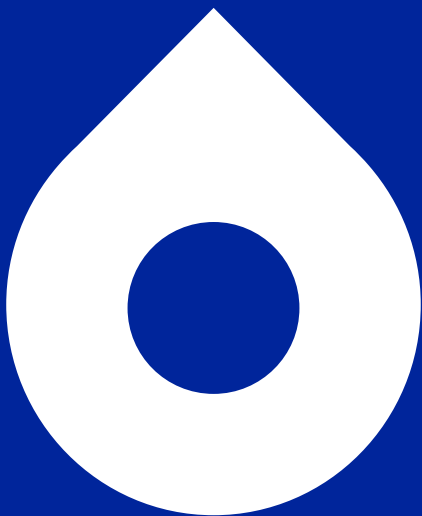


Drought Pricing

Attachment to the 2024 Sydney Water price proposal





Acknowledgement of Country

Sydney Water respectfully acknowledges the Traditional Custodians of the land and waters on which we work, live and learn. We pay respect to Elders past and present.





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Appendix 8A - Drought Pricing

We propose to maintain IPART’s existing drought pricing mechanism with updated prices. In order to recover our proposed revenue requirement and the additional costs of operating during drought, we propose the water usage price increase from \$3.12/kL to \$3.78 kL (\$24-25) if Greater Sydney dams drop below 60%. Once dams fall below 60%, we propose to maintain a \$3.78/kL water usage price until dam levels rise above 70%, This price will index with inflation between 2025-30 to hold its value in real terms.

Context and objectives

A drought pricing mechanism is designed to dynamically adjust water usage charges in response to differences between water supply and demand during drought conditions. Doing so incentivises more efficient water use by our customers by setting higher usage prices that reflect a greater scarcity of water during drought.

Further, it supports the financeability of water utilities with price caps, offsetting the impact of reduced water sales from water restrictions on their revenue. It also allows appropriate investment in infrastructure and operations to ensure continuity of supply through severe droughts by incorporating incremental drought costs that can be recovered. By introducing the higher unit rate only during droughts conditions it ensures that customers only pay for these costs if they are needed.

What do customers think about drought pricing?

Phase 3: Tariff structure during drought

In Phase 3 of Our Water, Our Voice, we asked customers about tariff structure during drought. Residential customers were asked to choose between two tariff structures that could be used during drought conditions. Most customers leaned towards water conservation pricing, although First Nations customers and business customers favoured drought uplift pricing.

Under the existing drought uplift pricing, the price per kL of water increases from \$2.50 per kL to \$3.38 for kL during drought. Under water conservation pricing, the price per kL during drought would also increase to \$3.38. However, if drought were to deepen, the price would continue to increase incrementally. At the same time, there would also be a mechanism in place for Sydney Water to return any extra money it receives from this higher price. This approach intended to create incrementally stronger incentives to reduce water but ensure that Sydney Water does not over-collect its efficient revenue.

Table 1 Phase 3 Our Water, Our Voice customer preferences

Customer group	Drought uplift pricing	Water conservation pricing	What we heard
CALD customers (n=33)		Preferred	“Due to the severe weather changes, we need to prepare for the times and the drought season will be one of them. During these times, all of us need to put an effort in to go through that time. If the fee increase is a strategy, I am for it.” Focus group Korean-speaking customer
First Nations customers (n=6)	Preferred		“We should always save water regardless and not be penalised during a drought, because if there is a drought that also impacts food which means we would be paying higher for everything. This would be too much and then you have families starving and pushing our people further into poverty, that ain’t fair.” Focus group First Nations customer
Subject matter expert customers (n=4)	Equal	Equal	“It’s impossible to work out what your saving could be, or even try to focus on what you’re saving could be [under water conservation pricing] ...it’s just too complicated. No one would understand that.” Focus group SME customer
Value makers		Preferred	



(n=3)			
Service-critical business customers (n=3)	Preferred		
Workshops final choice (n=139)		Preferred	

Customers who preferred water conservation pricing did so because:

- **Water conservation signal** – Customers liked that it sends a signal that water is scarce and essential and needs to be conserved.
- **Effectiveness** – Customers worry that people can currently flout water restrictions, whereas under this option they would not be able to avoid being charged more if they ‘waste’ water. This may lead to a shorter duration of drought/less severe restrictions.
- **Equity/user pays** – Customers like that there is a choice and people who choose to use more water pay more, which some said was a fairer way to charge for water usage.
- **Bill impact** – Some customers who chose this option did so because water would be cheaper for them.
- **Cost saving** – A few suggested that this option may result in cost savings that would reduce the need to use desalination or build new infrastructure.

As part of Sydney Waters scoping of drought pricing options It decided not to proceed with a water conservation drought pricing model due to high system implementation costs compared to the existing pricing structure.

Phase 6: Fairness in pricing

Customers were given the opportunity to explore what fairness meant to them in terms of pricing outcomes.

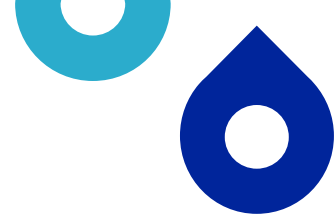
Customers were prompted with some possible fairness considerations, and discussed the importance they placed on these considerations and any others they could come up with, including:

Table 2 Phase 5 Our Water, Our Voice customer preferences

User pays Customers should pay what it costs regardless of their circumstances	Affordability Prices should be affordable for everyone	Cost reflectivity Prices should only reflect the cost of service	Service Guarantee Customers should be compensated if Sydney Water doesn't deliver the service
Simplicity The way in which customers are charged should be clear	Control Customers should be able to influence how much they have to pay	Predictability/stability The level of variability in customer bills	Conserving public resources Water is precious and should be conserved

Overall, customers prioritised user pays, affordability, and simplicity windows as most important, but noted for separate windows relevant to drought pricing that:

- **Usage prices should be the same for everyone** – Everyone should pay their bill based on their usage within the last quarter. This was felt to strike a fair balance between fairness and motivating people to adopt water saving behaviours, as bills increase or decrease based on water use.
- **Water is an essential service** – Therefore, it should be affordable for all.
- **People should be encouraged to use less water** – Many agreed the current pricing structure does provide some discouragement of higher water use (through usage prices), however, ‘user pays’ is often a counter argument that customers grapple with. For example, ‘If customers are willing to pay, they should be able to choose how they use it and how much water they use’.



- **Focus on cost of living** – Predictability and stability of bills is important to customers, particularly with the current cost of living pressures. Despite this, in some specific situations, there was more openness among customers for less stability and predictability in bills under the following situations.
- **Desire for more control** – Control was influenced by how much water customers (or households) are using. Customers have a desire for more control over their usage, and were concerned on the split between fixed and usage charges.

This engagement reflects the need to have a water conservation mechanism that reflects the higher cost of delivering water services during drought and the need for end users to pay this via the variable element of their bills.

Methodology

Drought uplift pricing estimates are impacted by three key parameters:

1. Demand – In drought restrictions, how much less water do customers use? How much *more* water are customers likely to use due to hotter, drier weather during drought? If the price rises, how much will customers’ demand reduce?
2. Cost – What are the incremental efficient costs of Sydney Water responding to drought?
3. Price impacts to customers – What is an appropriate amount to uplift prices?

Our proposed drought price considers the range of estimates for these parameters and proposes a drought uplift price that best aligns with our customers’ expectations.

Demand assumptions

Elasticity of water

Elasticity refers to customers’ responsiveness to price. Under drought pricing Sydney Water utilises the same elasticity assumptions as its water demand model to estimate the reduction in demand when prices rise. See **Demand Appendix** for further information on elasticity assumptions.

Demand responsiveness to drought restrictions

Customers do not only respond to the pricing signal during drought. Sydney Water works with Government to implement water restrictions and works with media agencies to encourage customers to reduce their water use. As a result, we need to forecast the expected levels of community water savings during drought to accurately forecast the drought uplift price.

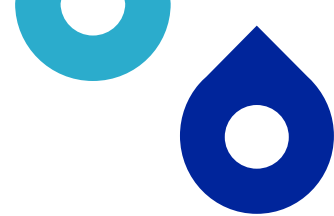
The current assumption under IPARTs 2020 final pricing determination is that there is a 15% reduction in the retail demand for water when Sydney enters drought. Updated modelling suggests this assumption is between 10% less demand during Level 2 restrictions and 17.5% less demand during Level 3 restrictions. However, this is offset by a 2.5% increase in demand due to hotter, drier weather during drought. Therefore, depending on the severity of the “expected drought” (or drought that we model expected revenue and prices off), we recommend adopting either 7.5% or 15% demand reduction. Our modelling is based on 7.5% demand reduction, meaning Sydney Water is accepting greater financing risk if the “expected” drought has more severe impacts on demand reduction.

Cost assumptions

Sydney Water’s drought price considers the additional costs incurred above its regulatory allowance that are contingent to drought triggers linked to the Greater Sydney Drought response framework. Current cost assumptions are \$154m to \$191m per annum as per the following breakdown.

Table 3 Cost assumptions per annum (\$24-25, \$m)

	Current cost assumptions (2020-24 Determination)	Forecast cost assumptions (2025-30)
SDP	79.9	56.2
Shoalhaven Transfer	-	-
Implementing ELWC	41.2 - 79.6	32.0



Implementing water restrictions	18.7	9.3
Water restrictions advertising and communications	12.5	10.9
Drought management	2.5	1.0
Total	154.8 - 192.2	109.3

Refer to Table 1 for a detailed breakdown of drought management costs.

Higher bulk water costs

SDP production levels of 42GL per annum is included in our base opex in average weather. We forecast an additional \$56 million during drought due to higher SDP production requests to ensure continuity of supply. Under the operating rules agreed upon with our Minister, we expect SDP to be operating at maximum capacity during drought (91GL).

Additionally, Shoalhaven costs are currently passed through service charges only (unlike SDP which is passed through service charges until 60% dam levels, beyond which it is recovered through drought uplift charges). We propose to maintain this approach as there are additional uncertainties on whether we will be able to rely on this water source. Including this in our drought price would mean recovering the costs of it from customers irrespective of whether we incurred the cost.

Implementing Economic Level of Water Conservation

Our estimate of the additional costs of water conservation programs during drought is \$32 million. This comprises:

- The additional staffing and implementation costs of upscaling programs such as WaterFix Residential, Strata, Commercial, and Schools, PlumbAssist, and washing machine replacement
- Greater network leakage management through increased active leak detection and reactive leak responses
- Implementation of water saving action plans with industry.

Price impacts

We have tested alternative options to our proposed drought pricing approach. These options include passing additional costs and under-recovered revenue from lower demand through service charges, adopting a water restrictions impact to demand that is equivalent to IPART's current drought pricing approach, and true-up differences in costs and revenue in the following period.

Service charge approach

Under a service charge all water customers contribute to the cost of drought equally. If the costs of responding to drought were driven by costs which are not related to the amount of water used (for example greater response to network leakage as drier conditions affect soil conditions), feedback from customers suggest that a service charge adjustment may be a more appropriate response. However, this is not necessarily the case. Costs are equally driven by factors such as greater SDP production.

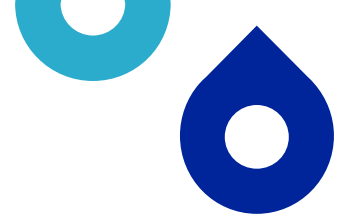
As discussed above, a usage charge approach also provides a stronger incentive for customers to conserve water, and gives customers greater control over their bills. These outcomes align with feedback from what our customers value from the way we structure our prices.

Water restrictions demand assumption

Adopting the same demand impact of water restrictions as the current period would mean we forecast lower demand during drought, and therefore, more under-recovered revenue to be accounted for in the drought uplift charge. We propose to adopt a more moderate reduction in water demand from restrictions at 60% dam levels and below. As a result, Sydney Water will be accepting greater levels of risk in-period.

True-up instead of drought pricing

As discussed previously, drought pricing provides a dynamic incentive to conserve water when it is scarce. We consider this aligns with the priorities our customers place on saving water and cost reflectivity.



The impact to the average customer of our proposed drought price is an increase in their water bill of around \$132 per annum. We acknowledge the impact that this will have on our customers during significant cost of living pressures. However, we consider it aligns with their preferences around ensuring we have sufficient funding to provide safe and reliable services, and ensuring they do not overpay Sydney Water for the services we deliver. However, in the case of a true-up, delaying recovery would mean great financing risks to service delivery and compounding of efficient costs to be recovered after the period.

Drought pricing estimates

Our approach results in an estimated drought price of \$0.66/kL (\$24-25). This means that with an average weather usage price of \$3.12/kL, we propose a usage price in drought of \$3.78 kL (\$24-25).

We also provide IPART our model to estimate these figures.