle. We have identified a number of implementation issues with the Draft Determination in relation to the starting point retail charges that should be used to calculate wholesale prices. See Chapter 6 and Appendix D.

**7. We have decided to calculate the reasonably efficient competitor costs based on:**

- **an annual building block cost that has an initial valuation of assets at the undepreciated cost to reflect a new entrant’s costs, operating expenditure matched to asset age, gifted assets treated as assets free of charge, and a return on assets based on the prevailing Sydney Water and Hunter Water real post-tax WACC of 4.9%**
- **an equivalent annuity of the annual building block costs over a 50-year period using a discount rate based on the prevailing Sydney Water and Hunter Water real pre-tax WACC of 5.9%, and**
- **the cost drivers of the service (ie, per customer for retail functions and per kilometre of pipeline for reticulation functions).**

While our preference would be to use a retail minus EEC cost approach, if a reasonably efficient competitor (REC) approach is adopted, the methodology used by IPART appears reasonable and internally consistent. We do have some suggestions for improving the methodology and inputs used, to align with the approach used in retail price determinations, and to align with contemporary asset design and management. See Section 4.5.

## Pricing approach for drinking water top-up to recycled water schemes

- 8. We have decided wholesale customers that purchase drinking water to top up their recycled water schemes should be charged the wholesale supplier's non-residential service and usage retail prices for the drinking water supply.**

Not supported. We agree with IPART that a non-residential price is appropriate for this type of service, but do not agree that this needs to be considered a wholesale service, as it is not on-sold to customers as drinking water. See Section 5.1.

- 9. We have decided that wholesale customers that purchase drinking water for the purpose of on-selling and drinking water top-up should be charged:**

- a retail minus price for the water supplied for on-selling, and
- the retail non-residential water service and usage prices for the water supplied for drinking water top-up.

Supported, noting that we do not think that drinking water top-up needs to be included in the wholesale determination. See Section 5.1.

- 10. We have decided that in cases where the connection to the recycled water system (drinking water top-up) is not separately metered, wholesale customers should be charged a non-residential retail service charge for drinking water top-up based on a deemed meter size of 100mm.**

Noted. We support IPART's intention that this is designed to incentivise wholesale customers to meter their drinking water top-up connections. See Section 5.1.

## Pricing approach for recycled water scheme waste disposal

- 11. We have decided that waste from recycled water plants should be subject to non-residential retail prices (including trade waste charges, where applicable) for sewerage services.**

Not supported. A non-residential price is not appropriate as:

- it does not recognise that the wholesale wastewater service is still providing core components of the wastewater service that is being on-sold to end-use residential and non-residential customers
- it does not include an appropriate contribution to the (largely fixed) costs of providing the wholesale wastewater service
- our experience to date is that current entrants have formally requested that we maintain capacity in our system for partial through to full back-up for their recycling systems, due to varying combinations of their plant design and/or events that are beyond their control such as power outages
- it will be administratively burdensome to calculate, especially if switching frequently between bypass and non-bypass situations.

In addition, any potential reductions in the level of service being provided by the public utility will vary significantly by location and plant type. This can be better accounted for using a retail minus EEC (or REC) plus net facilitations costs approach. See Chapter 5.

## Facilitation costs

**12. We have decided that facilitation costs should be included in wholesale prices where they are:**

- **additional to what the wholesale service provider would have otherwise incurred in the absence of servicing the wholesale customer, and**
- **not reflected elsewhere in the wholesale price or recovered via another charging or funding mechanism of the wholesale service provider**

Supported. In principle, all additional costs or savings not reflected in the default wholesale price should be included as facilitation costs. See Section 7.1.

**13. We have decided not to include facilitation costs in the draft system-wide wholesale prices and therefore would only consider them in scheme-specific determinations.**

Noted. In principle, all facilitation costs should be included in wholesale prices; however, we do not have strong concerns with IPART's draft decision not to include any facilitation costs in system-wide prices for this first determination. See Section 7.1.

**14. We have decided that facilitation costs should:**

- **reflect the status of water and sewerage developer charges**
- **include positive (costs) and negative costs (cost savings), where appropriate**
- **exclude initial transaction costs, and**
- **exclude ongoing administration costs, except where they are material**

Noted. As stated above, in principle, all facilitation costs should be included in wholesale prices. However, we accept IPART's draft decision to exclude initial transaction costs and ongoing, non-material administration costs, for this first determination. See Section 7.1.

## Scheme-specific reviews and unregulated pricing agreements

**15. We have decided to use the process in Box 9.1 to review and determine scheme-specific prices for wholesale water and/or sewerage services.**

Noted. See Section 7.2.

**16. We have decided not to set an interim price to apply while a scheme-specific review is being undertaken, or apply a true-up mechanism to adjust for any differences between the price before and after a scheme-specific determination is made.**

Noted. See Section 7.2.

**17. We have decided to allow wholesale service providers and wholesale customers to opt out of IPART's determined wholesale water and sewerage prices by voluntarily entering into unregulated pricing agreements.**

Noted. We do not believe that unregulated pricing agreements would work in practice. Our current position is that if there is to be a regulated price for wholesale services, this price should be applied consistently to all wholesale customers. See Section 7.3.

## 1.2 Structure of this submission

The following chapters of this submission provide detailed comments on the following areas:

- Chapter 2 – context for the wholesale review
- Chapter 3 – nature of wholesale services and customers, as defined by IPART
- Chapter 4 – pricing approaches for on-selling drinking water and wastewater services
- Chapter 5 – pricing approaches for recycled water
- Chapter 6 – implementation issues
- Chapter 7 – other matters.

Further detail supporting our response is provided in the appendices.

## 2 Response to IPART's context for the review

### Key messages

- We support competition in the NSW urban water market which promotes efficiency, improves services, and lowers prices or adds value for customers.
- We agree with IPART's objective for this review to establish an approach for regulating wholesale prices that allows efficient new entry to the market to promote competition for the long-term benefit of consumers. However, we are concerned that some of IPART's draft decisions will not encourage efficient entry and will lead to negative impacts on Sydney Water's customers, and the community as a whole.
- Dynamic efficiencies should lead to lower costs/prices or higher valued services for consumers. IPART's Draft Report does not contain detailed or quantified explanations about the types and/or quantum of dynamic efficiencies that would need to occur, in order to see consumers better off in the long-term.
- Many stakeholders and other interested parties have called for a whole-of-industry review. We agree that such a review could be useful in confirming the Government's objectives for the NSW urban water market, the types of outcomes it wants to see from the introduction of competition, and the acceptable impacts on customers in anticipates.
- We still support IPART continuing its review of wholesale prices, subject to consideration of the concerns raised in this submission.
- IPART's Final Report would benefit from further clarification and quantification of the dynamic efficiency gains that would be needed to see its proposed pricing approaches produce long-term benefits for consumers. We have undertaken our own high-level analysis in Appendix A.

### 2.1 Nature of competition

We agree with IPART's high level objective in determining prices for wholesale services and the notion that competition can be used to encourage productive, allocative and dynamic efficiency. However, we consider that it is important to understand the type of competition that is being promoted and the behaviour that this may incentivise.

#### 2.1.1 Objective for the review of wholesale prices

IPART's stated objective for this review is to establish an approach for regulating wholesale prices that allows new entry to the market for end-use water and wastewater services to occur where efficient, for the benefit of consumers. At present, a small number of *Water Industry Competition Act 2006* (WIC Act) licensees purchase services from either Sydney Water or Hunter Water in order to provide services to end-use customers. IPART considers that while the scale of entry is relatively small at present, it is likely to increase in the future.

Under IPART's draft decisions, a subsidy would be provided to new entrants, as the price charged for providing wholesale services will not equal the efficient cost of providing them in a postage

stamp pricing environment. This may lead to inefficient investment. The potential for dynamic efficiency gains by new entrants is assumed to accrue to the whole of society, and outweigh the productive and allocative losses in the short to medium term.

We support competition in the NSW urban water market where it promotes efficiency, and lowers prices or adds value to our customers, in the long-term. However, we consider the potential for dynamic efficiencies from competition in the Sydney water market is speculative. In addition, several factors in the water industry in general, and for greater Sydney in particular, create barriers and limited incentives to achieving these gains. In particular:

- as recognised by the Productivity Commission, there is limited potential for gains from increasing contestability as the proportion of costs in the natural monopoly segments of the industry are greater than other industries such as energy and telecommunications<sup>3</sup>
- there will always be challenges in stimulating a vibrant competitive retail market for end-use customers within a postage-stamp pricing context
- competition for the market (discussed further below) embeds market power to the winner of the specific market, removing the choice of supplier for small retail customers and the incentive for new entrants to continuously seek or pass-through any dynamic efficiencies and/or product and process improvements.

### **2.1.2 Type of competition being promoted**

We agree with IPART's high level objective in determining prices for wholesale services and the notion that competition can be used to encourage productive, allocative and dynamic efficiency. However, we consider that it is important to understand the type of competition that is being promoted and the behaviour that this may incentivise.

At present in NSW there is only competition **for** the market – limited to incumbents and new entrants competing to provide a servicing solution to a development. HoustonKemp Economists<sup>4</sup>, list the characteristics of such a market once won by a new entrant as exhibiting:

- limited rivalry (market power) inducing limiting incentives to seek internal dynamic efficiencies or to strive for product and process improvement
- a single wholesale customer per development who is a monopoly
- end-use customers bound to a single wholesale customer, without the option to pursue competing retail offers
- significant cost information asymmetry regarding unregulated new entrants, and hence considerable uncertainty as to whether their prices appropriately reflect their costs
- significant switching costs/barriers for end-use customers, measured by the cost of moving to a new development.

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<sup>3</sup> Productivity Commission 2011, *Australia's Urban Water Sector*, Report No. 55, Final Inquiry Report, Canberra, p. 245.

<sup>4</sup> See Section 3 of their report in Appendix E

The new entrant, who in most cases is owned by a large multinational developer, can control the choice of utility service provider, metering and billing to all end-users of the (embedded) network. That service provider effectively becomes a monopoly retail supplier to end-use customers.<sup>5</sup> This provides very limited opportunity for small retail customers to benefit and switch suppliers in practice, unless they move developments.<sup>6</sup>

It is not clear that this form of (embedded) water competition in the Sydney or Hunter regions will lead to the dynamic efficiencies and/or product and process improvement that IPART is assuming wholesale prices will encourage.

Although such (embedded) competition in electricity and telecoms<sup>7</sup> networks are regulated to ensure that consumers are protected from any misuse of market power, such water networks in NSW are not subject to the same consumer protections. We believe IPART should consider adopting measures to ensure end-users are protected. In section 3.2 of their attached report, HoustonKemp Economists suggest some such measures.

### 2.1.3 Pricing parity

To date, new entrants have implemented a policy of price parity with Sydney Water. IPART has assumed this practice will continue. Adopting pricing parity means that the cost savings or efficiencies achieved by a new entrant relative to the prices they pay us are not being passed onto their customers through lower prices.

It also means that as Sydney Water customers' bills would rise to cover the subsidy they are paying to new entrants under the Draft Determination, those new entrants would also increase their bills to match Sydney Water's – resulting in an overall increase in bills. This is at odds with the very efficiencies competition is seeking to bring about.

## 2.2 Industry review

A number of stakeholders throughout this wholesale pricing review, and in other reviews being carried out by IPART<sup>8</sup>, have called for a whole-of-industry review.

In examining IPART's Draft Determination, HoustonKemp found that it raises important policy questions about the role of economic regulatory (and pricing methodologies more broadly) in promoting other policy objectives, such as a greater uptake of recycled water schemes. HoustonKemp considered such matters should be properly and transparently considered in a framing such policies, taking into account the costs that are imposed on other water users and the associated impact on consumers' water and wastewater bills.

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<sup>5</sup> We note that developers locking in a monopoly retail supplier to service end-users would, in the telecommunications sector, risk being found to be anti-competitive. Government policy for telecommunications infrastructure in new developments has recognised that, given the first network built in an area will often secure an effective monopoly, it is crucial that open access that provides customers with the ability to choose amongst competing retail service providers is supported.

<sup>6</sup> We also understand that developers may be incentivised by local planning requirements that provide them with an additional development yield or other options that benefit their bottom-line where they provide recycled water.

<sup>7</sup> Via various parts of the *Competition and Consumer Act 2010*, such as Section 46 Misuse of Market Power and Part IIIA National Access Regime, as well as by the rules established by the AEMC and applied by the AER for electricity markets and the Australian Competition and Consumer Commission (ACCC) for telecoms.

<sup>8</sup> For example, IPART's reviews of WaterNSW's Operating Licence and of Sydney Desalination Plant prices.

While the decision to refer such a review to IPART is ultimately a matter for Government, given the number of issues being raised, and the inter-relationships between them, Sydney Water feels that such a review would be beneficial for the industry as a whole. At the recent public hearing for wholesale pricing, all participants expressed their support for a whole-of-industry review to further consider matters such as appropriate pricing for recycling. The arrangements in the Draft Determination effectively subsidise new, private recycling schemes in ways that are not available to public water utilities. Given the emerging importance of recycling and integrated water cycle management, to maximise the benefits for the growing city, it is critical that all players, public and private, are able to contribute on an equal footing. The Draft Determination does not enable this.

Such a review could be helpful to clarify the Government's objectives for the urban water market, and the types of policy, regulatory and pricing settings needed to support that.

However, as it is unknown whether this will occur in the short-term, we support IPART's view that it should continue with its determination of wholesale prices. IPART has always had to make pricing decisions based on the existing legislative, regulatory and policy context. We believe that this call for a broader review suggests that a shorter determination period would be appropriate.

## 2.3 Scenario modelling of dynamic efficiencies

The Draft Report does not quantify of the types or size of dynamic efficiencies that would need to occur in order to see long-term benefits accrue to consumers. It would be useful for this to be considered in the Final Report.

We have provided some scenario modelling of the potential quantum of efficiencies and the possible length of time that retail customers would need to continue subsidising new entry for these to be realised (if at all).

In summary, our scenario modelling shows that the impact of wholesale prices on the wider community could be significant over time. With regard to particular approaches:

- if a retail minus REC approach is used for all wholesale services, it is possible that customers might see a small reduction in bills in around 15 to 30 years time, depending on the rate of WIC Act licensee market uptake and assuming (generous) dynamic efficiency gains are achieved, and that the REC approach transitions to a retail minus EEC approach over time. (We note that, as outlined in Section 2.1.1, there are a number of other contributing factors in the current urban water market that would mean dynamic efficiency gains would be unlikely to occur in practice.)
- if non-residential prices are used for wholesale wastewater services, there are no overall financial benefits to customers, even in the longer term. The assumed dynamic efficiency gains never make up for the continuing increase in prices.

See Appendix A for further details.

## 3 Response to the nature of wholesale services and customers

### Key messages

- To date, IPART's review has considered wholesale services to only include services that are on-sold to end-use customers. This is Sydney Water's preferred approach for defining wholesale services.
- IPART's significant change in approach, which now captures a much broader scope of services, may lead to unintended outcomes or unforeseen implementation issues.
- IPART's Draft Determination and Draft Report assume that wholesale schemes will be set up in a consistent and simple manner. However, wholesale servicing arrangements and connections may be complex and varied. We believe this assumption will lead to a number of implementation problems.
- Further consideration of these issues is needed before the release of a Final Determination.

### 3.1 Change in IPART's approach

To date wholesale services have been considered in the context of the on-selling by a new entrant of water and wastewater services provided by an incumbent business. That is, the wholesale customer displaces the wholesale service provider in supplying services to end-use customers.<sup>9</sup>

However, with its draft decisions IPART has fundamentally changed the way wholesale services are categorised. IPART now considers that there are effectively two types of wholesale services where:

1. the new entrant on-sells an incumbent's water and/or wastewater service(s); and
2. the incumbent's water and/or wastewater service(s) is used as an "input" to a service sold to end-use customers.

Where a new entrant provides recycled water, the wholesale services it purchases to support the recycling plant are considered to fall into the second category. The wholesale services provided by the incumbent to the new entrant in this case are drinking water top-up and/or recycled water plant waste disposal.

As set out in Section 5.2 we do not agree with this distinction. In our view drinking water top-up is not a wholesale service, as the wholesale customer does not on-sell the water we supply as drinking water.

However, the existence of a recycled water plant in a development **connected to our wastewater system** does not change the nature of the wholesale wastewater service we provide to the new entrant. The wholesale customer's provision of wastewater services to its end-use customers fails

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<sup>9</sup> See IPART, Prices for wholesale water and sewerage services – Discussion Paper, April 2016, p. 13.

outside the provision of Sydney Water’s wholesale wastewater service, with or without a recycled water plant.

The below diagrams highlight the wastewater services Sydney Water provide under three scenarios where there is:

1. no recycled water scheme
2. a Sydney Water recycled water scheme
3. a WIC Act licensee recycled water scheme

Figure 1 - Sydney Water wastewater services without recycled water

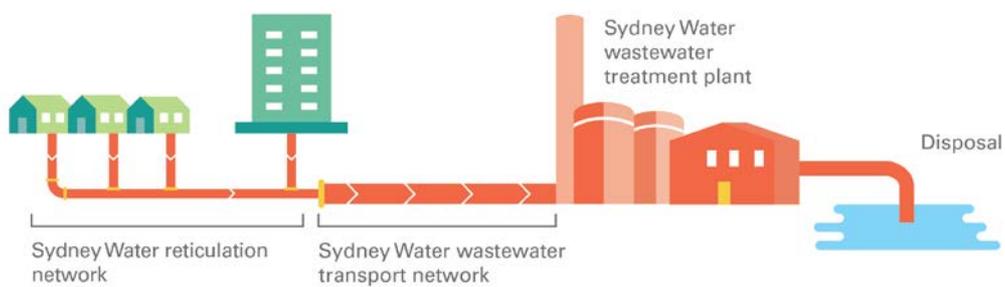


Figure 2 - Sydney Water wastewater and recycled water provision

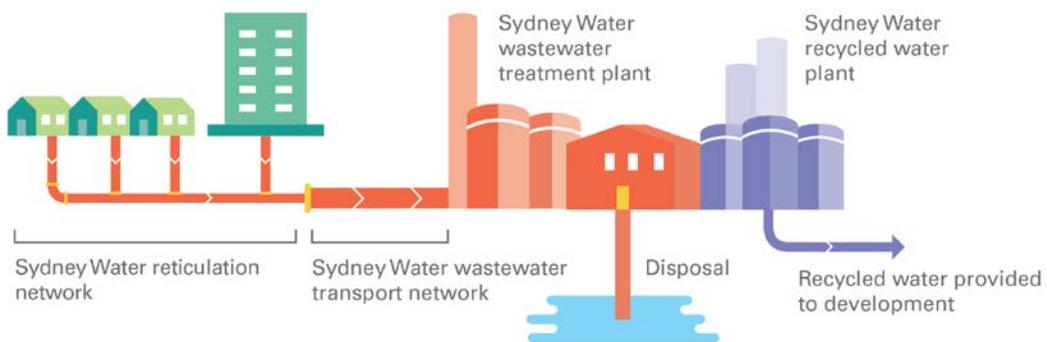
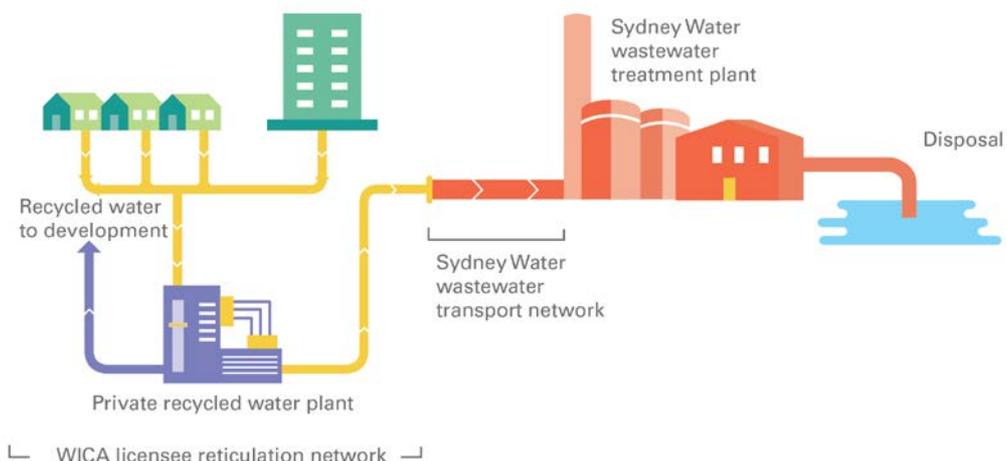


Figure 3 - Sydney Water wastewater services with recycled water provided by a WIC Act licensee



These diagrams show that a significant portion of the end-to-end wastewater service required to manage and dispose of effluent is provided by Sydney Water, with or without the recycled water plant.

It also highlights that where Sydney Water provides recycled water, the entire recycled water scheme provides the wastewater service from collection to disposal. This is at odds with recycled water schemes that discharge waste and untreated wastewater to our network and we are still required to manage and dispose of effluent.

The diagrams highlight that the infrastructure and core components of the wastewater service that are provided by the public utility – including transport, treatment and disposal – are essential to the wastewater service that is being sold to end-use customers.

### **3.1.1 Consideration of conceptual and implementation issues**

Characterising recycled water as a wholesale service is a significant change at a late stage in the review of wholesale prices. We have therefore had limited time to consider the conceptual and implementation issues associated with this change in approach. We have made our best attempt to identify all the associated issues and, where appropriate, suggest corrections or remedies.

Given the short time we have had to reflect on the new approach, we may have overlooked some matters. In addition, as with any new approach, there may be some unforeseen issues in our application of the Final Determination if we have not anticipated and addressed all implementation issues. If Sydney Water is unable to comply with the Final Determination this may result in an unintentional technical breach of certain requirements. We request that IPART considers potential ways to mitigate this risk, including:

- no action letters – IPART could provide us, either in advance or on specific request, confirmation that it will not take action in relation to unintended non-compliances; or
- clarifications – IPART could use its powers under section 2.2 of Schedule 5 of the Draft Determination to publish notices in the gazette to clarify or correct manifest errors in the determination.

## **3.2 Set-up of schemes**

IPART's Draft Determination and Report appears to be based on an assumption that wholesale schemes will be set up in a consistent and simple manner. We agree that in those situations, the Draft Determination may be simple to apply. However, our experience to date is that the types of servicing arrangements and connections are often complex.

We have provided detail in Appendix B on some of the types of schemes we currently or are proposing to provide services to, in order to highlight the complexity of servicing arrangements.

It is important that prices adopted in the Final Determination can be applied to all current and potential future wholesale servicing scenarios (as defined in and captured by the Final Determination).

## 4 Response to pricing approaches for on-selling services

### Key messages

- We support system-wide wholesale prices for simple wholesale schemes, where the use of average cost minuses or system-wide prices is appropriate.
- We support a retail minus approach for on-selling services.
- Our preference would be to use a retail minus EEC approach. This would ensure no increase to customer bills, even in the short term. Sydney Water and Hunter Water costs are subject to robust review processes by IPART, so this approach should represent efficient costs.
- However, if a retail minus REC approach is adopted, the methodology used by IPART appears reasonable.
- If an REC approach is used, we agree with IPART that the minus should reduce over time, to meet an EEC approach. We request further detail in the Final Report regarding when and how this might occur, in order to increase certainty for industry participants.
- We suggest some refinements to the REC cost calculation, to align with contemporary asset design and management practices.
- We support IPART's proposed length for this initial determination of four years and four months. Due to the infancy of the market and lack of experience with wholesale schemes, we think it is important not to set a longer period, particularly given the possibility of a broader industry review.
- A retail minus REC approach will have an ongoing, cumulative financial impact on Sydney Water. IPART should commit to allowing a recovery mechanism for any revenue shortfall.

This chapter addresses IPART's general pricing approaches and the use of retail minus REC prices for on-selling services. We address the proposed use of non-residential prices for wholesale schemes that also provide recycled water separately in Chapter 5, as this is our greatest area of concern with IPART's Draft Determination.

### 4.1 System-wide wholesale prices

In our submission to IPART's Discussion Paper, we supported the option of setting wholesale prices on a system-wide basis for schemes that involve a simple infrastructure configuration. For a system-wide price, appropriate average minus components should be limited to retail services (eg metering, billing, account management and customer contact), and operating and maintaining local reticulation services.<sup>10</sup> A system-wide price could also include a schedule of net facilitation costs

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<sup>10</sup> In practice we expect any reticulation to be built by the developer and transferred to the new entrant, as currently occurs with assets provided to Sydney Water free of charge.

(both positive and negative) to account for any additional operational savings resulting from the provision of recycled water.<sup>11</sup> This remains our preferred position.

We agree with IPART that the benefits of a system-wide approach are lower administration costs (compared to scheme-specific reviews) and the provision of information to existing and potential market participants (which can inform decisions regarding market entry). However, we note that this approach is only feasible where the use of average cost deductions is appropriate.

Our preference is to have a consistent pricing approach for the on-selling of wastewater services, regardless of whether or not the wholesale scheme includes a recycled water plant. To this end we consider that standard facilitation costs relating to recycled water could be included as a schedule to system-wide prices. If a particular scheme had additional benefits (such as potential deferral of infrastructure), this would need to be addressed via a scheme-specific price. An alternative, especially given the strong disagreement between stakeholders on the REC minus, would be to consider setting scheme-specific prices for all schemes with a recycled water plant.

## 4.2 Determination length

IPART's draft decision is to adopt a length of four years and four months for the initial determination of system-wide wholesale prices. We support this proposal and would be concerned with a longer length, particularly given the possibility of a broader industry review, which may affect the preferred approach for wholesale pricing.

We understand that in making a price determination IPART generally considers the following factors when deciding on the length of a determination period:

- the confidence it can place in the regulated business' forecasts
- the risk of structural changes in the industry
- the need for regulatory certainty and financial stability.

Wholesale services is a new area of regulation and given the infancy of the market, there may be significant issues that all parties seek to revisit in the next review of wholesale prices, once more data becomes available.

## 4.3 On-selling drinking water and wastewater services

Sydney Water strongly supports IPART's draft decision to use a retail minus approach for the wholesale supply of water and wastewater services. We agree that it is the most appropriate price that is compatible with the NSW's Government's postage stamp retail pricing policy. Without separating the retail and wholesale functions into distinct markets (as in the UK), it is the only approach under the existing framework that allows the incumbent water utility and new entrant to compete on equal terms.

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<sup>11</sup> We note that IPART's draft decision is to not set system-wide average facilitation costs in this review and we address this issue in section 5.1. We had envisaged that net facilitation costs would cover the administrative costs of the incumbent, as well as any savings the incumbent benefits from where the scheme involves provision of recycled water.

## 4.4 REC approach

Sydney Water's preference would be to use a retail minus EEC cost approach for on-selling services. We would also support a retail minus avoidable cost approach, which was our initial preference for pricing all wholesale services. A retail minus EEC approach would enable efficient entry, while avoiding increases to customer bills or a potential reduction in dividends to Government, even in the short-term.

The REC approach assumes that new entrants will have higher costs than public utilities. However, this may not be the case. In fact, as we noted in our response to IPART's Discussion Paper, some new entrants may have access to large economies of scale, particularly in relation to retail services. This is consistent with recent experience in the UK, where some water businesses, such as Thames Water, are choosing the exit the retail market in the face of new entrants who are efficient, large, international, multi-utility companies.

However, we understand that IPART wishes to balance their objectives under the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act) (particularly, the objectives to ensure services are provided efficiently and to increase competition), and so has determined that the risk of increased costs in the short-term is balanced by the potential for dynamic efficiency gains in the long-term. The adoption of the REC approach as a way of balancing these objectives is a much preferable method than applying a non-residential price.

While we prefer a retail minus EEC approach over a retail minus REC approach, we prefer the use of retail minus REC over non-residential prices. This is because the retail minus approach, even when using REC costs, acknowledges that we are providing a significant component of the wastewater service supplied by the wholesale customer. It facilitates an appropriate contribution to our costs by the new entrant, and results in a lower impact on our retail customers than the use of non-residential prices.

### 4.4.1 Legal issues

Sydney Water notes that during the November 2016 public hearing a participant asserted that it believed that the retail-minus approach has been banned in the UK Water Act and that the Efficient Component Pricing Rule (ECPR) was found to represent an illegal margin squeeze.<sup>12</sup> Sydney Water does not agree with this interpretation and believes this is a misinterpretation of the actual decisions made in that case which, while critical of ECPR, did not rule it illegal.

It was also suggested, during the same public hearing, that the retail minus REC approach represented an illegal margin squeeze.<sup>13</sup> This is not the case, principally because the REC minus is, in its usual application in the telecommunications industry, calculated as part of an ex post margin squeeze test to set the competitive and legal wholesale price floor. Setting a wholesale price *a priori* by use of a retail minus REC approach ensures that the wholesale price would pass any anti-competitive economic and legal margin squeeze tests.

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<sup>12</sup> Transcript of public hearing – 28 November 2016, page 29

<sup>13</sup> Transcript of public hearing – 28 November 2016, page 25

#### 4.4.2 Revenue recovery

As REC costs are determined to be less efficient than the incumbent's, the public utility is left with a revenue shortfall. It is a fundamental principle of regulatory best practice that a regulated business should have a reasonable opportunity to recover its efficient costs. IPART has not stated whether it would allow this to be recovered from retail customers in the next price review. If not included in retail prices, the alternative would be for Sydney Water to bear this loss.

IPART should state its view of how it would treat this shortfall in the Final Report. Preferably, it should acknowledge that a revenue recovery mechanism is necessary to support the type of competitive market IPART is seeking to encourage. We have assumed that if IPART adopts a non-residential pricing approach for wholesale services, Sydney Water could recover the difference between forecast wholesale revenue and overall efficient costs from retail prices (see Section 7.5). If this is not the case, we request that IPART clearly state an alternative mechanism for the recovery of Sydney Water's efficient costs of providing these services.

If an REC pricing approach is applied, we agree with IPART that the minus component should reduce over time, eventually approaching an EEC cost minus. We request that IPART provide further detail in the Final Report regarding when and how this might occur, in order to increase certainty for industry participants.

### 4.5 Calculation of the REC

While Sydney Water's preference is not to use a REC approach, broadly speaking, the methodology used by IPART to calculate the relevant REC minus costs appears sound and internally consistent.

In particular, we agree with IPART's proposed approach to use a per customer minus for retail costs and a per kilometre minus for local reticulation. These are the most appropriate cost drivers for these components of the wholesale service. Other forms of system-wide prices, such as percentages, would have provided an unwanted incentive for new entrants to cherry pick infill schemes because greenfield schemes require more reticulation per customer.

At the public hearing some stakeholders commented that a per kilometre minus for reticulation services may create a perverse incentive to use inefficient servicing solutions, in order to obtain a larger reduction in the wholesale price. The potential for this to occur should be addressed during the WIC Act licensing application process.

#### 4.5.1 Quantum of REC rate

We believe the amounts used for the REC cost minus could be refined. In overall terms, REC costs are significantly higher than Sydney Water's costs for these activities, even taking into account potential scale effects. We believe this may be partly due to a number of assumptions made by IPART that over-estimate particular cost inputs, or are not consistent with best practice asset management, namely:

- extremely high costs for purchasing and installing water meters (more than five times Sydney Water's costs)
- the assumed use of steel (DICL) pipes when plastic is more aligned with modern practice

- the inclusion of excavation (cavity hole) costs for wastewater renewals, when best practice is to re-line rather than re-excavate.
- the consideration of whether construction sequencing of wastewater pipes could result in a lower wastewater reticulation cost as compared to water.

We request that IPART re-consider these inputs and assumptions. Further detail relating to these issues is provided in Appendix C.

#### **4.5.2 Tax allowance on assets free of charge**

In calculating the applicable system-wide REC cost, IPART has:

- excluded the value of reticulation assets when calculating a return on assets and depreciation allowance, until the assets are replaced
- included a tax allowance for gifted assets (assets free of charge (AFOC)).

We agree with IPART's treatment of excluding reticulation assets for calculation of returns. However, there are two inconsistencies in the proposed approach to including a tax allowance on AFOC assets in REC costs, compared to the approach adopted by IPART in setting Sydney Water's annual revenue requirement and, subsequently, retail prices:

1. The tax depreciation included in Sydney Water's retail price building block is based on a diminishing value method, whereas the tax depreciation used in the REC calculation is based on a straight-line method. This would create a mismatch relating to the timing and magnitude of deductions incorporated in the applicable retail price and REC cost. This results in a higher and quicker tax depreciation deduction in the retail price compared to that assumed for the REC cost.
2. The AFOC figures used in Sydney Water's retail price building block are based on the average of the previous five years of actual AFOC, and not forecast (as used in the calculation of REC costs). This will also create a mismatch, in terms of timing and magnitude, for the tax on AFOC figures that are used in the retail price compared to the REC cost calculations.

We acknowledge that the impacts of these differences in dollar terms is not large, however we consider that they are worth identifying and noting. We also note that we have used a lower value for wastewater reticulation cost when calculating our tax on AFOC for the purpose of estimating EEC costs.

## **4.6 Financial impacts of REC on Sydney Water and retail customers**

Using a retail minus REC (rather than EEC) price for on-selling services will have a negative financial impact on Sydney Water. This is due to the shortfall in revenue that will arise from IPART allowing the cost of a less efficient business to be used for the minus component.

IPART has stated in its Draft Report that it will consider how to treat this revenue shortfall as part of Sydney Water's next price review. It notes two options:

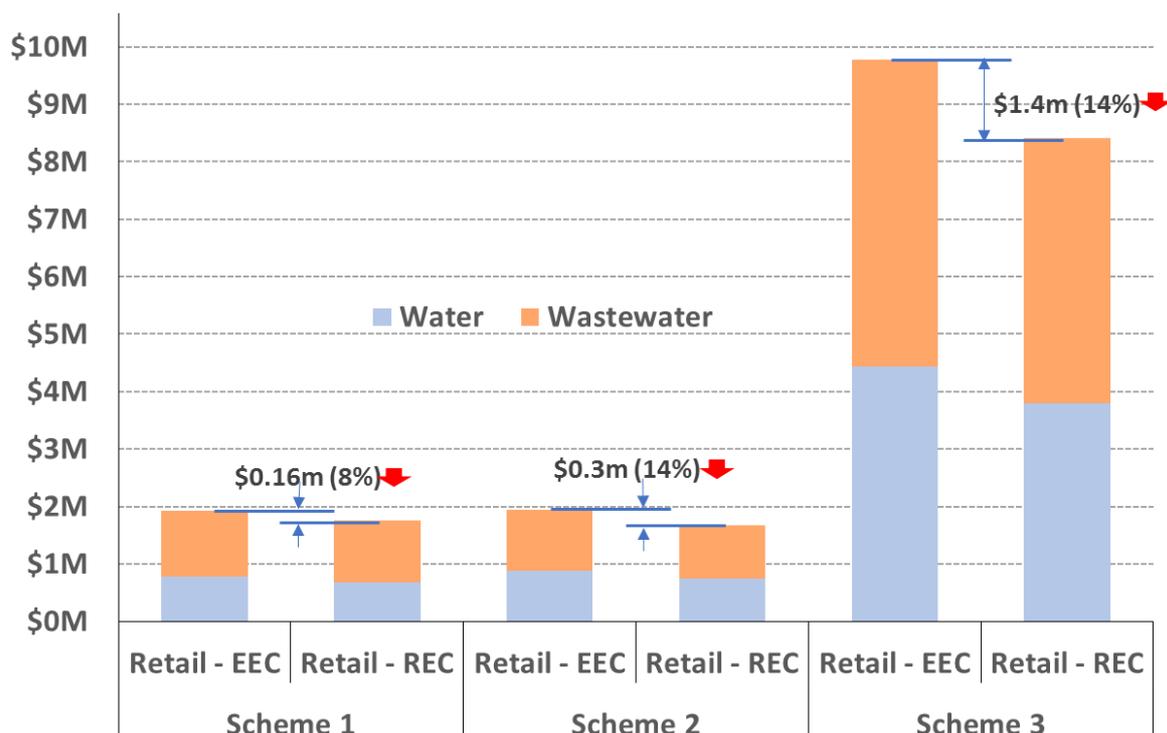
- recovery from retail customers
- Sydney Water to bear as a loss.

We do not believe that a loss to our shareholders is appropriate.

Assuming the wholesale customer performs retail and local reticulation services only, the use of a retail minus REC wholesale price for both water and wastewater services will result in the following revenue shortfalls for each of the indicative schemes in Appendix G of IPART's Draft Report (numbers rounded):

- Scheme 1 - \$100,000 water + \$60,000 wastewater = **\$160,000 per year**
- Scheme 2 - \$140,000 water + \$160,000 wastewater = **\$300,000 per year**
- Scheme 3 - \$650,000 water + \$750,000 wastewater = **\$1.4 million per year.**

Figure 4 - Difference in wholesale prices using retail minus EEC and retail minus REC



The financial impact from using retail minus REC may not be large initially, but will be cumulative and ongoing.

The total quantum of this financial impact will depend on the number of wholesale customers and the type of wholesale services purchased from Sydney Water. The financial impact to Sydney Water could be significant if:

- future wholesale schemes are mainly within greenfield developments
- there are large amount of new wholesale schemes
- the extent of the types of services provided by the wholesale customer, beyond retail and local reticulation, are expanded.

Irrespective of the potential magnitude of financial impacts, in order to align with best regulatory practice, we believe that the public utility should be allowed a reasonable opportunity to recover its efficient costs.

If Sydney Water were allowed to recover the cross-subsidy to entrants from the use of retail minus REC wholesale prices, this would lead to an estimated impact on our retail customers' of \$0.10 to \$0.80 per retail customer, per scheme. This impact is multiplied as more schemes enter the market. For example, ten schemes (at full development) that are subject to retail minus REC prices for both water and wastewater wholesale services could lead to an annual bill impact of \$8 per customer per year. The length of this impact would depend on whether, or how long, it would take for any dynamic efficiencies to be realised.

The bill impact of IPART's draft decision to use non-residential pricing for recycled water plant waste disposal services is much greater and will compound the impact of the REC approach on bills. This is more likely to reflect what will occur in practice, given that WIC Act schemes will likely involve the provision of recycled water. See Section 5.3 for further detail on this.

## 5 Pricing approaches for recycled water plant services

### Key messages

- Recycled water can be a key component of an integrated water management approach. We strongly support the industry moving towards robust and efficient integrated water servicing solutions, including recycling.
- When a recycled water plant requires significant capacity backup by downstream wastewater infrastructure, we do not agree that it has created a 'transformed' service.
- The use of non-residential prices for recycled water waste disposal is not appropriate. This approach does not consider the type of service we are likely to provide the wholesale customer.
- Based on our experience, new entrants have requested Sydney Water provide a full back-up wastewater service at all times in case the plant is offline for maintenance or emergency situations.
- IPART's proposed approach for dealing with bypass situations, while reasonable in theory, also raises significant practical challenges, especially when recycled water plants are in simultaneous bypass-operational mode.
- Our preference is to have a consistent pricing approach for the on-selling of wastewater services, regardless of whether the scheme includes recycled water services.
- A system-wide retail minus pricing approach could adequately account for operational savings associated with a recycled water plant by including a schedule of facilitation savings (ie a further minus to the wholesale price). More complex deferral/bring forward benefits should be determined through a scheme-specific determination.
- An alternative would be for IPART to consider setting scheme-specific prices for schemes with a recycled water plant.
- It is important that public and private utilities can compete on a level playing field, with regard to offering recycled water services. Public utilities are not able to cross-subsidise between products and must ring-fence recycled water costs.

Recycled water can be a key component of integrated water cycle management. Sydney Water is keenly exploring possibilities to implement more integrated water cycle management, including recycled water. We want to deliver services that our customers' value and that protect our environment, building a water sensitive city. We strongly support the industry moving towards robust, efficient integrated water servicing solutions, including recycling.

In pursuing this, it is critical that all market players are subject to equitable rules. Under IPART's draft decisions, the existing arbitrage opportunity for new entrants providing recycled water is maintained and an uneven playing field is created with respect to the recovery of the costs of recycled water schemes.

IPART has made a draft decision to adopt a different pricing approach for wholesale services where the WIC Act licensee also provides recycled water services to its end-use customers. Given this is a significant change at a late stage in the review, we engaged HoustonKemp to examine IPART's draft decisions on the pricing of drinking water top-up services and recycled water waste disposal services. In particular, we asked them to assess whether these decisions are consistent with the promotion of the economically efficient use of, and investment in, water and wastewater infrastructure, and their impact for competition in the supply or retail water and wastewater services by wholesale customers. HoustonKemp found that IPART's draft decisions are inconsistent with efficient pricing principles, and do not address competition concerns in downstream markets (see Appendix E for the HoustonKemp report).

While we acknowledge these findings, we have focused our own response on how the draft decisions would affect our customers, as well as some of the practical difficulties that would be incurred in their implementation.

## 5.1 Drinking water top-up to recycled water schemes

Sydney Water does not believe that drinking water top-up needs to be classified as a wholesale service. However, we agree with IPART's proposed pricing approach. Using a non-residential price is appropriate, and in line with our response to IPART's *Prices for wholesale water and sewerage service – Discussion Paper, April 2016* (the Discussion Paper). This pricing approach generally reflects the costs and capacity required in our network to provide this service.

### Deemed 100mm connection

Sydney Water considers that a deemed 100 mm meter is likely to be greater than the actual meter size required for drinking water top-up in many cases.

However, we support IPART's intention that this is designed to incentivise wholesale customers to separately meter their drinking water top-up connections. If drinking water top-up is retained as a wholesale service, the use of an actual meter more accurately reflects the appropriate charges for the wholesale customer or their on-supplier.

## 5.2 Nature of recycled water plant waste disposal services

Sydney Water does not agree with IPART's characterisation in the Draft Report of the nature of the service we provide to a wholesale customer when they provide recycled water services. With or without a recycled water plant, Sydney Water will be effectively providing the wholesale customer with an on-sold wastewater service.

### 5.2.1 Transformation of services

We do not agree with IPART's view that the existence of a recycled water plant transforms the nature of the service that the wholesale service provider is providing to the wholesale customer.

In our experience to date, and given the nature of wholesale services (ie there must be a connection to the public utility's infrastructure), the nature of the wastewater service **we** provide to a wholesale customer has not been 'transformed' or significantly altered where there is a recycled water plant. The service has remained the same.

The wholesale customer's provision of wastewater services to its end-use customers relies on Sydney Water's full wastewater service, with or without a recycled water plant. That is, we have provided a significant portion of the infrastructure for the wholesale customer to provide a full wastewater service to its customers.

We agree that for stand-alone schemes (such as at Bingara Gorge), the WIC Act licensee is indeed providing the full, end-to-end wastewater service, including all transport, treatment and disposal of effluent. However, these cases are not relevant to the discussion of the nature of wholesale services, as there is no connection to the public utility's wastewater network (and, therefore, no provision of wholesale services).

### Type and amount of wastewater being discharged to Sydney Water

In the Draft Report, and during the November 2026 public hearing, IPART indicated that it considered the reason the service is transformed, is because Sydney Water is only receiving concentrated waste products from the recycled water plant. This implies that all wastewater generated by the development is being converted to recycled water and we are only receiving the solid waste by-product. This is not the case.

In many cases, a significant portion of the wastewater generated by the end-users is discharged directly to our network. In our experience, and as explained by new entrants at the public hearing, recycled water plants with a connection to the public utility are generally sized to meet the average recycled water requirements of the scheme.<sup>14</sup> (This is the opposite for stand-alone schemes, where recycled water plants need to be built to deal with the total volume of wastewater produced.)

Where a scheme is not stand-alone, it is not generally cost effective to size the plant above average demand for recycled water, as any shortfall in recycled water production is simply and more cost effectively made up with drinking water. As such, the recycled water plant may not always be large enough to treat even the average wastewater produced on the site, let alone the amount produced on a peak day.

Whenever the amount of wastewater produced is higher than the recycled water demand, this volume must be stored or disposed of. Balance storages are rarely sized to cater for more than one day's imbalance in supply and demand, particularly for infill schemes, as such storages are large and costly. For this reason, a significant portion of wastewater may enter our wastewater system year round, either through overflow points throughout the network or through a bypass of the recycled water plant. To date, current and proposed scheme configurations are such that Sydney Water's systems do need to provide 100 per cent backup capacity, for situations such as power outages or emergency scenarios. It is our consistent experience that wholesale customers do seek significant backup capacity from us.

This is confirmed by information from WIC Act licence applications that indicates there are significant amounts of untreated wastewater and recycled water being discharged to our network. For example, the Network Operator licence application for the future Shepherds Bay mixed multi-use development notes that the scheme will produce up to 950kL of wastewater per day at full

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<sup>14</sup> Transcript of public hearing – 28 November 2016, page 57.

development (peak demand).<sup>15</sup> However, their recycled water peak demand will be 339 kL per day.<sup>16</sup> This equates to only 35 per cent of wastewater produced on site on a peak day. Therefore, on those days, a significant amount of excess wastewater from residential and non-residential end-use customers may need to be discharged to our system.<sup>17</sup>

There are also in-building recycled water plants operated by WIC Act licensees within our area of operations that have an assessed discharge factor of 80 per cent of the wastewater produced by the building to Sydney Water's network, even when the plant is running at full operational capacity. This does not diminish the level of wastewater service we are required to provide to that wholesale customer when the plant is running.

Therefore, we consider that a wholesale customer's recycled water scheme does not necessarily limit the waste being discharged to our networks to only a concentrated by-product, as is currently assumed for system-wide wholesale wastewater prices. This is possible but will not occur across the board for all schemes. In fact, for some schemes, we would still receive a significant portion of untreated wastewater from end-use customers on a regular basis. In some cases this could be even higher than the full amount of wastewater we would have normally received from the end-use customers.<sup>18</sup>

In addition, even if the volume of flow discharged may be reduced, the volume of solids/pollutants discharged from the new entrant recycling schemes can be the same. Apart from removal of some BOD and ammonia, the waste stream is usually almost identical, and so will require the same downstream treatment infrastructure for effluent disposal. That is, where connected to our network, a recycled water treatment plant effectively provides a non-potable water extraction service, rather than a full wastewater treatment service.

## Conclusion

From the above, the service we provide to the wholesale customer is not transformed by the presence of a recycled water plant. As we can still receive large amounts of the end-use customers' untreated wastewater and pollutants, and provide significant components of the wastewater service, this should be considered as on-selling wastewater services, not a transformed service.

### 5.2.2 Capacity requirements

In order for a wholesale customer to be able to manage its recycled water plant, there could be times when the plant is:

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<sup>15</sup> We note that a water balance report for this development was provided to IPART as part of the licence application. This may contain relevant information on the expected amount of wastewater likely to be discharged to sewer.

<sup>16</sup> It is unlikely that peak wastewater days will coincide with peak recycled water demand days. As such, this 35% is likely to be a minimum. Peak wastewater days tend to be during winter (or during wet weather for systems prone to ingress); while peak recycled water demand days are usually during summer.

<sup>17</sup> The licence application does not include a public version of the water balance for the site. As such, we are unable to comment on how much of the peak wastewater flow is able to be stored onsite to be treated over subsequent days.

<sup>18</sup> This could be as a result of a recycled plant accepting stormwater flows as well as the wastewater from the site. Stormwater sources can have high levels of pollutants. When the residual from this source is added to the recycled water plant discharge to our network, we will need to treat higher levels of pollutants than would normally have been discharged from that site.

- running at full capacity (although still discharging untreated wastewater from the development to manage demands)
- both producing recycled water and overflowing excess wastewater (bypassing the plant) to Sydney Water's network
- producing recycled water that does not meet the *Australian Guidelines for Recycling Water*, which will need to be discharged to our network
- discharging excess recycled water to Sydney Water's network at times of low demand
- completely bypassed due to:
  - maintenance (if there is not enough on-site storage to store total wastewater volumes while plant is off-line)
  - a power failure or other event out of their control<sup>19</sup>
 and all wastewater is discharged to Sydney Water through several different discharge connections
- any combination of the above.

This means that we need to have enough capacity in our system to accommodate each of these scenarios. To date, we have been consistently requested by new entrants to provide a 100 per cent back up service.

The effect of IPART's draft decision relating to this wholesale service is that the wholesale customer does not pay for the full back-up service they are relying on to provide a wastewater service to their own end-use customers. Instead these costs are borne by our remaining retail customers. We have a fundamental concern with this approach.

As is noted by IPART in its review of our retail prices<sup>20</sup>:

*Wastewater service charges predominantly recover fixed costs, reflecting a customer's **ability** to access the system (ie, that they are connected to the system) [emphasis added].*

IPART's bypass pricing approach appears to confirm that the utility would be assumed to provide this full back-up service.

We note that during the public hearing held on 28 November 2016, participants indicated that no back-up capacity was required for their recycled water schemes<sup>21</sup>. However, our experience to date is that for current and proposed wholesale schemes, new entrants have asked us to provide this service.

For example, in its Network Operator licence application for the Central Park development, the licensee noted that in order to ensure continuity of service delivery, its recycled water plant

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<sup>19</sup> If there are multiple, small scale WIC Act recycled water schemes connected to one of our wastewater systems, under a wide area power failure situation, all of them are likely to bypass untreated sewage to our network at the same time. Each individual proponent may claim that these events are rare, but when they occur, the potential impact on our system is magnified substantially. We would have to size our receiving network to cater for this foreseeable event.

<sup>20</sup> IPART, *Review of prices for Sydney Water Corporation* – Final Report, June 2016, page 5

<sup>21</sup> Transcript of public hearing – 28 November 2016, page 24

required sufficient capacity in Sydney Water's existing wastewater system in order to take sewage for the entire development in an emergency event.<sup>22</sup> Similarly, in the Network Operator licence application for Barangaroo South, the applicant noted that if the recycled water plant is unable to accept wastewater, all wastewater will be directed to Sydney Water's network.<sup>23</sup>

In practical terms, where there are multiple overflow points to our network, we have no control over how much wastewater could be discharged. This means we would need to allow for full discharge in terms of both network capacity and for our environmental protection licences. While IPART's draft decision to apply retail minus prices when a plant is on "bypass" goes some way to addressing this, we do not consider it is enough to cover the level of service we are providing. Given that emergency events can happen any time, new entrants are expecting the capacity to be available all year round. As network and treatment services have largely fixed costs, an appropriate price to cover those costs should be proportional to the end-use customers of the scheme. Any other method will erode postage stamp pricing and increase retail customers' bills.

Sydney Water's position is that, given:

- postage stamp pricing,
- the fact that Sydney Water provides a full-back up service, and
- we supply a significant component of the end-to-end service of the end-use customer's wastewater service even with the recycled water plant is operating,

our preferred pricing approach is retail minus (see Section 5.7 for further detail).

### **5.3 Bill impacts of using non-residential prices for recycled water waste disposal**

IPART's draft decision to use non-residential prices for recycled water waste disposal will lead to increases in retail customer bills, assuming that IPART will adopt the process outlined in Section 7.5.1 regarding future recovery of costs.

Using non-residential prices, the wholesale price for the wastewater service being provided could be almost 90 per cent lower than a retail minus EEC price (using IPART's assumed sewage usage discharge factor of 35 per cent). As we noted at the public hearing, in our experience, recycled water plants operating within a residential, mixed purpose or commercial development can regularly discharge to our wastewater system at a much greater rate than this. However, even assuming a standard non-residential discharge factor of 78 per cent, (which is less than the highest discharge factor currently used for one WIC Act recycling scheme within our area of operations), the wholesale price using a non-residential approach is around 60 per cent lower than the retail price.

The scenarios below are based on the indicative schemes in Appendix G of the Draft Report and using the same discharge factor of 35 per cent. On a per scheme basis, the difference between

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<sup>22</sup> Water Factory Pty Ltd, *Combined Application Form: Network Operator and Retail Supplier*, March 2012, page 22, found at [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)

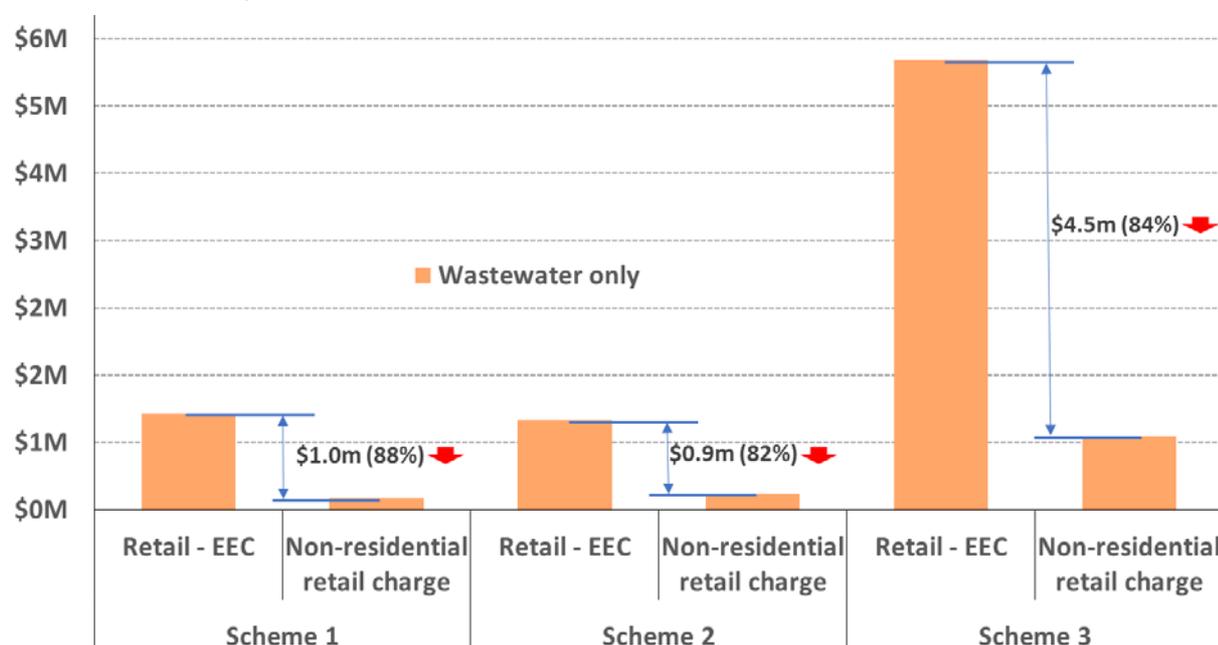
<sup>23</sup> Lend Lease Recycled Water (Barangaroo South) Pty Ltd, *Network Operator and Retail Supplier Licence Application – November 2013*, pages 23-24, found at [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)

using a retail minus EEC price and a non-residential price for wholesale wastewater services provided to WIC Act schemes with a recycled water plant is significant:

- Scheme 1 - \$1 million difference each year, between a retail minus EEC and a non-residential pricing approach
- Scheme 2 - \$0.9 million difference each year
- Scheme 3 - \$4.5 million difference each year

This difference would need to be recovered from retail customers.

Figure 5 - Wholesale wastewater prices for recycled water schemes: retail minus EEC compared to non-residential prices



On a per scheme basis, this would lead to an estimated bill impact of around:

- \$0.50 per retail customer each year for an infill scheme
- \$0.50 per retail customer each year for a small greenfield scheme
- \$2.40 per retail customer each year for a large greenfield scheme.

### 5.3.1 Trade waste charges

The analysis in this submission does not include trade waste charges in the wholesale price. To the extent we collect revenue from trade waste charges in wholesale prices, this would reduce the level of cost recovery required from our retail customers.

As IPART notes in its Draft Report, it is difficult to estimate what these charges would be, as they will be different for each plant, and also depend on plant location. However, our initial estimates are that including trade waste charges would not make a material change to the overall bill impact estimated for retail customers.

Our high level estimate of trade waste charges that could apply to the types of schemes included in IPART's Draft Report for:

- infill scheme of approximately 2000 residential properties (within a primary treatment catchment) is \$20,000 - \$50,000 per year
- greenfield scheme of approximately 2000 residential properties (within a secondary or tertiary treatment catchment) in the order of \$100,000.

The exact amount of charges will depend on the treatment process used at the recycled water plant, and if any other external water sources are brought in, like sewer mining or stormwater harvesting. We have based our estimate for infill schemes on our experience of typical infill schemes (noting that we still only have a limited dataset available for these types of wholesale scenarios). We have not yet experienced a Greenfield scenario involving a trade waste agreement. For simplicity, we have assumed that all end-use customers of the WIC Act licensee are residential properties.

In order to include worked examples in its Final Report, IPART may wish to seek further information from WIC Act licensees and independent process engineering advice. Sydney Water is happy to provide further detail if desired.

## 5.4 Sourcing other products

IPART has stated that non-residential prices are preferential for recycled water plant waste disposal services due to the potential for recycled water plants to use other inputs, such as sewer mining and stormwater harvesting.

We do not believe this is relevant. A retail minus pricing approach would only apply to volumes relating to end-use retail customers. Volumes relating to other sources can be considered and priced separately.

## 5.5 Complexity of application including bypass

Sydney Water does not agree that non-residential charges would be simple to apply.

Non-residential charges are simple to apply for standard customer classes with standard servicing arrangements. However, wholesale schemes have the potential to have complicated set ups with multiple water connections, as well as multiple wastewater overflow, trade waste and bypass connections as highlighted in Appendix B.

## 5.6 Recycled water cost recovery

IPART's draft decisions do not apply a consistent approach to wholesale customers and public utilities.

The wholesale customer is being provided with the opportunity to recover the costs of providing recycled water through various services and charges (water, wastewater, recycled water and strata fees). Sydney Water does not have the same opportunities for cost recovery. We are only able to recover avoided water or wastewater costs resulting from our recycled water schemes from water and/or wastewater customers, as approved by IPART.

Sydney Water is looking to use recycled water and other integrated solutions to ensure better environmental and customer value outcomes. However, at present this is made difficult by the need to allocate costs across individual declared monopoly services (for example, Rouse Hill has been operating for nearly 20 years and we are still debating the allocation of costs at each price review).

## 5.7 Our preferred approach

IPART should use the same pricing approach for on-selling of wastewater services for all wholesale schemes, to reflect that the wastewater service being provided to end-use customers is still largely, or even fully, reliant on the public utility's infrastructure. That is, a retail minus pricing approach. We are still providing essential effluent management components (including transport, treatment and disposal) of the wastewater service. A retail minus pricing approach appropriately reflects this – both in the ongoing provision of a wastewater service that is on-sold to end-use customers, as well as pricing the need for Sydney Water to maintain sufficient capacity for the bypass service.

It is possible for a recycled scheme to reduce the costs of delivering water or wastewater services. We believe recycled water can provide great benefits to our customers and the environment, and we are looking to capitalise on those benefits in how we service growth in the future. However, these benefits are primarily scheme specific and do not necessarily arise in every situation.

The key to realising these benefits is ensuring an integrated approach is adopted during the planning stage. We are happy to work with wholesale customers to ensure the provision and configuration of recycled water schemes provide the best outcomes for all end-use customers. We are also happy to compensate wholesale customers for benefits resulting from the provision of recycled water to a development.

System-wide retail minus REC prices could include a schedule of facilitation savings to incorporate any operational savings to the public utility, or any other potential benefit that IPART considers appropriate. IPART could seek independent engineering advice on a suitable quantum of these savings. If a scheme was more complex and provided larger benefits, such as delayed augmentation of our water or wastewater networks, we believe this would be best assessed on a case-by-case basis, via scheme-specific determinations.

Alternatively, IPART could decide to make a scheme-specific review for all schemes involving recycled water. This could take into account the benefits and cost impacts of the recycled water plant more accurately, and allocate these to relevant parties through the minus and facilitation components of a retail minus approach. Such considerations may include:

- where the new entrant may permanently free-up capacity in our networks to be used elsewhere and can be rewarded for doing so
- valuing the drinking water saved by a recycled water scheme.

We note that during the November 2016 public hearing it was suggested by a participant that our, yet to be approved, Economic Level of Water Conservation (ELWC) methodology could be used as a way to value water conserved by a participant. This is something that could be explored in the future following the approval and implementation of the methodology.

If IPART retains its draft decision to apply non-residential prices for recycled water services, it may be worth exploring the option of introducing an availability charge in the wholesale price. This would reflect the capacity we need to maintain in our network to provide a bypass service to the wholesale customer (either regularly or only in case of emergency events), and should be based on the number of end-use customers it serves. We note that, during the current review of Hunter Water's Operating Licence, IPART has mooted including an obligation to serve wholesale customers. This availability charge could be based on the level of service that the public utility is required to provide to wholesale customers under such an obligation.

## 6 Implementation issues

### Key messages

- The Draft Determination as written would be challenging, and potentially administratively burdensome and technically difficult, to apply.
- The use of non-residential prices in particular raises a number of implementation issues, and is not a simpler pricing approach than retail minus.
- There are a number of current and potential future wholesale scheme scenarios that do not appear to have been considered.
- It would be useful to include worked examples in the Final Report, particularly with regard to the calculation of non-residential prices if this pricing approach is retained.
- Our key areas of concern relate to:
  - the definition of on-supplying
  - wording relating to recycled water plant waste disposal charges
  - both definitional and operational issues regarding recycled water plant bypass.
- We request another opportunity for review before the Determination is adopted.

This chapter outlines Sydney Water's position on the potential implementation issues we have identified with the Draft Determination. We note that there has been a relatively short amount of time to consider the implications of the Draft Determination for all new wholesale services. It would have been helpful to have more time to discuss implementation issues at the public hearing on 28 November 2016.

Further information on potential implementation issues, along with proposed amendments are included in Appendix D. We would be pleased to work with IPART further on these matters to inform the Final Determination.

### 6.1 Worked examples and additional review

Given the complexity of the Draft Determination, particularly in relation to charging different pricing approaches at different times, we would appreciate IPART providing worked examples of how prices would be applied.

This was also raised by other stakeholders at the November public hearing.

In addition, due to the significant implementation issues with the current Draft Determination, and the lack of experience by all parties, we request that IPART provide all stakeholders with another opportunity for review before the Determination is adopted as final. This review period should include sufficient time for consideration of whether the determination can be applied in practice, to all potential wholesale servicing scenarios.

In addition, we agree with the view raised at the recent public hearing that if IPART decides to depart from its draft decisions in a significant way, that there should be further consultation with stakeholders.<sup>24</sup> It is important to take the time necessary to get the fundamental pricing approach and structure right for this first determination. We would support more time being taken in order for this to occur, rather than adopting a Final Determination that involves sub-optimal outcomes.

## 6.2 On-supplying

Sydney Water is concerned that the current definition of on-supplying may not capture all potential servicing arrangements that fall within the definition of wholesale servicing and may also capture some unintended scenarios.

### 6.2.1 Tankering

On a strict interpretation of the Draft Determination, in using the phrase “supply chain”, the definition of On-Supplier appears to capture scenarios where recycled water plant waste is collected by a tankering service and transported to a private waste facility, which may be connected to Sydney Water’s wastewater network. This does not appear to be IPART’s intention, from commentary included on such scenarios in the Draft Report.

In principle, we support on-suppliers to Retail Suppliers being captured. However, it would be administratively complex to include tankering in this first wholesale determination, due to the number of independent parties involved in the supply chain (See Appendix B for further detail on how the tankering service may work). Because of this, our preference would be to exclude tankering scenarios from the definition of wholesale customers or on-suppliers.

We have provided potential amendments in Appendix D.

### 6.2.2 In-building schemes

Sydney Water is concerned that in scenarios where:

- there is a recycled water plant located within a single commercial or residential building; and
- Sydney Water provides the water and wastewater services to that building

the current Draft Determination creates a situation in which a Property could be classified as both a Retail customer (subject to the Retail Determination), and an On-Supplier (subject to this wholesale pricing determination) or switch between the two (see Appendix B for further detail on this potential scheme set up).

In this scenario, under the Draft Determination the property owner appears to be an On-Supplier for Recycled Water Plant Waste Disposal Services as it satisfies Clause 2 of Schedule 4 of the IPART Draft Determination because:

- it involves Sydney Water supplying sewerage services for the disposal of waste from a recycling plant.
- the property owner supplies a sewerage supply service to:

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<sup>24</sup> Transcript of public hearing – 28 November 2016, page 67.

- a Retail Supplier (if the recycling plant owner is the Retail Supplier); or
- a person who supplies those services as part of a supply chain to a Retail Supplier (if the recycling plant is not a Retail Supplier, it supplies recycled water to its related body corporate who is the Retail Supplier).
- Sydney Water supplies the service to the property owner at the boundary connection point.

However, during bypass this distinction becomes less clear and overly complex. In Section 7.1 of the Draft Report, IPART notes that in periods where a recycled water plant is bypassed, “the wholesale customer would be treated as conducting a direct on-selling sewerage service”. In the above scenario there would be no on-selling of sewerage services as the bypass means that Sydney Water is supplying the service directly to the end-user of the service, being the property owner. From this, the definition of on-supplier fails and the property owner can no longer be treated as a wholesale customer.

Therefore, for those quantities that are bypassed (recognising that a plant may bypass and treat wastewater at the same time), it would appear that Sydney Water could not charge retail minus pricing for supply of an on-selling sewerage service under clause 2 of Schedule 2 of the Draft Determination. In that case we assume that the prevailing determination for Sydney Water’s retail prices (the Retail Determination) would apply. Given this can occur concurrently it is potentially unworkable to have a customer who is both simultaneously a retail and wholesale customer.

To address this, Sydney Water proposes that where:

- a WIC Act licensee only supplies recycled water services to end-use customers; and
- Sydney Water provides the water and wastewater services to those end-use customers that the wholesale determination does not apply.

Rather, Sydney Water would charge the Property under the Retail Determination. Any services provided to an in-building plant, and any charging requirements, should be subject to agreements between the property owner and the WIC Act licensee.

We request further clarification from IPART on this matter before the Final Determination.

### 6.3 Bypass

As discussed in Section 5.2, for a wholesale customer to be able to manage its recycled water plant, there could be times when the plant is:

- running at full capacity
- both producing recycled water and overflowing excess wastewater
- producing recycled water that does not meet specifications, which will need to be discharged
- completely bypassed and wastewater is discharged to Sydney Water through several different discharge connections.

However, the Draft Determination only appears to contemplate full and permanent bypass. We do not believe this adequately covers the range of bypassing scenarios. A scheme can have a fully operational recycled water plant, but also have a portion of the wastewater bypassing the plant at

the same time. Currently, only the trade waste connection to Sydney Water's wastewater is metered so the portion bypassing the plant will have to be estimated. We do not know how often this occurs.

It is important that wholesale prices incentivise the efficient use of infrastructure, and do not create perverse or unintended outcomes. We recommend that IPART include provisions or principles for determining an allocation between retail minus and non-residential prices in the Final Determination (if maintains this approach is retained). In addition, the Final Report should clarify that the onus should be on WIC Act licensees to demonstrate that they are maximising recycled water production. This would provide appropriate incentives to WIC Act licensees.

We request clarification from IPART on these issues before the Final Determination is released.

Also, the definition of bypass in the Draft Determination includes reference to one direct connection between Sydney Water infrastructure and the recycled water plant. This may not always be the case. In our existing schemes, there are multiple connections to our wastewater network throughout the scheme, rather than one connection through the plant.

## 6.4 Recycled water plant waste disposal

In the event that IPART proceeds with the non-residential price for recycled water plant waste disposal services, then we also have some implementation concerns.

As noted in Appendix B, there are multiple ways that wholesale schemes can be set up when it comes to water, wastewater and recycled water services. The Draft Determination is unclear regarding what water meter or meters should be used as the starting point for the calculation of the non-residential price for the recycled water plant waste disposal service.

We seek further clarification from IPART on the issues below before the Final Determination

### 6.4.1 Water meter connection supplying a scheme

The current wording of the Draft Determination seems to suggest that the starting water meter for the non-residential wastewater price would have to be connected to the recycled water plant. In most cases, this would be for drinking water top-up only. The drinking water top-up connection is not an appropriate proxy to use, as, conceptually, it is not an appropriate starting point for the wastewater price. The wastewater price is meant to reflect a proportion of total water use by the customer – or in this case, all of the wholesale customer's end-use customers across each WIC Act scheme.

Our preference would be to use all water meter connections supplying water to the wholesale **scheme** as the starting point for the non-residential wastewater charge. This is consistent with our current practice for non-residential retail customers as well as current wholesale arrangements using this pricing approach.

### 6.4.2 Sydney Water supplies the drinking water service

Using all water connections to the scheme would work for schemes where Sydney Water provides the WIC Act licensees both wholesale water and wholesale wastewater services. However, an implementation issue remains where Sydney Water is the drinking water provider to end-use

customers and there are many individual water meters. An example in a greenfield scenario may include Sydney Water providing drinking water to thousands of single dwellings with a WIC Act licensee retailing wastewater and recycled water services and connecting to our wastewater network. In this case, there may be a very large number of drinking water meters providing water to the scheme as a whole. This could also arise in an infill area with many individual apartment meters.

#### **6.4.3 Drinking water supplied by parties other than Sydney Water**

The Draft Determination does not specifically contemplate a scenario where the WIC Act licensee is purchasing drinking water for the scheme from a third party, such as the Sydney Desalination Plant (ie Sydney Water is not providing a wholesale water service).

We have not yet experienced this scenario, but recognise it may involve complexities in implementing the Final Determination. We do not think this is a fundamental issue to be solved for this first wholesale pricing determination; however, we wanted to highlight this as a potential implementation issue.

### **6.5 Prices to apply to new entrants who are not a WIC Act licensee**

The Draft Determination only sets maximum prices where there is a WIC Act retail licensee (defined as a Retail Supplier) involved in the supply to end-use customers. It will therefore not apply where Sydney Water supplies wholesale services to:

- non-Category A Schemes (less than 30 small retail customers)
- where there is a retailer to large customers who does not require a WIC Act retail licence under the *Water Industry Competition Amendment (Review) Act 2014* (the Amending WIC Act)
- a public authority or the other persons exempted from licensing under the WIC Act.

As these are not covered by the Draft Determination it is not clear to Sydney Water which prices we should charge in the event these retailing situations arise over the course of the determination.

In these cases, our initial view is that the Retail Determination would not apply as it only applies to the owner of a property or land for which those services are sought. We consider that the Final Determination on wholesale prices may provide a strong precedent for the charges that should be applied.

We would appreciate IPART's view on this matter.

### **6.6 Other implementation issues**

Sydney Water has noted a number of other minor implementation issues that IPART may wish to consider for the Final Determination. These relate to:

- mean number of Properties
- trade waste
- general definitional issues and wording correction.

We address these further in Appendix D.

## 7 Other matters

### Key messages

- **Facilitation costs** – In principle, all facilitation costs should be included in wholesale prices. However, for simplicity we are prepared to bear these costs during the first determination period.
- **Scheme-specific reviews** – We support scheme-specific reviews for more complex schemes that cannot adequately be accounted for within a system-wide wholesale price. We broadly support the process outlined in the Draft Report.
- **Unregulated prices** – We note IPART has included provision for unregulated agreements. We think this is unlikely to work in practice.
- **Existing schemes** – We support IPART’s proposed intention that any existing scheme should be carved out of the wholesale price determination. We do not have formal agreements in place for all schemes that appear to be captured by the Draft Determination.
- **Recovery of future revenue shortfall** – We would like a clear statement from IPART that it believes a revenue recovery mechanism is necessary to support the type of competitive market it is seeking to support.

### 7.1 Facilitation costs

Net facilitation costs should take into account both the costs to the wholesale service provider in providing the wholesale service, as well as any potential savings. In our submission to IPART’s discussion paper we identified the following categories of facilitation costs:

- wholesale customer contract negotiation costs
- wholesale service provider operational savings
  - wastewater pumping savings resulting from a wholesale customer’s recycled water facility
  - volumetric chemical dosing wastewater treatment savings
- system augmentation costs for an ‘out of sequence’ wholesale connection.

We proposed that wholesale customer contract negotiation costs should be recovered through a standard fee to reflect the cost to develop the standard contract plus hourly rates if the wholesale customer wishes to negotiate changes to the standard contract. These charges would apply system-wide.

IPART’s draft decision is to not include facilitation costs related to initial transaction costs or ongoing administration costs in wholesale prices.<sup>25</sup> We assume it is IPART’s intention that wholesale service providers and wholesale customers (or their shareholders) should bear/absorb these facilitation costs.

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<sup>25</sup> IPART’s draft decision is that ongoing administration costs would be included in facilitation costs if they were material; however no guidance is given on what the threshold for establishing materiality would be.

In principle, all facilitation costs should be included in wholesale prices. However, for simplicity, we are prepared to bear both initial transaction costs and ongoing administration costs during the first determination period.<sup>26</sup> IPART should revisit this decision at the next determination.

We recognise that, to have any administrative costs included in net facilitation costs, we would need to ring-fence these costs at a very granular level. In its review of our retail prices, IPART indicated that developing datasets by business function could facilitate a future move towards component pricing, which would make costs more transparent, assist in performance comparisons, and could open the sector up to greater competition. While we are therefore expecting a move towards greater ring-fencing over time, we note that what we would need to implement for wholesale pricing goes even further than this, and would require the allocation of costs within components (or business functions).

## 7.2 Scheme-specific reviews

In providing the comments below on scheme-specific reviews, we note that, given the limited time available to review the Draft Report and Determination, we have concentrated our response on IPART's draft system-wide prices and how they could be applied in practice (in particular for the new wholesale services not envisaged in IPART's earlier Discussion Paper).

IPART's draft decision is to allow wholesale customers and/or service providers to apply for a scheme-specific determination where they consider that the determined prices do not reflect the characteristics of a particular wholesale scheme. We support this option being retained in the Final Determination.

By its nature, a scheme-specific review allows for the determination of a more accurate price. It also provides an opportunity for all parties to ensure that the wholesale price appropriately reflects the services being provided by the public utility, as well as account for any additional benefits the wholesale customers is producing.

Under IPART's proposed timeframes, the wholesale service provider would be required to submit a pricing proposal within a specified timeframe, depending on complexity of the scheme. IPART suggests that the appropriate timeframe is likely to be one to three months. We agree that the proposal should be developed by the wholesale service provider, however we note the need for adequate time to do this. One month is highly unlikely to be enough time, especially given the wholesale service provider will be required to consult with the wholesale customer and incorporate the results of this engagement into the pricing proposal.

We also note that it would be difficult for the public utility to develop REC costs. This seems an unfair burden on the wholesale service provider. We could provide a pricing proposal based on our own costs, and seek input from the wholesale customer. IPART would then have the option to engage its own consultant to review our costs and pricing proposal, and make any necessary adjustments if it chooses to apply a retail minus REC approach. We do not see how any other approach would be feasible.

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<sup>26</sup> Although we note that if, in our view, there are material facilitation costs (including material administration costs), we will seek scheme a specific determination.

We also note and support IPART's statement at the public hearing that while the pricing approach used for system-wide prices may be the starting point for a scheme-specific review, the Tribunal would not be bound to adopt the same pricing approach.

Finally, we ask IPART to confirm in its Final Report that net facilitation costs could be assessed under all pricing approaches for wholesale services (ie net facilitation costs could apply to either a retail minus or a non-residential pricing approach).

### **7.3 Unregulated pricing agreements**

We note IPART's draft decision to allow for unregulated pricing agreements.

As stated at the public hearing, we do not believe that such agreements would happen in practice. While we are not opposed to the concept of unregulated pricing agreements in theory, we cannot envisage a situation where it would be beneficial for both parties to deviate from the determined price.

There may also be practical difficulties associated with entering an unregulated pricing agreement, as the public utility is then required to ring-fence any change in costs resulting from that agreement. Again, while we agree in principle with this position, such ring-fencing has a high administrative cost and, at present, could be difficult to do on an individual customer basis.

We recognise that unregulated pricing agreements are allowed under the WIC Act for third party access. However, we do not consider that the two approaches are comparable, given that the legislative basis is different and there is scope for negotiated wholesale prices under an unregulated pricing agreement to be re-regulated through a future IPART determination.

Accordingly, our current position is that if there is to be a regulated price for wholesale services, this price should be applied consistently to all wholesale customers.

### **7.4 Existing arrangements**

We support IPART's draft decision to apply wholesale prices to new schemes only. It is appropriate that agreements negotiated prior to this determination are not automatically captured by the default system-wide prices.

In our previous submissions to this review, Sydney Water stated that we only had three existing wholesale services arrangements. This was based on IPART's previous descriptions and definitions of wholesale services.

IPART's new approach, with the proposal for recycled water waste disposal and drinking water top-up being classified as wholesale services, captures a greater number of existing WIC Act schemes. We do not have Utility Service Agreements in place for all of these schemes, as there is no connection between the WIC Act utility and Sydney Water. Rather, we have been providing drinking water to the property connected to our network under our standard Customer Contract (not the WIC Act licensee), which is then used for drinking water top-up at the recycled water plant.

As stated at the public hearing by the IPART Secretariat, the intention of the Draft Determination is to treat any scheme involving existing supply as of 1 March 2017 as an existing scheme. It would be helpful for this to be clarified in the Final Determination.

We also request that IPART confirm in the Final Report what will happen at the end of the term of any current agreements. According to the current drafting, we understand that these schemes would then be captured by wholesale determination. However, we are unclear whether this would occur only if a wholly new agreement was negotiated, or if this would also include the renewal or extension of a current agreement.

Further detail and suggested wording changes are included in Appendix D.

## **7.5 Future treatment of wholesale revenue and recovery of revenue shortfall**

### **7.5.1 Treatment of wholesale revenue**

We are assuming that the following process will occur as part of the next retail price review:

- forecast total revenue requirement
- deduction of forecast wholesale revenue
- residual revenue recovered through retail charges.

It would be helpful for this to be addressed in the Final Report.

This issue is also relevant to the impact of using non-residential prices versus a retail minus pricing approach for wholesale services. In our discussion of the impacts of proposed wholesale prices, we have assumed that the above process will occur in relation to the setting of future retail prices. This is why lower wholesale prices under a non-residential pricing approach (compared with retail minus) lead to higher retail prices for public utility customers (and vice versa). If this is not the way that IPART is intending to deal with wholesale revenue, then we need to know, in order to effectively assess the impact of IPART's decisions.

### **7.5.2 Recovery of revenue shortfall**

As noted throughout this submission, where REC costs are greater than the public utility's efficient avoidable costs, we will incur a revenue shortfall (which is equal to the subsidy provided to wholesale customers).

IPART needs to provide further guidance on how any revenue shortfall would be treated. The regulatory framework is predicated on a regulated business having a reasonable opportunity to recover its efficient costs. Under the Draft Determination, we now face a risk that we cannot recover the difference between efficient avoidable costs and the REC benchmark. We consider that it is inappropriate for our shareholders to bear this risk and not be compensated for it (eg through a higher return).

That the quantum of revenue shortfall may be small is a moot point. The approach taken should be consistent with regulatory precedent and best practice. Ideally, the Final Report would both state IPART's current position on this issue and propose a transparent method for recovering the costs of the subsidy to wholesale customers.

We note that where there is a future uplift in retail prices to recover the shortfall between avoidable costs and REC costs from customers, this introduces an inefficiency and leads to a deadweight loss.

## Appendix A Bill/shareholder impact modelling

### Background and context

IPART's draft wholesale prices are likely to result in an under-recovery of the total cost required by Sydney Water to provide water and wastewater services to the community, at least in the short term. IPART have stated that these additional costs would either be levied on Sydney Water's wider customer base through an increase in customer bills, or result in a reduced dividend to the NSW Government.<sup>27</sup> IPART has not analysed the likely size of the additional costs/subsidy.

Sydney Water has developed a model to estimate the potential impact on our customers' bills. We have modelled three potential future scenarios, each assuming different market uptake by wholesale WIC Act licensees in combination with a resulting level of savings end-use customers might expect from increased dynamic efficiencies in these markets.

For this exercise, we have defined the market as being for just those two components that IPART has adopted in system-wide prices – ie reticulation and retail services. Our base case assumes that IPART adopts a wholesale pricing approach using an EEC cost minus.

The bill impact for each of the three scenarios is the difference between IPART setting retail minus EEC prices compared to different pricing approaches used by IPART in the Draft Determination.

### Key findings

We have examined two potential pricing cases for each of the three WIC Act licensee market uptake scenarios:

1. IPART sets all water and wastewater service on-selling to retail minus REC - including when a wholesale customer both on-sells wastewater services and provides recycled water services
2. IPART uses retail minus REC prices for wholesale water services and non-residential prices for recycled water plant waste disposal services (its current proposed approach).

Under the first case (retail minus REC only), the present value of dynamic efficiencies which must be delivered to end-users to make society no worse off relative to retail minus EEC pricing are between \$20 million and \$40 million. This is equivalent to a 20 and 30 per cent increase in the catch-up and ongoing efficiency rates applied in recent retail price determinations.<sup>28</sup>

Under the second case, as a result of the large additional allowance relative to REC or EEC and because IPART's draft decision is that the non-residential prices do not need to transition to REC or EEC over time:

- customers will bear continual increases in their bills with increasing WIC Act licensee retail and reticulation market participation. This equates to up to a \$30 increase over the next 20 years unless this can be balanced by extremely large dynamic efficiencies

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<sup>27</sup> Draft Report, Section 5.3.1, p 53.

<sup>28</sup> Recent combined catch-up and ongoing efficiency rates applied to Sydney Water's cost to serve have been roughly 1% per annum. Dynamic efficiency would need to achieve 1.2 – 1.3% per annum incremental efficiency in the delivery of retail and new reticulation services to make society no worse off under retail minus REC relative to retail minus EEC under the three scenarios forecast.

- Sydney Water’s customers (or Sydney Water’s shareholder) must provide an inefficient subsidy to new entrants of \$150 million to \$870 million over the next 50 years
- the present value of dynamic efficiencies that would need to be delivered to end-users to make society no worse off relative to a retail minus EEC pricing approach are between \$150 million and \$870 million. This is equivalent to between a two- and nine-fold increase in the catch-up and ongoing efficiency rates applied in recent retail price determinations.<sup>29</sup>

Table 1 - Dynamic efficiency required to balance the subsidy by scenario (PV\$M)

Dynamic Efficiency required to balance the subsidy (PV\$M)	Under REC	Under Non-res**/REC combined pricing
Static	\$40	\$150
Modest	\$20	\$550
High	\$0*	\$870

\*As the High scenario assumes maximum market share for WIC Act Licensees from the outset, all Licensees would pay EEC prices from the outset (see Scenario assumptions section). Therefore, no additional dynamic efficiency is required as the subsidy is zero in this scenario and case combination.

\*\*Non-residential prices do not transition to EEC

## Scenario assumptions

- We forecast changes in market share and in efficiency based on analysis of how these have changed in the recent past since the introduction of WIC Act.
- Present values have been calculated over 50 years.
- Discount rate is the real post tax WACC of 5.9%.
- Increases in efficiency which might result from an increase in market share by WIC Act licensees have been developed using the Mini-Delphi forecasting method. They take into account what might be reasonable, relative to the historical increases in efficiency IPART has required of Sydney Water in recent retail price determinations.
- EEC annual revenue requirement (bill impact) has been calculated using a similar methodology to that used by IPART to determine REC revenue requirement (the minus) but using Sydney Water’s costs.
- EEC, REC and non-residential based allowable annual revenue requirement to deliver retail and reticulation services are proportional to those applicable to the typical 2,000 dwelling infill and 10,000 dwelling greenfield wholesale scenarios presented in IPART’s draft determination and assume wholesale customers continue to adopt a price parity policy.
- Table 2 provides the assumptions used for each scenario and comments on how and why these assumptions were chosen.

<sup>29</sup> Recent combined catch-up and ongoing efficiency rates applied to Sydney Water’s cost to serve have been roughly 1% per annum. Dynamic efficiency would need to achieve 2-9% per annum incremental efficiency in the delivery of retail and new reticulation services to make society no worse off under combined non-residential pricing and retail minus REC relative to retail minus EEC under the three scenarios forecast.

Table 2 - Scenario assumptions

Assumption	Base case	Static scenario	Modest scenario	High scenario	Comments
WIC Act market share – what proportion of new dwellings will be serviced by WIC Act licensees each year	<p>Static proportion of 1.9% each year in the future (this is, still an increasing number of dwellings served but at roughly half the proportion of new dwellings they serviced in 2016)</p> <p>For comparison, this scenario assumes all services are delivered at EEC. This means that the WIC Act market share has no bill or shareholder impact.</p>	<p>Static proportion of 3.8% each year (that is, increasing number of dwellings served but no change in the <b>proportion</b> of the new dwellings served since 2016)</p>	<p>Increasing proportion, 2% higher each year.</p>	<p>Static proportion of 37% (maximum) from the outset.</p>	<p>All assumed future WIC Act market shares are reasonable scenarios given the increases seen in previous years. The base case assumes that half of the current market share is purely driven by the potential for non-res pricing arbitrage so assumes the WIC Act market share would halve in the first year if this was removed. The high scenario assumes the WIC Act market share moves to the maximum possible in the first year. This is a very high increase in share relative to previous years however has been chosen to illustrate the maximum impact possible.</p>
Maximum WIC Act market share – what is the highest proportion of new dwellings which WIC Act licensees could service each year	<p>37% of the new dwellings in each year but N/A</p> <p>As this scenario is restricted to a static proportion, this assumption does not materially affect the outcomes</p>	<p>37% of the new dwellings in each year but N/A</p> <p>As this scenario is restricted to a static proportion, this assumption does not materially affect the outcomes</p>	<p>37% of the new dwellings in each year</p>	<p>37% of the new dwellings in each year</p>	<p>37% represents the proportion of growth which is either Greenfield or Urban renewal over the next 30 years. The remaining infill growth is likely to occur in small pockets so we have assumed it would be unlikely to be serviced by WIC Act licensees.</p>

Assumption	Base case	Static scenario	Modest scenario	High scenario	Comments
Number of years taken to transition from REC to EEC – relative to the year the WIC Act market is forecast to reach the maximum share in that scenario.	N/A This does not apply to this case as all cost to serve and consequential revenue allowances are EEC.	N/A This never comes into effect in this scenario as the WIC Act market share is static and well below the maximum.	10 years before the WIC Act market share reaches maximum	N/A As this scenario assumes maximum share from the outset, EEC costs are also assumed from the outset.	We have assumed a linear rate of transition.
Underlying increase in market efficiency – annual % reduction in revenue requirement to deliver retail services to all customers and reticulation services to new customers	1%	1%	1%	1%	Consistent with IPART’s recent retail pricing determinations of combined catch-up and ongoing efficiency used by IPART/consultants in expenditure review.  This increase in efficiency has been applied to the retail component of the EEC cost to serve all customers (as this cost is largely homogenous across Sydney Water’s customer base so any efficiency in the delivery of retail services to new customers would mean that the average existing customer cost to serve also decreased).

Assumption	Base case	Static scenario	Modest scenario	High scenario	Comments
Additional efficiency directly attributable to increased market share by WIC Act Licensees – additional annual % reduction in revenue requirement to deliver retail services to all customers and reticulation services to new customers (since 2009).	0%	0.25% That is, 25% higher total incremental efficiency each year than the base case	0.5% That is, 50% higher total incremental efficiency each year than the base case	0.75% That is, 75% higher total incremental efficiency each year than the base case	Developed using the Mini-Delphi forecasting method.  This increase in efficiency has been applied to the retail component of the EEC cost to serve all customers (as this cost is largely homogenous across Sydney Water’s customer base, so any efficiency in delivery of retail services to new customers would mean that the average existing customer cost to serve also decreased).
Cumulative efficiency ceiling – the total decrease in nominal revenue requirement possible to deliver retail services to all customers and reticulation services to new customers relative to the EEC cost now.	30%	30%	30%	30%	Developed using Mini-Delphi forecasting method. Presumably increases in efficiency cannot occur forever as services cannot be delivered for free.  As Sydney Water has been regulated for many years, and a large portion of cost to serve components are outsourced by competitive tender, it is likely that these costs are already approaching those of a ‘frontier firm’.

## Appendix B Detail on potential scheme configuration

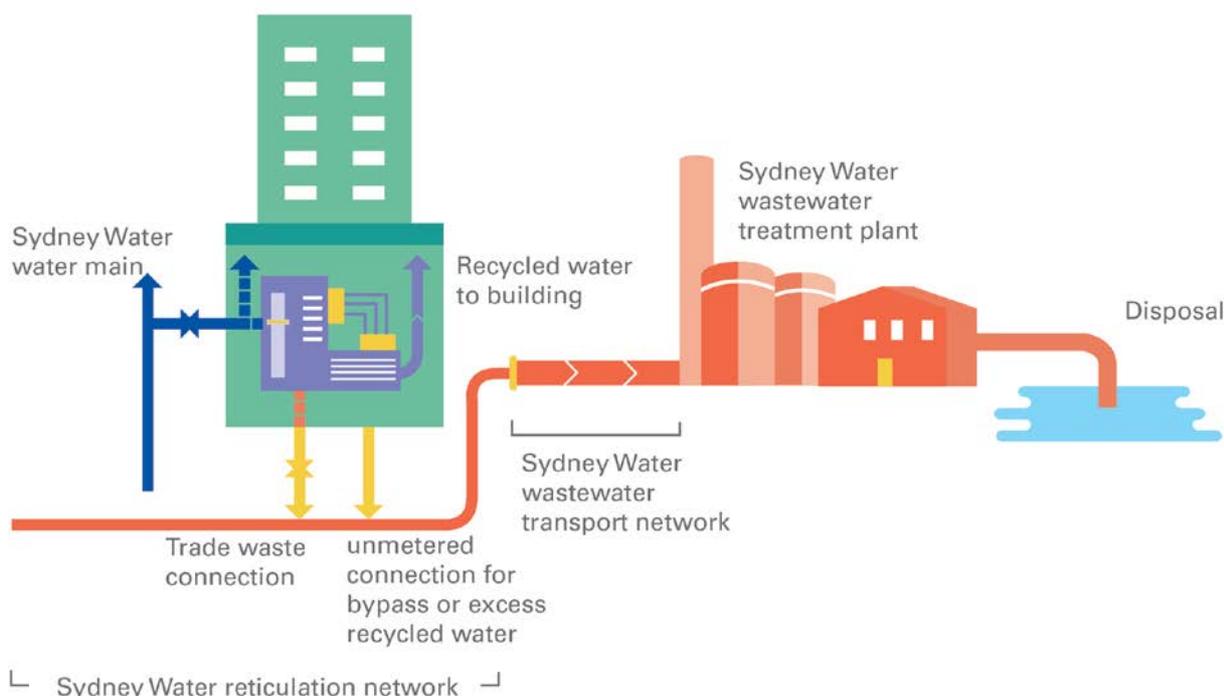
As outlined in Section 3.2 different schemes will be configured in different ways. Many of the typical configurations will present difficulties in applying the Final Determination.

Examples of four potential scheme configurations are outlined below to assist IPART in understanding the complexity in how we service wholesale customers and the variety of different servicing arrangement we might see in the future.

We hope that this will support IPART to ensure the Final Determination can be practically implemented.

### Potential configuration 1: Commercial building with on-site recycling

Figure 6 - Example of an in-building recycled water plant



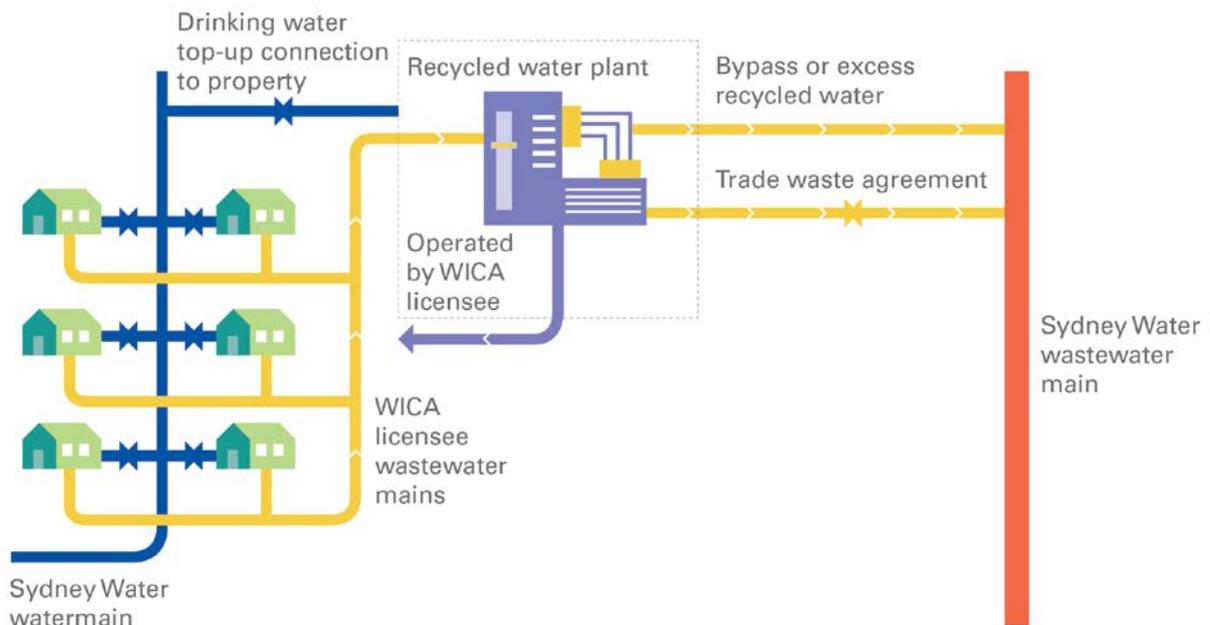
In this scheme:

- Sydney Water is the drinking water and wastewater service provider to the building.
- The property is connected to Sydney Water infrastructure by a single drinking water meter connection, a trade waste discharged metered connection and an unmetered wastewater connection.
- The drinking water top-up service is not separately metered and therefore under the current wording of the Draft Determination would have a deemed 100mm meter (which is potentially a larger meter than required for the entire building's demand).
- We have an industrial agreement for the recycled water plant waste discharge point and commercial agreement for trade waste discharge from commercial outlets in the building.
- There is no meter on the bypass connection point.

- Currently, Sydney Water would charge a similar property the following charges:
  - water service charge
  - water usage charge
  - sewer service charge (78 per cent assessed discharge factor)
  - sewer usage charge
  - industrial agreement fee
  - industrial pollutant charges
  - commercial permit fee
  - assessed pollutant charges (for commercial premises)
  - wastesafe Fee (5,000L – grease trap)
- At the property's wastewater connection point and downstream of the connection point, Sydney Water's wastewater network remains the same. We are required to size the network so that it can accept all wastewater from the building. Our obligation to serve is based on our connection with the building as our retail wastewater customer.
- Under IPART's Draft Determination, we are providing drinking water top-up wholesale services to the property owner who on-supplies that to the network operator. The property owner would therefore be both our wholesale customer and our retail customer.

## Potential configuration 2: Greenfield development with recycled water

Figure 7 - Example of a Greenfield WIC Act recycled water scheme



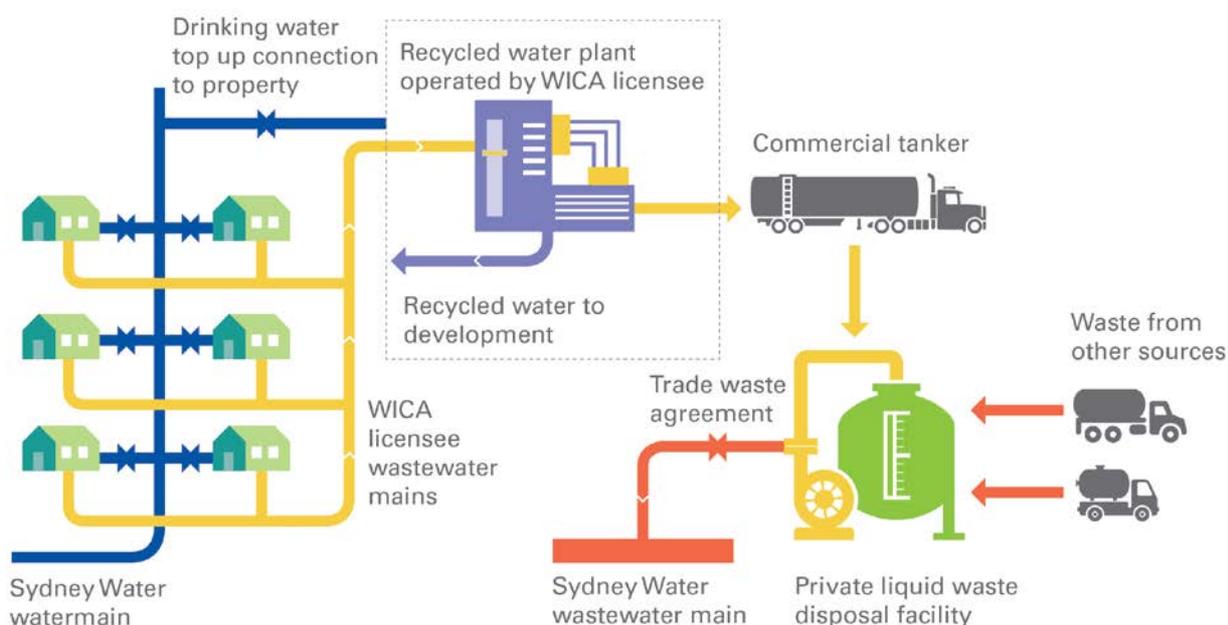
Note: --- indicates property boundary

In this scheme:

- Sydney Water is the water service provider to individually metered properties within the development.
- Sydney Water also supplies drinking water for drinking water top-up to the property where the recycled water plant is located. This service is metered, but is not sized in relation to the water usage of the entire scheme.
- The recycled water plant is connected to Sydney Water wastewater infrastructure via a metered trade waste connection and an unmetered wastewater connection.
- There is no meter on the bypass connection point.
- Sydney Water would charge the individual properties the relevant water charges in line with the current retail determination.
- Currently, Sydney Water would charge the property on which the recycled water plant is located the following charges:
  - water service charge for drinking water top-up
  - water usage charge for drinking water top-up.
- Currently, Sydney Water charge the licenced operator of the recycled water plant the following charges:
  - sewer service charge (78 per cent discharge factor for 1,000x20mm Commercial meter charges)
  - sewer usage charge (Manually calculated = Trade Waste discharge + estimated discharge from the bypass connection)
  - industrial agreement fee
  - industrial pollutant charges.
- At the property's wastewater connection point from the recycled water plant and downstream of the connection point, Sydney Water's wastewater network remains the same. Although we do not have experience with this type of scheme configuration to date, we expect that if the WIC Act licensee does not have access to other means of discharge (eg an environmental protection licence) or sufficient on-site storage, we would need to size our network so it could accept all wastewater from the scheme.
- Under IPART's Draft Determination, we are providing the wholesale service 'drinking water top-up' to the property owner who on-supplies that to the network operator. The property owner would therefore be the wholesale customer.

## Potential configuration 3: Greenfield development with tankering services provided to the recycled water plant

Figure 8 - Example of a Greenfield tankering arrangement



Note: --- indicates property boundary

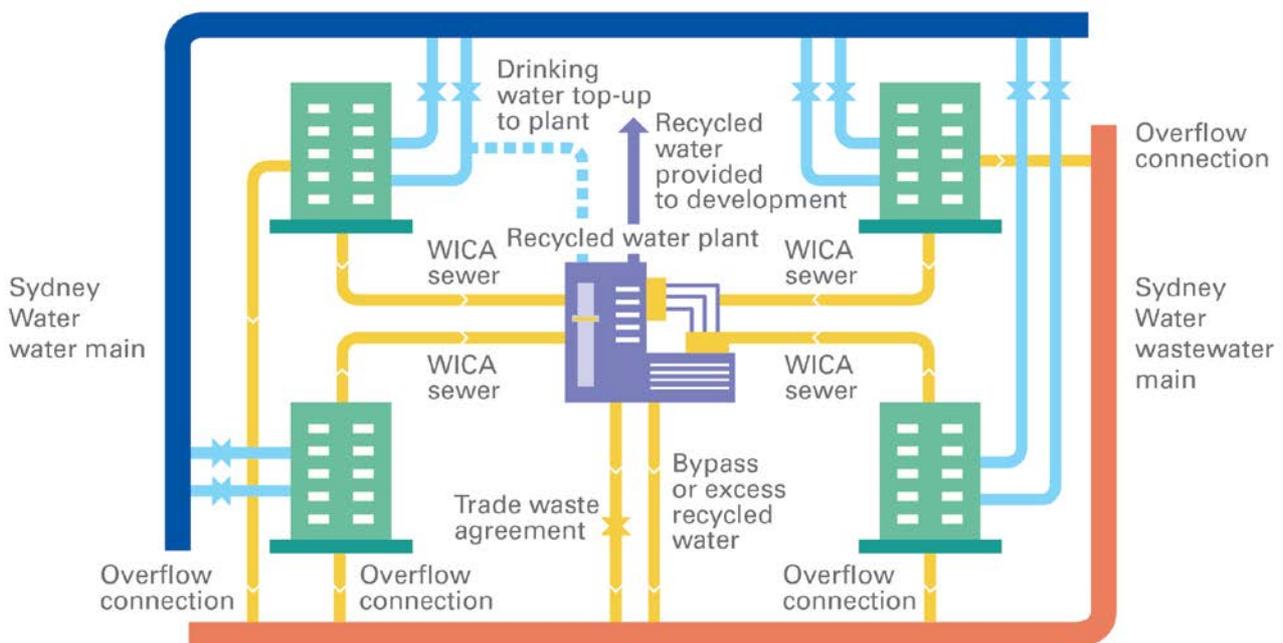
In this scheme:

- Sydney Water is the water service provider to the individually metered properties in the development.
- The property on which the recycled water plant is located is connected to Sydney Water infrastructure for drinking water top-up only.
- The drinking water top-up service is metered, but is not sized in relation to the water usage of the scheme.
- Sydney Water would charge the individual properties the relevant water charges in line with the current retail determination.
- Currently, Sydney Water would charge the property on which the recycled water plant is located the following charges:
  - water service charge
  - water usage charge.
- The licensed network operator engages a tankering company to collect the recycled water waste (which may include untreated wastewater, treated recycled water and sludge from the plant) and transports that to a private liquid waste processing facility, which is connected to Sydney Water's wastewater network.
- Sydney Water collects industrial trade waste charges from the private liquid waste processing facility for the discharge from the treatment plant of all its collected waste water throughout Sydney.

- Sydney Water also collects the usual drinking water and waste water charges for this Industrial site. The usage of water for this site has no correlation to the wastewater collected from the recycled water treatment plant.
- Under IPART's Draft Determination it appears that we would be providing recycled water plant waste disposal services to the private waste facility, who then on-supplies these services to the tankering company. These are then on-supplied to the property owner who on-supplies to the network operator who on-supplies to the retail supplier. The private waste facility would be classified as the wholesale customer.
- This is an extremely complex set up and we do not believe that for this first determination tankering should be included in the definition of on-supplying, even though our wastewater network would be being relied on to on-sell wastewater services.

### Potential configuration 4: Infill development with recycled water provided to multiple mixed use buildings

Figure 9 - Example of an infill WIC Act scheme



In this scheme:

- The WIC Act licensee is the retailer of all water products (drinking water, recycled water and wastewater).
- Each individual building within the scheme is separately connected to the Sydney Water network as contingency for plant or power failure at the request of the network operator and as detailed in the WIC Act licence applications.
- The property on which the recycled water plant is located is connected to Sydney Water infrastructure for drinking water top-up, a trade waste connection and an unmetered wastewater connection.

- There could be a scenario of partial bypass occurring simultaneously with the recycled water plant being operational.
- The drinking water top-up service is metered, but is not sized in relation to the water usage of the scheme.
- There is no discharge meter on the bypass connection point from the plant or individual buildings overflow connection points.
- Under the Draft Determination, we would charge the retail-supplier for on-selling drinking water services applying a retail minus approach.
- Under the determination, it is less clear how we would charge for wholesale wastewater services. It appears we would be required to levy both recycled water plant waste disposal services charges and retail minus charges. This may lead to implementation issues.
- It would be useful to have a worked example in the Final Report that demonstrates how to apply the wholesale determination to this type of scheme, which has multiple discharge points. This would assist us in being able to correctly apply the new Final Determination.
- At the multiple wastewater connection points from the recycled water plant and the buildings Sydney Water's wastewater network remains the same. From our experience of these types of developments to date, we have been requested to size our network so that it can accept all wastewater from individual properties, in the event the plant is not operating (eg power failure), or discharging significant amounts of wastewater or treated recycled water (eg if recycled water does not meet *Australian Guidelines for Water Recycling (AGWR)*).

## Appendix C Further detail on REC cost calculations

### REC vs EEC costs – as a proportion of retail revenue

We have calculated below indicative deductible REC costs and EEC costs (as a percentage of retail revenue) for the three example wholesale schemes in the Draft Report, based on our cost estimates (mentioned below) and scheme parameters provided by IPART.

Table 3 - Indicative deductible REC and EEC costs

IPART's indicative wholesale scheme	REC as a % of retail revenue from the scheme	EEC	REC - EEC
Scheme 1 (high density inner city development)	12%	4%	8%
Scheme 2 (small greenfield low density development)	23%	11%	13%
Scheme 3 (Large greenfield low density development)	23%	11%	12%

The results show the following:

- The EEC costs for performing retail and reticulation services as a percentage of retail revenue ranges from 3.5% to 10.9%. However, similar calculations based on the REC cost estimated by IPART, shows a higher cost proportion of the retail revenue, ranging from 11.7% to 23.5%.
- In aggregate, REC costs are approximately 2.1 to 3.3 times higher than EEC costs.

### Retail and reticulation asset costs

In its REC cost modelling, IPART has assumed that both retail (ie meters) and reticulation assets are gifted assets, and excludes the value of the assets when calculating a return on assets and depreciation allowance for a reasonably efficient competitor until the assets are replaced. This is largely consistent with how such assets are treated for public utilities, except for meters, where some of the forward meters will be gifted (ie for multi-unit meters), but majority of meters will still be funded by public utilities.

Table 4 - Retail and reticulation asset costs

	AFOC / Asset replacement (\$2015-16)		
	Retail assets (incl meters), \$/customer	Water, \$/km	Wastewater, \$/km
IPART REC costs	500.00	139,349	344,431

#### Retail assets

Overall, the REC retail asset costs are around 3.7 times higher than Sydney Water's costs.

In particular, the unit rate assumed for meter capital cost of \$500 per 20mm meter (per customer) seems very high. Sydney Water's cost is about 5 times lower, at less than \$100.

Sydney Water's cost in our EEC calculations also includes some costs for non-metering infrastructure. IPART has assumed that a new entrant service provider would seek to outsource these aspects of the service delivery.

## Reticulation assets

IPART has relied on the benchmark unit rates in the “NSW Reference Rates Manual” published by the Department of Primary Industries – Office of Water in 2014, in determining the reticulation asset cost used in the REC calculation for new entrant service providers.

IPART has adopted an engineering principle based approach to reticulation asset costs. This seems like a reasonable and sound method.

With regard to some of the particular assumptions used, the REC costs assume that all water pipes are made from DICTL steel. However, based on our experience, around two thirds of water pipes are made from plastic (uPVC, oPVC, mPVC) and about one third from DICTL.

An asset valuation approach should also generally give lower wastewater costs, primarily because of construction sequencing, particularly in Greenfield situations. Wastewater mains are typically laid in the backyard of each lot prior to construction, not along the footpath. This means there are generally less restoration costs and a more limited length of connection per property, compared to water.

The REC costs for wastewater reticulation assets also include excavation and backfill (often referred to as ‘cavity hole’) costs as part of renewal costs. This is not consistent with modern practice. Instead of excavating and replacing the pipe, it would be re-lined. By including this cost, the REC costs may be overstated. We note that this is assuming that the wastewater reticulation system is a gravity system (around 99 per cent of our wastewater network is gravity). For pressure systems, costs to the utility can vary greatly, depending on the utility’s arrangement with the customer (ie whether the utility or the customer pays for ongoing maintenance of equipment).

The NSW Reference Rates Manual used by IPART (see Note 10 on page 21 of the NSW Reference Rates Manual), estimates that the costs for excavation and backfill (or cavity hole) are typically about 60 per cent of the cost of reconstructing a shallow sewer, ie an existing sewer main would be valued at 40 per cent of its replacement cost at the end of its useful life.

## Retail and reticulation operating expenditure

IPART has used different information sources for retail and the reticulation cost information. For the non-metering infrastructure for retail activities (such as billing and call centre activities), IPART has assumed that a new entrant service provider would seek to outsource these aspects of service delivery. For determining the reticulation operating costs (such as operations & maintenance (O&M) costs), IPART’s estimates are based on median figures provided in the 2014-15 NSW Water Supply and Sewerage Performance Monitoring Report from the Department of Primary Industries.

As shown in Table 5, these costs are much higher than Sydney Water’s estimated efficient operating costs.

Table 5 - IPART REC costs compared to Sydney Water's estimated costs

	OPEX (\$2015-16)		
	Retail cost, \$/customer	O&M Water retic, \$/km	O&M Wastewater retic, \$/km
IPART REC costs	84.00	1,989.83	2,371.30
SWC's estimated costs	21.83	1,258.76	874.14
Diff = IPART - SWC	62.17	731.07	1,497.16

### Retail operating costs

Overall, the REC retail operating costs are around 3.8 times higher than Sydney Water's estimated average costs of about \$22 per customer.

Table 6 below shows further comparison of the breakdown of component costs that are included in REC costs compared to Sydney Water retail OPEX costs.

Table 6 - Comparison of cost components

Cost Item	Reasonable Efficient Competitor (REC)	Efficient Entry Costs (EEC)	REC - EEC
Billing services	24	3.4	20.6
Call centre	48	4.7	43.3
Outbound customer communications	6		6.0
Meter reading		4.3	-4.3
Payments and debt recovery		7.3	-7.3
Customer account management		2.1	-2.1
Other	6		6.0
<b>Total retail cost to serve</b>	<b>84</b>	<b>21.8</b>	<b>62.2</b>

The retail REC operating costs are based on a per customer transaction per month basis, provided by external companies that offer retail services to utilities.

By multiplying the monthly per customer transaction rate by 12 months, and applying the rate to all customers (through the REC mechanism), IPART may have overstated the applicable REC cost. The figure of \$48 per customer per annum (ie \$4 x 12) for call centre cost implies a call per month by each customer.

Assuming that every customer will contact the utility once every month throughout the calendar year seems unlikely.

In contrast, Sydney Water's retail cost per customer was derived from the cost to serve for a particular retail activity, divided by the number of Sydney Water customers. This seems to be a more accurate method of estimating costs for this type of activity.

## **Reticulation operating costs**

The REC costs for reticulation opex is around 1.6 times higher than Sydney Water's costs for water, and 2.7 times higher for wastewater.

Our own experience is that opex for wastewater reticulation is significantly lower than opex for water reticulation. This is because opex costs for water and wastewater networks are largely related to costs to fix water main failures or sewer blockages. Clearing a sewer blockage generally involves sending a root cutter into the pipe, without the need for excavation. This means that the cost per job is typically much cheaper than fixing water main failures, which requires digging up of pipes.

Sydney Water's costs also reflect generally the assets' life cycle operating costs, ie operating expenditure should match the age of the assets being operated. Although IPART supported this approach, we believe that IPART has adopted an average cost in its REC cost calculation, thus has front-end loaded its assumed operating costs in the earlier years.

The costs used in IPART's REC calculation are based on the NSW Benchmarking Report 2013–14. This report contains annual average operating costs from each organisation. This is likely to include aged infrastructure that would not appropriately reflect advances in efficient infrastructure provision in recent years. This is likely to also reflect higher operating costs than those for a newly established water or sewer network.

## Appendix D Implementation issues and corrections

Sydney Water has outlined below a number of implementation issues or corrections for the Draft Determination and Report as further detailed in Chapter 6. We would be pleased to discuss these further with IPART.

### Draft Determination

Clause	Issue	Comment	Proposed amendment (if applicable)
<b>Schedule 1</b>			
<b>Clause 2 and 3</b>	<b>Retail Component for On-Selling Water Services</b>	We note that in Clause 2 and 3 of Schedule 1, the Retail Component refers to the mean number of Properties in the Period. However, this cannot be determined until the end of the Period, ie after the year has finished. This is particularly the case when the wholesale scheme is under construction.	It is likely that we will need to estimate Property numbers to charge during the Period. Therefore, we request that IPART includes in the Final Determination an adjustment mechanism to account for any over or under recovery during the Period (due to changes in Property numbers).
<b>Schedule 2</b>			
<b>Clause 2 and 3</b>	<b>Retail Component for On-Selling Sewerage Services</b>	As with Schedule 1, the Retail Component refers to the mean number of Properties in the Period. However, this cannot be determined until the end of the Period, ie after the year has finished. This is particularly the case whole the wholesale scheme is under construction.	It is likely that we will need to estimate Property numbers to charge during the Period. Therefore, we request that IPART includes in the Final Determination an adjustment mechanism to account for any over or under recovery during the Period (due to changes in Property numbers).
<b>Clause 3.4</b>	<b>Trade waste administration fees not included in the retail charge</b>	We note that trade waste administration charges are explicitly excluded from the Draft Determination. However, there are instances for our existing schemes (that may occur in the future) where we do provide trade waste services to the end-use customers of the wholesale customer, such as wastesafe services and commercial trade waste monitoring inspections.	We request that IPART clarify in the Final Determination and Final Report its intention on how we are to levy charges for trade waste services provided to end-use customers.  If it is not IPART's intention that we are able to levy charges under the Retail Determination, we propose that the wording in Clause 3.4(b) be amended to allow these charges to be included in the wholesale price:

Clause	Issue	Comment	Proposed amendment (if applicable)
		<p>Sydney Water assumes from the wording of the Draft Determination, that while we are not able to raise administration charges under the wholesale Determination, we are still able to do so under the Retail Determination. That is, where we do provide trade waste services to the end-use customers we are able to charge the end-use customer under the Retail Determination.</p> <p>If that is not IPART's intention we do not consider it appropriate that Sydney Water is not able to recover the costs of providing those services to a wholesale customer's end-use customers, as these services are not being on-supplied by the wholesale customer.</p>	<p><i>For the purposes of paragraph (a), the Trade Waste Charge for a Property does not include any fee or charge that Sydney Water would otherwise be able to charge for:</i></p> <p><i>(1) establishing, administering, renewing or varying a Trade Wastewater Agreement for the supply of trade waste services to that Property;</i>  <i>(2) conducting inspections in relation to trade waste services supplied to that Property; or</i>  <i>(3) processing applications in relation to trade waste services,</i>  <i>if it supplied the Retail Trade Waste Services except to a Property beyond the Wholesale Connection Point where Sydney Water provides the Property that service to the same extent as if that Property were Sydney Water's Customer.</i></p>
<b>Schedule 3</b>			
<b>Clause 1 and 2</b>	<b>Application of Drinking Water Top-up Services</b>	<p>Schedule 3 does not appear to contemplate a situation where the Recycled Water Plant is located within a building to which Sydney Water also supplies retail drinking water.</p> <p>For example, where the drinking water top-up meter is not separately metered and the whole property connection point is only 80mm. Charging a deemed 100mm non-residential charge for the Drinking Water Top-Up service would mean Sydney Water receives two charges for only one service.</p>	<p>We request that IPART considers this matter when finalising how it wishes to treat a scheme where there is no Drinking Water Top-Up Meter.</p>

Clause	Issue	Comment	Proposed amendment (if applicable)
<b>Schedule 4</b>			
	<b>General comments</b>	As outlined in this submission, Sydney Water does not agree with IPART’s pricing approach for Recycled Water Plant Waste Disposal Services.	<p>We propose that this entire Clause 4 be removed from the Final Determination to reflect that even if a wholesale customer is providing a recycled water service the wholesale customer is still on-selling Sydney Water’s wastewater service, and a retail minus price should apply.</p> <p>If IPART does not accept this position, we provide potential amendments to this Schedule below to ensure we are able to implement the determination.</p> <p>We also note that some of the current requirements in this and related schedules are administratively burdensome and potentially technically difficult to manage. We have tried to ensure that the resulting Final Determination (if IPART does not accept our position) is workable. We are happy to work further with IPART in this regard.</p>
<b>Clause 1</b>	<b>Explanatory note relating to Bypass</b>	As outlined in this submission, there are multiple ways in which bypass can occur from a Recycled Water Plant and/or Recycled Water System. The explanatory note in Clause 1 does not consider that there may be cases where the Recycled Water System is operating on bypass at the same time as producing recycled water through the Recycled Water Plant, which also simultaneously may be on bypass.	<p>We propose that IPART include in the explanatory note that there are multiple modes in which the Recycled Water System and the Recycled Water Plant might be operating on bypass. We propose the following wording:</p> <p><i>If the recycled water plant is bypassed, so that wastewater that would ordinarily be processed by the recycled water plant is discharged into Sydney Water’s mains or where the recycled water plant is both producing recycled water and bypassing to Sydney Water’s mains, then while the recycled water plant or system is <del>bypassed</del> discharging wastewater or treated recycled water to Sydney Water’s mains:</i></p>

Clause	Issue	Comment	Proposed amendment (if applicable)
			<p>- the service supplied by Sydney Water will be an On-Selling Sewerage Service, and the methodology in schedule 2 will apply; and</p> <p>- Sydney Water will be taken not to have supplied sewerage or trade waste services to the recycled water plant.</p>
<p><b>Clause 2(a) and 2(b)</b></p>	<p><b>Wholesale Connection Point for Recycled Water Plant Waste Disposal</b></p>	<p>In many of our existing schemes and for the proposed schemes such as Shepherds Bay (as per the licence application under the <i>Water Industry Competition Act 2006</i>, available on IPART's website), the Recycled Water System may have multiple discharge points, including from the Recycled Water Plant. This means that there is more than one Wholesale Connection Point.</p>	<p>We propose the following amendments (noting that amendments to Clause 1.1 of Schedule 5 will be required:</p> <p><i>Subject to clause 3, the maximum price that Sydney Water may levy for supplying a Recycled Water Plant Waste Disposal Service at <del>a</del> the Wholesale Connection Points is the sum of the following:</i></p> <p><i>(a) the maximum price that Sydney Water would, under the Retail Determination, be able to levy for supplying the sewerage services that form part of the Recycled Water Plant Waste Disposal Service if <del>the</del> each Wholesale Connection Point were taken to be a Metered Non Residential Property; and</i></p> <p><i>(b) the maximum price that Sydney Water would, under the Retail Determination, be able to levy for supplying the trade waste services that form part of the Recycled Water Plant Waste Disposal Service if <del>the</del> each Wholesale Connection Point were taken to be a Metered Non Residential Property.</i></p>
<p><b>Clause 2</b></p>	<p><b>Wholesale Connection Point for Recycled Water Plant Waste Disposal - Meters</b></p>	<p>Sydney Water is of the view that the current wording does not consider what Meter or Meters should be used as the starting point for the calculation of the Recycled Water Plant Waste Disposal Service where there are a number of wholesale drinking water connection points.</p>	<p>Our preference would be for this clause to be clarified to allow the approach of using all water meter connections supplying water to the wholesale <b>scheme</b> as the starting point for the non-residential wastewater charge.</p>

Clause	Issue	Comment	Proposed amendment (if applicable)
<p><b>Clause 2</b></p>	<p><b>No drinking water Wholesale Connection Point for Recycled Water Plant Waste Disposal</b></p>	<p>The current wording in the Draft Determination does not appear to contemplate where Sydney Water is the drinking water provider and therefore there is no Wholesale Connection Point for water (ie there are many individual water meters). As discussed in Section 6.4, we are of the view that the drinking water top-up meter (deemed or actual) is not an appropriate Meter to use for the calculation of the non-residential price for the Recycled Water Plant Waste Disposal Service.</p>	<p>We have two potential alternative approaches for how the Final Determination could adequately deal with this matter:</p> <ol style="list-style-type: none"> <li>1. Calculate the wholesale price using the equivalent non-residential retail charge for the number of individual meters that are connected to our drinking water network.</li> <li>2. Use a 'proxy' meter connection that is commensurate with the number of meters required to service the development with drinking water.</li> </ol> <p>As an example of the above options, where Sydney Water provides drinking water to 2,000 residential properties, we could calculate price for:</p> <ol style="list-style-type: none"> <li>1. 2,000 equivalent non-residential retail charges (eg 2,000 x 20mm meter)</li> <li>2. the equivalent non-residential meter connection/s as if there were a Wholesale Connection Point, based on the maximum flow that could be provided to the 20mm meters (eg 2 x 300mm meters).</li> </ol> <p>Either option would appropriately reflect the amount of wastewater being discharged to the wholesale customer's Recycled Water Plant which will be discharged to Sydney Water's network in the event the scheme is on bypass.</p>
<p><b>Clause 3(b)</b></p>	<p><b>Bypass – multiple modes</b></p>	<p>The definition of bypass in the Draft Determination includes reference to a single direct connection with Sydney Water infrastructure. This may not always be the case. Recycled Water Schemes may have multiple connections to our wastewater network.</p>	<p>We would also request that the wording in Clause 3(b) of Schedule 4 of the Draft Determination be amended as follows:</p>

Clause	Issue	Comment	Proposed amendment (if applicable)
		<p>Also, the recycled water plant may, at any one time, be operating to produce recycled water to its customers and have a portion of wastewater or some treated recycled water being discharged via the plant to our wastewater network.</p> <p>Often only the trade waste connection to Sydney Water's wastewater network is metered so the portion bypassing the plant is unknown.</p> <p>It is likely to be technically difficult and expensive for Sydney Water and the wholesale customer to determine when bypass may be occurring and what apportionment of non-residential pricing and on-selling wastewater pricing should occur.</p>	<p>A Recycled Water <del>Plant System</del> is Bypassed for such period of time as:</p> <p>(a) the wastewater from Retail Customers that are connected by Sewerage Infrastructure to that Recycled Water <del>Plant System</del> is discharged into Sewerage Infrastructure owned by Sydney Water rather than being supplied to <del>that the</del> Recycled Water Plant, or</p> <p>(b) the Recycled Water Plant is both producing recycled water, and discharging wastewater and/or excess treated recycled water into Sewerage Infrastructure owned by Sydney Water.</p> <p>We also request that IPART include a method (or principles) for an allocation between retail minus and non-residential prices for bypass in the Final Determination.</p>

Schedule 5			
Clause 1.1	Definition of Retail Supplier	Sydney Water is of the view that the Draft Determination does not cover those schemes where a WIC Act Licence is not required under the Amendment Act.	IPART should clarify in the Draft Determination how it wishes Sydney Water to charge those wholesale schemes that do not require a licence to supply or retail to end-use customers.
Clause 1.1	Definitions of Downstream and Upstream	Sydney Water considers that the current definition of Downstream which covers both water and wastewater services is confusing and not consistent with general practice, or with the how the term is used in the WIC Act.	We propose that the definitions of Downstream and Upstream be amended to reflect the WIC Act. We note that this may require changes to other clauses in the Draft Determination that relate to upstream or downstream connections.
Clause 1.2(b)(2)(B)	Use of Upstream	In this clause, Sydney Water is not clear that "Upstream" makes sense given the definition of Downstream. We believe that, should IPART choose not to modify the definitions, it would be	We propose the following amendments in the event that IPART does not alter the definition of Upstream and Downstream:

Clause	Issue	Comment	Proposed amendment (if applicable)
		Downstream since it appears the intent is to capture the customers of the Retail Supplier.	<p><i>(b) A Wholesale Service supplied by Sydney Water to a Wholesale Customer at a Wholesale Connection Point is an On-Selling Sewerage Service if:</i></p> <p><i>(1) that Wholesale Service; and</i></p> <p><i>(2) the Retail Supplier Services supplied:</i></p> <p><i>(A) using that Wholesale Service; and</i></p> <p><i>(B) to Retail Customers <del>Downstream</del> <b>Upstream</b> of that Wholesale Connection Point, are sewerage services or trade waste services.</i></p>
Clause 1.2(d)	Wording correction	In this clause we believe there should be an “and/or” between subsections (1) and (2), to reflect we may be providing one or both of those services to a Recycled Water Plant.	<p>We propose the following amendments:</p> <p><i>(d) A Wholesale Service supplied by Sydney Water to a Wholesale Customer at a Wholesale Connection Point is a Recycled Water Plant Waste Disposal Service if that Wholesale Service involves the supply of:</i></p> <p><i>(1) sewerage services; and/or</i></p> <p><i>(2) trade waste services,</i></p> <p><i>for the disposal of waste from a Recycled Water Plant.</i></p>
Clause 1.4	On-Supplier – tankering arrangements	As discussed in Section 6.2.1, Sydney Water considers that the current definition of an On-Supplier capture scenarios where a Recycled Water Plant Waste Disposal service is provided by one or more third parties who tanker and transport the waste to a private waste facility that connected to Sydney Water’s wastewater network.	<p>If it is IPART’s intention that a tanker service is not to be captured in the definition of wholesale, we would suggest the following amendment:</p> <p><i>(a) <b>On-Supplier</b> means a person who supplies a water supply service, sewerage service or trade waste service:</i></p> <p><i>(1) to a Retail Supplier; or</i></p> <p><i>(2) to any other person who supplies any of those services as part of a supply chain to a Retail Supplier <b>through a connection with Sewerage Infrastructure or Water Infrastructure owned by Sydney Water.</b></i></p>

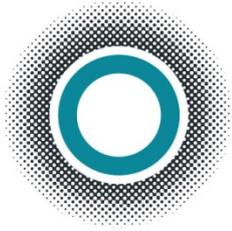
Clause	Issue	Comment	Proposed amendment (if applicable)
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*(b) An On-Supplier is an On-Supplier “for a Retail Supplier” if that On-Supplier supplies a water supply service, sewerage service or trade waste service:*  
*(1) to that Retail Supplier; or*  
*(2) to any other person who supplies any of those services as part of a supply chain to that Retail Supplier **through a connection with Sewerage Infrastructure or Water Infrastructure owned by Sydney Water.***

## Draft Report

Item	Issue	Comment	Proposed amendment (if applicable)
Chapter 7 Page 77	<b>Wholesale customer’s water meter connection size</b>	The wording relating to the first dot point of the second paragraph states that a wholesale price would be based on “the wholesale customer’s water meter connection size to either Sydney Water or Hunter Water’s sewerage network, including applicable discharge factors”. This does not seem to be correct as it implies that there is a water meter connected to our wastewater network.	Sydney Water proposes the wording be amended to reflect that the wastewater connection is based on the water meter connection size, as follows:  <i>Our draft decision means that, where wholesale customers purchase sewerage services from Sydney Water or Hunter Water to dispose of waste from a recycled water scheme, the wholesale price would be based on:</i>  <ul style="list-style-type: none"> <li><i>the wholesale customer’s water meter connection size, or their end-use <b>customer’s water meter connection size(s) to either Sydney Water or Hunter Water’s sewerage network, including the applicable discharge factors</b></i></li> </ul>

# Appendix E Advice from Houston Kemp Economists



**HOUSTONKEMP**  
Economists

# Implications of IPART's draft decision on wholesale pricing for water and sewerage services

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A report for Sydney Water

2 December 2016

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## Executive Summary

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HoustonKemp has been engaged by Sydney Water to examine the implications of IPART's draft decision on the pricing for potable water top-up services and waste disposal services for recycled water plants. In particular, we were asked to assess whether this decision is consistent with the promotion of economically efficient use of, and investment in, water and wastewater infrastructure, and its impact for competition in the supply of retail water and sewerage services by wholesale customers.

### Background

IPART is currently reviewing the prices that Sydney Water can charge for wholesale water and sewerage services. These services are purchased by wholesale customers for the purpose of supplying water and/or sewerage services to end use (or retail) customers. These wholesale customers are price-sector providers licensed under the *Water Industry Competition Act 2006* (the WIC Act).

IPART determined that it would adopt a retail-minus price for services a wholesale customer purchases for the purposes of on-selling water and/or sewerage services. In relation to drinking water top-up services and recycled water plant waste disposal services, IPART decided that wholesale customers should be charged the non-residential retail prices set out in its 2016 retail price determination for Sydney Water.

### Proposal is inconsistent with efficient pricing principles

The promotion of efficiency requires setting prices that encourage the optimal use of existing infrastructure assets, while signalling to consumers the cost of an additional unit of a good or service. This ensures that end users obtain the maximum benefit from network infrastructure that has already been constructed, while also signalling to network businesses how much their consumers value expansion to existing network capacity. In practice, this is achieved by ensuring that infrastructure prices reflect the underlying economic costs of supplying infrastructure services.

In our view, IPART's draft determination for drinking water top up services and recycled water plant waste disposal services is not consistent with this principle.

Under the proposed approach, a wholesale customer with a recycled water system would pay less than an equivalent wholesale customer without a recycled water system. However, it is not clear that this outcome is consistent with the principle of setting prices to reflect Sydney Water's underlying costs, and hence with the promotion of economic efficiency. In particular, it is not clear that a wholesale customer with a recycled water system imposes lower costs on Sydney Water, or is more responsive to price changes. If prices for potable water top-up and waste disposal services for recycled water plants do not reflect Sydney Water's underlying costs of supplying these services, then it will lead to inefficient consumption and investment decisions.

In addition, the large discrepancy between residential and non-residential pricing for water and sewerage services creates arbitrage opportunities that may in turn lead to inefficient investment in wholesale water systems. Specifically, wholesale customers would be incentivised to enter the market by installing a recycled water system, even where it would not be efficient to do so (ie, because the services could be provided by the wholesale service provider at lower cost to consumers). This outcome is inefficient, and is not in line with the long term interests of customers, since the cost of any inefficient investment would be ultimately borne by other end-use customers through higher prices for water and wastewater services.

## Proposal does not address competition concerns

The prices that wholesale customers charge end-users for wholesale services are unregulated. For this to produce an efficient outcome, the market(s) in which these services are provided must be competitive.

However, there are several factors which suggest that competition in the supply of retail water and sewerage services by wholesale customers is constrained. In particular:

- there is typically one wholesale customer per development, and customers within that development are required to purchase water and sewerage services from that customer (ie, end use customers are typically bound to a single wholesale customer and do not have the option to pursue competing retail offers);
- there is significant information asymmetry regarding the costs incurred by the wholesale customer in providing wholesale water and sewerage services, and hence considerable uncertainty as to whether prices appropriately reflect costs; and
- while end-use customers have the option of moving out of a development if wholesale customers set prices above market rates, in practice this option carries significant costs, both in terms of the time and effort required to sell up and find a new location, and the financial transaction costs involved.

In the absence of workable or effective competition, a business is no longer adequately constrained by its competitors, and production decisions can be made with less (or no) regard to the needs of consumers, or the potential reaction of rivals. In this circumstance, the crucial resource-allocation function of competition is undermined, to the detriment of economic efficiency and social welfare.

Overall, IPART's draft determination raises important policy questions about the role of economic regulation (and pricing methodologies more broadly) in promoting other policy objectives, such as greater uptake of recycled water schemes. Such matters should be properly and transparently considered in framing such policies, taking into account the costs that are imposed on other water users and the associated impact on consumers' water bills.

# 1. Introduction

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The Independent Pricing and Regulatory Tribunal (IPART) is currently reviewing the prices that Sydney Water can charge for wholesale water and sewerage services. These services are purchased by wholesale customers for the purpose of supplying water and/or sewerage services to end use (or retail) customers. These wholesale customers are price-sector providers licensed under the *Water Industry Competition Act 2006* (the WIC Act).

## 1.1 Overview of IPART's draft decision

In its draft determination, IPART set prices for the following wholesale services:<sup>1</sup>

- *on-selling water services* – the wholesale customer purchases drinking water for the purpose of selling drinking water to end-use customers;
- *on-selling sewerage services* – the wholesale customer purchases sewerage services for the purpose of selling sewerage services to end-use customers;
- *drinking water top-up services* – the wholesale customer purchases drinking water for the purpose of topping up its recycled water scheme's water supply, to sell recycled water to end-use customers; and
- *recycled water plant waste disposal services* – the wholesale customer purchases a sewerage service for the purpose of disposing of waste from its recycled water plants.

IPART determined that it would adopt a retail-minus price for services a wholesale customer purchases for the purposes of on-selling water and sewerage services.<sup>2</sup> In relation to drinking water top-up and recycled water plant waste disposal services, IPART decided that wholesale customers should be charged the non-residential retail prices set out in its 2016 retail price determination.<sup>3</sup>

## 1.2 Our task and the structure of this report

HoustonKemp has been engaged by Sydney Water to examine the implications of IPART's draft decision on the pricing for potable water top-up services and waste disposal services for recycled water plants. In particular, we were asked to assess whether this decision is consistent with the promotion of economically efficient use of, and investment in, water and wastewater infrastructure, and its impact for competition in the supply of retail water and sewerage services by wholesale customers.

The remainder of this report is structured as follows:

- section 2 discusses how IPART's proposed approach is inconsistent with general pricing principles that promote efficient use of, and investment in, water and wastewater infrastructure;
- section 3 discusses several factors which suggest that competition in the supply of retail services by wholesale customers is constrained; and
- section 4 summarises our observations and conclusions.

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<sup>1</sup> IPART, *Prices for wholesale water and sewerage services – Draft Report*, November 2016, p.5.

<sup>2</sup> IPART, *Prices for wholesale water and sewerage services – Draft Report*, November 2016, p.6-7.

<sup>3</sup> IPART, *Prices for wholesale water and sewerage services – Draft Report*, November 2016, p.7-11.

## 2. Inconsistency with efficient pricing principles

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This section examines whether IPART's draft decision on the pricing for potable water top-up services and waste disposal services for recycled water plants is consistent with the promotion of economically efficient use of, and investment in, water and wastewater infrastructure.

### 2.1 General principles of efficient pricing

'Efficiency' is a term of art in economics, and is widely accepted as having three distinct dimensions:

- **productive efficiency**, which is concerned with the means by which goods and services are produced, and is attained when production takes place with the least-cost combination of inputs;
- **allocative efficiency**, which is concerned with what is produced and for whom, and is attained when the optimal set of goods and services is produced and allocated so as to provide the maximum benefit to society; and
- **dynamic efficiency**, which is concerned with society's capacity to achieve the efficient production and allocation of goods and services through time, in the face of changing productivity and/or technology (which reduces the cost of production and alters the optimal mix of inputs), the changing preferences of consumers (which alters the good and services that are desired the most by consumers), and the competing demands of consumers and producers in different time periods.

In practice, the promotion of efficiency requires setting prices that encourage the optimal use of existing infrastructure assets, while signalling to consumers the cost of an additional unit of a good or service. This pricing approach ensures that end users obtain the maximum benefit from network infrastructure that has already been constructed, while also signalling to network businesses how much their consumers value expansion to existing network capacity.

It is well established in economic theory that setting prices equal to marginal cost (ie, the cost of producing an additional unit of a good or service) will promote efficient use and production of goods and services. If prices are above marginal cost, then some consumers may choose not to use the good or service even though the benefit they obtain from its usage would be greater than the cost of producing it. Equally, if prices are below marginal cost, then businesses would suffer losses from serving customers.

However, marginal cost is a forward looking concept concerned with the cost of an incremental increase in output, it does not reflect historical costs associated with the existing network. Therefore, setting prices equal to marginal cost, generally, does not permit the recovery of efficient costs. In other words, if each tariff was set equal to marginal cost there would be a residual amount of efficient costs to be recovered.

This necessitates a second-best tariff structure, where the additional revenue is sourced from charges that minimise changes in the use of the existing network, relative to what would have occurred if consumers pay only the marginal cost of supply. For network infrastructure, there are two main options that can satisfy this principle, namely:

- charging a fixed network supply charge per customer, which does not vary according to a customer's use of the network; and/or
- marking up consumption or fixed charges to those customers, or on parameters, that are likely to be less responsive to changes in price – commonly known as 'Ramsey pricing'.

Ultimately, the choice between these options is not an either/or decision. In practice, judgement is applied on the extent that additional revenues are recovered via a fixed supply charge, or mark-ups on consumption or fixed tariffs. The guiding principle should be the implications of the proposed approach on the use of existing infrastructure and investment in new infrastructure, as well as an assessment of the impacts on customers. This ensures that the wider efficiency principle of promoting optimal use of infrastructure can be achieved.

## 2.2 Implications of decoupling price and cost

To promote efficient outcomes in the water and wastewater sector, the prices charged by Sydney Water should ideally be structured so as to reflect its underlying economic costs.

As noted above, there are compelling reasons to link prices more closely with the underlying cost drivers. First, it promotes efficient use of Sydney Water infrastructure by ensuring that assets are only used when the marginal benefit from water and wastewater services is greater than the marginal cost of supplying those services. Secondly, it promotes efficient investment in water and wastewater infrastructure, as usage is linked to the preparedness of users to pay the true cost of providing services when required. Finally, it is a fairer charging system as users directly contribute to the costs they impose on Sydney Water as a result of their use of water and wastewater services.

Under the proposed approach, a wholesale customer with a recycled water system would pay less than an equivalent wholesale customer without a recycled water system. However, it is not clear that this outcome is consistent with the principle of setting prices to reflect Sydney Water's underlying costs, and hence with the promotion of economic efficiency. In particular, it is not clear that a wholesale customer with a recycled water system:

- *imposes lower costs on Sydney Water* – the impact that a recycled water system will have on Sydney Water's costs will depend on a variety of factors, including the location and size of that system. In some cases, costs may increase if the treatment process means that the sewerage discharged into the network from a recycled water system has a higher concentration of pollutants. In other cases, costs may decrease if the recycled water system reduces the discharge factor for wastewater, which in turn allows Sydney Water to defer augmentation expenditure on the network; and
- *is more responsive to price changes* – it is not clear that the demand elasticity for wholesale customers with a recycled water system is higher than customers without such a system. Non-potable usage is only a small proportion of total water usage, so changes in the price of non-potable water is unlikely to have a substantial impact on total water demand. Further, neither customer has a practicable alternative to the supply of water and wastewater services from Sydney Water, which restricts their capacity to switch (or threaten to switch) to a different supplier in response to a price increase.

If prices for potable water top-up services and waste disposal services for recycled water plants do not reflect Sydney Water's costs of supplying these services, then it will lead to inefficient consumption and investment decisions.

In particular, the cost of supplying water and sewerage services to wholesale customers with recycled water systems would be effectively subsidised by other customers. This subsidy would have the potential to lead to excessive and inefficient consumption, ie, the consumption of water and sewerage services where the benefit derived from that consumption is less than the cost associated with supplying the service. It would also distort investment decisions towards the subsidised product (ie, recycled water systems), even if it were not efficient nor prudent to do so. These outcomes are inconsistent with the promotion of efficient use of, and investment in, water and wastewater infrastructure.

## 2.3 Inefficient investment in recycled water systems

Under the approach proposed by IPART, the price charged by Sydney Water for providing potable top-up and waste disposal for recycled water plant services will be considerably less than the prices charged for on-selling water and sewerage services. This is due to the discrepancy between residential and non-residential pricing for water and sewerage services, and in particular, the fact that non-residential service charges for wastewater services are considerably lower than residential (retail) service charges for these services.

This difference creates arbitrage opportunities that may in turn lead to inefficient investment in wholesale water systems. Specifically, wholesale customers would be incentivised to enter the market by installing a recycled water system, even where it would not be efficient to do so because, for instance, the services could be provided by the wholesale service provider (ie, Sydney Water) at lower cost to consumers. The cost

of any inefficient investment is ultimately borne by end-use customers through higher prices for water and wastewater services.

We note that IPART has recognised the existence of this arbitrage opportunity in its draft determination. In particular, IPART determined that it would *not* be appropriate to adopt non-residential prices for on-selling water and sewerage services as it leads to the potential for inefficient entry by wholesale customers:<sup>4</sup>

... if Sydney Water or Hunter Water were to charge wholesale customers the non-residential service charge (based on meter size at connection) and wholesale customers were then able to charge individual houses and/or apartments Sydney Water's residential service charges, an arbitrage opportunity may exist (see Table 5.2).

Such an arbitrage opportunity could make it profitable for wholesale customers to enter the market without providing any additional services or improving overall system efficiency. That is, wholesale customers could enter the market through the arbitrage opportunity rather than by being as or more efficient than the wholesale service provider. Overtime, this could increase the revenue Sydney Water and Hunter Water need to recover from their wider customer bases, which would increase prices to all their remaining retail customers, without any offsetting system-wide efficiency gains from the new entry.

We submit that the same argument applies equally to the application of non-residential prices for potable top-up and waste disposal for recycled water plant services.

It follows that the decision to install a recycled water system will be instigated by the arbitrage opportunity available, rather than an assessment of whether the system would lead to lower overall prices for end users. Put another way, IPART's proposed approach does not dis-incentivise wholesale customers from installing a recycled water system in circumstances where the services provided by that system are more appropriately provided by Sydney Water.

Under an efficient pricing framework, wholesale customers would be incentivised to install a recycled water system when the economic benefits of that system outweigh the economic costs.

The economic benefits from a recycled water system will depend on a number of factors, including the size and location of the system, and the treatment processes employed. The benefits are also correlated with the amount of non-potable water used by a customer. For instance, customers that use a high amount of non-potable water, including customers with large gardens or greeneries, would benefit more from a recycled water system than customers that use a low amount of non-potable water. The economic costs of a recycled water system will principally include the cost of installing and running the system, and the additional costs incurred by Sydney Water as a result of its operation.

However, IPART's draft determination does not incentivise wholesale customers to assess the economic benefits and costs of installing a recycled water system. Instead, the determination creates an arbitrage opportunity which means that wholesale customers will always be better off, in terms of paying lower water and wastewater charges, by installing a recycled water system. This increases the risk of inefficient investment in recycled water systems (because the economic benefits of doing so are outweighed by the economic costs).

This outcome is inconsistent with the promotion of economically efficient use of, and investment in, water and wastewater infrastructure. Further, it is not in line with the long term interests of customers, since the cost of any inefficient investment is ultimately borne by end-use customers through higher prices for water and wastewater services.

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<sup>4</sup> IPART, *Prices for wholesale water and sewerage services – Draft Report*, November 2016, p.49.

## 3. Competition in wholesale services

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This section examines the nature of competition in the supply of retail services by wholesale customers, and whether, against this backdrop, IPART's determination is likely to lead to an efficient outcome.

### 3.1 The economics of competition

The prices that wholesale customers charge end-users for wholesale services are unregulated. For this to produce an efficient outcome, the market(s) in which these services are provided must be competitive.

In the context of trade and commerce, competition is a process whereby firms strive against each other to secure customers for their product or services. Competition limits the extent to which a firm can ignore market signals by, for instance, attempting to sell goods and services at a price that exceeds significantly the cost of producing them.

In general terms, if the forces of competition are sufficiently strong, a business that sought to increase its price, or to reduce the quality of its product to any significant extent (other than to reflect increases in the costs of supply) is likely to find that buyers switch to alternative products that are cheaper or of a superior quality, and/or alternative suppliers alter their production plans in order to compete.

Perfectly competitive markets exhibit the most vigorous competition that can be conceived. The relationship between prices and costs in this 'ideal setting' can offer important insight into the outcomes that can be expected in more realistic market settings. Perfectly competitive markets have the following characteristics:

- many buyers and sellers – sellers can always find a buyer and vice versa;
- suppliers can enter the market, exit the market and/or expand production without incurring additional costs, ie, there are no 'barriers to entry, exit or expansion' arising from, say, 'sunk costs';
- identical products – the characteristics of products do not vary across suppliers, and so customers are indifferent about the supplier from which they buy the product;
- perfect information – prices and product attributes are assumed to be known to all consumers and producers at all times, and so it is not possible for a seller to change its price without everyone else in the market knowing about it immediately; and
- transactions are costless – buyers and sellers incur no costs in making an exchange.

Although perfect competition serves as a useful reference point, its distinguishing characteristics are seldom (if ever) seen in real markets. Sellers generally are not pure price takers, parties are almost never perfectly informed and there are almost always some barriers to entry or expansion. Economists therefore typically speak of a market being at least 'workably' or 'effectively' competitive. This is a situation in which there is sufficient rivalry to compel firms to produce with internal efficiency, to price in accordance with costs, to meet consumers' demand for variety, and to strive for product and process improvement.

### 3.2 Competition in the supply of retail services by wholesale customers

In terms of the supply of wholesale water and sewerage services, there are several factors that are antithetical to the notion of a workably competitive market. In particular:

- there is typically one wholesale customer per development, and customers within that development are required to purchase water and sewerage services from that customer (ie, end use customers are typically bound to a single wholesale customer and do not have the option to pursue competing retail offers;
- there is significant information asymmetry regarding the costs incurred by the wholesale customer in providing wholesale water and sewerage services, and hence considerable uncertainty as to whether prices appropriately reflect costs; and

- while end-use customers have the option of moving out of a development if wholesale customers set prices above market rates, in practice this option carries significant costs, both in terms of the time and effort required to sell up and find a new location, and the financial transaction costs involved.

In the absence of workable or effective competition, a business is no longer adequately constrained by its competitors, and production decisions can be made with less (or no) regard to the needs of consumers, or the potential reaction of rivals. In this circumstance, the crucial resource-allocation function of competition is undermined, to the detriment of economic efficiency and social welfare.

Competition in the supply of wholesale water and wastewater services can be increased by improving the capacity of end use customers to access alternative retail offers. This would encourage cost-based pricing, and promote the economically efficient use and operation of, and investment in, water industry infrastructure.

This is the position that was recently adopted in the electricity sector with respect to embedded networks. Embedded electricity networks are similar in economic structure to wholesale water customers capturing end user water and wastewater customers in new developments, and hence provide a relevant and appropriate comparison point. This is discussed further in Box 1 below.

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### Box 1 – Addressing regulatory concerns in embedded electricity networks

Embedded electricity networks are private networks which serve multiple premises and are located within, and connected to, a distribution or transmission system in the National Electricity Market (NEM) through a parent connection point. Common examples of embedded networks include shopping centres, apartment blocks, retirement villages, caravan parks, and office buildings.

On 2 October 2014, the Australian Energy Market Operator (AEMO) submitted a rule change request to the Australian Energy Market Commission (AEMC) proposing amendments to the regulation of embedded networks within the NEM.<sup>5</sup> The rule change request sought to address concerns that embedded network customers were unable to access competitive retail market offers, limiting the incentive for embedded network operators to pass on cost savings, or improve the quality of services provided to its customers.

In response, the AEMC made a new rule that introduced a new accredited provider role into the National Electricity Rules – the embedded network manager – to be responsible for performing market interface services for embedded network customers.<sup>6</sup> The rule is expected to decrease the barriers to embedded network customers accessing retail market offers, and thereby lead to lower prices and a greater range of products and services for embedded network customers in the long run.

If this market structure is constrained by legislation, IPART should seek to improve the information provided to the end users supplied by wholesale customers, to enable them to better compare the prices they are paying for water and wastewater services against the cost of supply, and Sydney Water's retail prices. This can be achieved by making available to end use customers increased information on supply costs, and a requirement on wholesale customers to provide unbundled prices on request from an end use customer.

We believe that if these features are not adopted, several possible negative consumer outcomes may arise. In particular, it may limit the incentive for wholesale customers to pass on cost savings, or improve the quality of services provided to its customers. It may also lead to costs being hidden in bundled services (eg, strata fees), or cross-subsiding between different customer groups, or between water and wastewater services.

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<sup>5</sup> AEMO, *Rule change request – Embedded Networks*, 1 October 2014.

<sup>6</sup> AEMC, *Rule determination – National electricity amendment (embedded networks) rule 2015*, 1 December 2015.

## 4. Conclusion and observations

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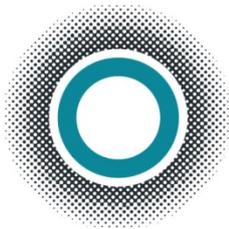
In our view, IPART's draft determination that drinking water top up services and recycled water plant waste disposal services should be charged on the basis of the non-residential (retail) prices is inconsistent with the promotion of economically efficient use of, and investment in, water and wastewater infrastructure.

Under the proposed approach, a wholesale customer with a recycled water system would pay less than an equivalent wholesale customer without a recycled water system. However, it is not clear that this outcome is consistent with efficient pricing principles – that is, it is not clear that a wholesale customer with a recycled water system imposes lower costs on Sydney Water, or is more responsive to price changes. If prices for potable water top-up and waste disposal services for recycled water plants do not reflect Sydney Water's costs of supplying these services, then it will lead to inefficient consumption and investment decisions.

In addition, the large discrepancy between residential and non-residential pricing for water and sewerage services creates arbitrage opportunities that may in turn lead to inefficient investment in wholesale water systems. Specifically, wholesale customers would be incentivised to enter the market by installing a recycled water system, even where it would not be efficient to do so (ie, because the services could be provided by the wholesale service provider at lower cost to consumers).

More generally, there are several factors which suggest that competition in the supply of retail services by wholesale customers is constrained. In the absence of workable or effective competition, a business is no longer adequately constrained by its competitors, and production decisions can be made with less (or no) regard to the needs of consumers, or the potential reaction of rivals. In this case, the crucial resource-allocation function of competition is undermined, to the detriment of economic efficiency and social welfare.

Overall, IPART's draft determination raises important policy questions about the role of economic regulation (and pricing methodologies more broadly) in promoting other policy objectives, such as greater uptake of recycled water schemes. Such matters should be properly and transparently considered in framing such policies, taking into account the costs that are imposed on other water users and the associated impact on consumers' water bills.



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