

Submission on the ESC's review of new customer contributions (NCC)

15 Nov 2024

By

Dr Richard Tooth • [REDACTED]

Direct: [REDACTED]

[REDACTED]

Email: [REDACTED]

Introduction and overview

New customer contributions (NCC) – more commonly known as developer charges in other jurisdictions – are an important source of revenue for water businesses. Given the widespread use of uniform (aka postage stamp) pricing of water services, developer charges can also play an important role in encouraging efficient development by providing a price signal for costs of development.

In this brief submission I focus on two matters. First is the approach to determining developer charges. Second is the relationship of developer charges to the costs of servicing growth. As elaborated below, it is desirable and consistent with efficient pricing principles to set developer charges so that existing customers are no worse-off due to growth.¹

Key principles

A common and useful starting point for considering developer charges is to assess the charges in terms of efficient pricing principles. Different funding options for infrastructure can impact efficiency by through the incentives they create. The include incentives:

- for developers, households, and businesses to consider the costs of development when deciding whether to create or move into a new development (e.g. by providing a price signal about the cost of a development)
- for developers, households, and businesses to take action to reduce costs that are under their control
- for the water utility to invest in infrastructure services optimally and provide them efficiently, and
- for customers to use infrastructure optimally.

The following principles of cost allocation are widely recognised as promoting efficiency:

1. All customers or groups of customers should be charged at least the incremental cost (aka the avoidable cost) of the services they receive.²
2. No customer or group of customers should be charged more than the full stand-alone cost of the services they receive.³
3. Common costs should be allocated in such a way as to minimise the impact of the charges on behaviour.
4. The sum of all charges should equal the efficient cost of providing all the services.

The first two principles closely align to those outlined in the ESC consultation paper.

These principles imply that new customers must be charged at least the incremental costs plus some share of the common costs. Given that new customers will also pay ongoing charges, an efficient developer charge can be expressed (on a per-unit basis) as:⁴

¹ In writing the submission, I have drawn on my previous work that uses slightly different terminology to that included in the consultation paper. In this submission, the terms ‘developer charges’ and ‘new customer contributions’ and the terms ‘incremental cost’ and ‘avoidable cost’ are treated as synonymous. I have kept my comments brief, but I would be pleased to elaborate on any points.

² Charging below the incremental cost can encourage inefficient development.

³ As noted in the consultation paper, if customers were to pay above the standalone cost, it would be in those customers interests to switch to an alternative provider or service solution.

⁴ Subject to the constraint that new customer charges should be less than the stand-alone cost.

Developer charge = Present value of
Incremental (i.e. avoidable) costs *plus* a share of common costs
less revenue from ongoing charges.

As reflected in the above formula, the level of developer charges is linked to the ongoing charges. In keeping with the fourth principle above, in present value terms, the sum of the developer charges and the ongoing charges (from all customers) should equal the efficient costs⁵ of the water business. Consequently, higher developer charges lead to lower ongoing charges and vice-versa. Of note, where there is uniform ('postage stamp') pricing of ongoing charges, developer charges need to vary with the incremental costs to be consistent with the efficient pricing principles.

Approaches to calculating developer charges

There are a range of approaches and methods that have been applied to calculating developer charges in jurisdictions in Australia and overseas. I categorise these approaches as:

1. *Costs less future revenue.* Determine ongoing charges first. Consistent with the above formula, developer charges are set to meet the expected future costs not recovered from ongoing charges.
2. *Costs-based.* Determine developer charges first based on incremental and common costs. Ongoing charges are set to recover the expected future costs not recovered from developer charges.

The formula presented in the previous section, describes a 'costs less revenue' approach to setting developer charges. This approach is applied by IPART in setting charges in NSW.⁶

Where uniform ongoing charges are applied, an equivalent alternative 'costs-based' approach can be expressed as follows:⁷

Developer charge = A standard (i.e. uniform) minimum developer charge, *plus*
an adjustment for higher-than-standard costs

Although, the two approaches are equivalent in theory, in my opinion, the costs-based approach is simpler to apply and less prone to error.⁸ Using a cost-based approach there is no need to estimate future revenues; rather once a standard charge has been set, all that is required is to determine how the costs of a new development vary relative to the standard.

Regardless of the approach, there is a question as to the how much revenue should be recovered from developer charges and how much from ongoing charges.⁹ If the developer charges are set to at

⁵ Including the incremental costs of serving new customers and the common costs of serving all customers.

⁶ See IPART (2018), *Maximum prices to connect, extend or upgrade a service for metropolitan water agencies: Sydney Water Corporation, Hunter Water Corporation, Central Coast Council – Final report*, October 2018.

⁷ The equivalency of the two formulas can be seen by considering that the standard minimum developer charge recovers a standard (minimum) incremental cost plus the share of common costs less revenue from ongoing charges. The equivalency is noted by IPART (2018, p. 2) who although apply a costs-less-revenue approach note that the 'The [developer] charge is designed to recover the difference between the system-wide average costs (reflected in the postage stamp price revenue of the agency) and the costs of servicing the specific development area.'

⁸ Based on my experience and a review of developer charge policies.

⁹ That is, when applying second approach, how large should be the standard developer charge.

least recover incremental costs, the issue might be thought as 'To what extent should developer charges be used to recoup common costs?'. For this decision, considerations include:

- the timing of infrastructure cost recovery
- the allocation of risk
- equity and consistency
- whether it is better that the developer or the customer to pay
- the incentive for managing common costs.

While the weighting given to these considerations may vary, in my opinion, consistency will be an important factor.

Developer charges and growth – the challenge of calculating incremental cost

Consistent with the first principle introduced at the beginning of this submission, the consultation paper, includes the principle that the NCC will 'be greater than the avoidable [aka incremental] cost of that connection...'.¹⁰

The above principle implies that existing customers will be no worse off due to growth. This is desirable for several reasons:

- As argued in the consultation paper, if new customers were to pay below avoidable cost, then the 'other [i.e. existing] customers must necessarily be subsidising them at inefficient levels.'
- There may be community resistance to growth to the extent customers perceive growth to drive higher prices.
- Offsetting the effects of growth can facilitate more effective monitoring and regulation of the water business. Adhering to the above principle means that growth should not affect average bills, which enables a greater understanding and focus on other factors that may drive changes to average bills.¹⁰

Issues in setting developer charges to offset growth

In practice, developer charges may not offset the impact of growth. Two key reasons relate to:

- how avoidable costs are measured
- forecast uncertainty.

There are a number of issues in measuring the avoidable costs associated with growth. A core issue is that the water sector tends to be an 'increasing cost' industry; that is, once economies of scale have been reached, the average costs of supplying the service tend to increase with additional demand. This tendency relates to the localised nature of the service and because the lowest cost sources of water (or locations for wastewater treatment) get developed first. An implication is that in

¹⁰ Such factors include:

- Productivity (/technology) improvements
- Legacy issues related to the setting of cost
- External factors (largely outside the utility's control) including and changes in the cost of inputs (interest rates, wage rates, energy etc) and changes in supply (eg, due to climate change)
- Changes to service levels driven by regulatory requirements or customer preferences.

measuring avoidable cost it is important to look beyond the direct incremental costs of connecting to the network.

A challenge in accounting for these costs of growth is that there may not be a clear connection between the new customers and the costs a business incurs. For example, meeting the demands of new customers maybe only be a contributing factor¹¹ in driving additional investments in water supplies, wastewater, or stormwater systems and driving increases in the average cost of serving a customer. Furthermore, there may other initiatives such as programs related to water conservation and river health which exist in part due to greater demands on the system.

Another issue is that growth can impose costs on customers that are in addition to the costs passed through by businesses. For example, growth can result in greater demands on existing water resources, which then leads to more frequent water restrictions and/or higher usage prices to curb demand. In effect, demand from new customers dilutes the benefits the existing customers receive from an existing low-cost source. These are additional burdens on customers that should be considered in the setting of developer charges. In this regard, it would be appropriate to modify the text in the consultation paper (p. 36) that refers to the “business’ avoidable cost” to just “avoidable cost” in recognition some costs of growth are not directly paid for by businesses.

Developing reasonable estimates to correct for the above issues is not overly difficult. The impact of growth on the business’s costs can be estimated by forecasting the costs with and without growth. Water utilities should already be developing forward plans and estimating the long-run marginal cost (LRMC) of supplying their services. The same analysis to estimate LRMC can be used to estimate the additional cost caused by growth. The additional burden on customers can be estimated using similar methods with reasonable assumptions as to the nature of demand.

A second reason why developer charges may under recover the costs of growth relates to forecast uncertainty. Setting a developer charge requires a forecast of the future demand growth. If growth is faster than forecast, then – in present value terms – the water business will recover more than expected. Conversely if growth is slow (or does not occur at all), the water business may recover less than forecast. However, the risks are asymmetric, the water business can lose substantially more from a slower-than-expected growth than it gains from a faster-than-expected growth. Consequently, if such risks are not appropriately accounted for, the water business will on average earn less than it forecasts and a subsidy from existing customers will be required to ensure there is no shortfall in revenue.

¹¹ Other factors might include declining water yields and more stringent health and environmental regulations.