

September 2022

# Our Public Lighting Services for 2024–29

for consultation

Empowering communities for a resilient, affordable and net-zero future.

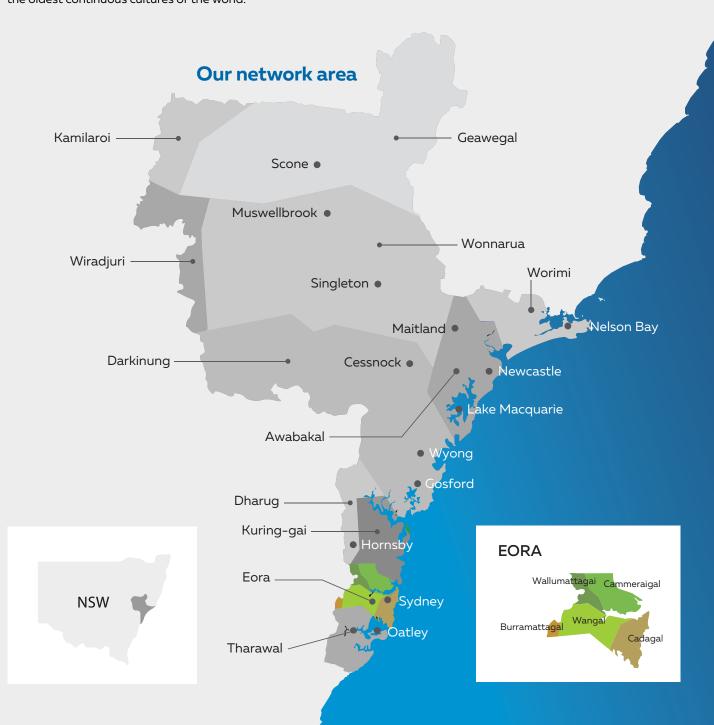


## **Acknowledgment of Country**

We acknowledge the Traditional Custodians of the lands where the Ausgrid distribution network is located, and we pay our respects to the elders past, present and emerging.

As set out in our Reconciliation Action Plan, it is important that this recognition leads to industry wide support and understanding of the knowledge, stories, languages and experiences of Aboriginal and Torres Strait Islander peoples, as our way of paying respect, and contributing to, some of the oldest continuous cultures of the world.

Our network and operations span the traditional country of 17 languages, tribal and nation groups in Sydney, the Central Coast and Hunter regions of New South Wales. We want to lead and foster a workforce, and approach to our operations, that embraces the learnings, voices, cultures and histories of these Traditional Owners into our own organisation.



# Our vision is for communities to have the power in a resilient, affordable, net zero future



# Our role in the community

Ausgrid owns and operates the network of substations, powerlines, underground cables and power poles that deliver power to communities across large parts of Greater Sydney, the Central Coast and the Hunter.

Each day we build, operate and maintain this distribution network with a focus on providing a safe, reliable and efficient energy supply.

We also provide public lighting services within our network area, which are the topic of this consultation paper.

The communities we serve include our 1.8 million household, small and large businesses customers, as well as all those who rely on and benefit from their energy supply. They also include our delivery partners – such as energy retailers, local councils and accredited service providers (ASPs) – and customer advocates and government agencies.



# The purpose of this consultation paper

Every 5 years, we submit a proposal to the Australian Energy Regulator (AER) setting out our plans for serving our communities in the 5 years ahead, including our planned expenditure and pricing.

We must develop a proposal for the period from 1 July 2024 to 30 June 2029 (2024-29) and submit it to the AER in January 2023. We are currently engaging with our communities on our main 'poles and wires' service via our Draft Plan for 2024-29, which we released for consultation on 1 September 2022.

This consultation paper focuses on our public lighting services for 2024-29, and outlines what we are hearing through our engagement on these services, and our current thinking on how we might respond.

We seek feedback from all those with an interest in the public lighting services we deliver. We will use this feedback to inform the proposal we submit to the AER in January 2023.

Information on how you can provide your feedback is provided on **page 15**.



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### 1 Introduction

Ausgrid is one of the largest providers of public lighting services in Australia. We own, operate and maintain more than 260,000 public lights across our network area, which spans 22,275 square kilometres and encompasses 33 local council areas. Local councils are our key customers, representing over 99% of public lights on our network.

Public lighting is an essential service that promotes safety of communities and roadway users. We aim to help our customers deliver on safe and secure public lighting for the community efficiently and with minimal adverse environmental impact.

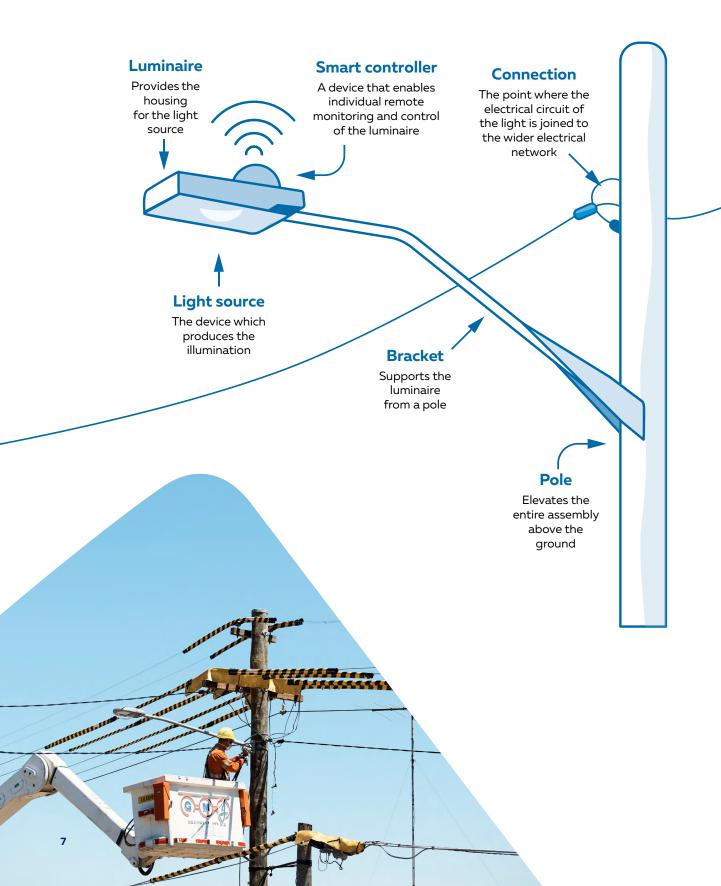
The AER regulates our prices for public lighting services separately from our distribution network services. However, our network business provides the services, which enables us to take advantage of economies of scale in planning, delivery and administration.

#### 1.1 What do our public lighting services involve?

We provide, construct and maintain public lighting infrastructure to meet the standards set by the NSW Office of Energy and Climate Change (**OECC**) and the needs of our public lighting customers.

The main components of public lighting are shown in **Figure 1**.

Figure 1 Public lighting components



#### 1.2 Transition to LED public lighting

As part of our vision for communities to have the power in a resilient, affordable, net zero future, we are committed to working with local councils to facilitate the transition to light-emitting diode (LED) luminaires for all public lighting in our area. LED luminaires are more energy-efficient than traditional luminaires, reducing the energy used to provide public lighting by an average of 60% across our portfolio of public lights. They also last longer and require less maintenance. As a result, they lower the overall cost of providing public lighting.

We are currently part way through the transition, so our public lighting infrastructure includes a combination of legacy¹ luminaires and new LED luminaires.

Since 2018, we have replaced approximately 150,000 legacy luminaires with LED luminaires in streetlights, mainly on minor roads (for example residential roads) across our network. This represents 80% of all streetlights on minor roads and 58% of total public lights.

In 2022-23, we started replacing legacy luminaires on major roads (high-traffic roads), including introducing smart controllers.<sup>2</sup> We plan to start replacing legacy decorative lights, often located in parks/residential subdivisions and floodlights, including pedestrian crossings, with LED luminaires in the coming years.

### 1.3 Our engagement on public lighting services to date

To develop our 2024–29 regulatory proposal on public lighting services, we are reviewing our current services and prices. As part of this process, we are engaging with our public lighting customers to get their feedback on the services we offer and our pricing.

To date, we have engaged with local councils across our network area and the Southern Sydney Regional Organisation of Councils (**SSROC**), which represents 29 of the 33 local councils, in relation to the public lighting improvement program. We have held 2 dedicated public lighting forums in December 2021 and May 2022. We have also discussed the issues raised in these forums with our Reset Customer Panel (**RCP**) in May 2022.

#### 1.4 What the rest of this paper covers

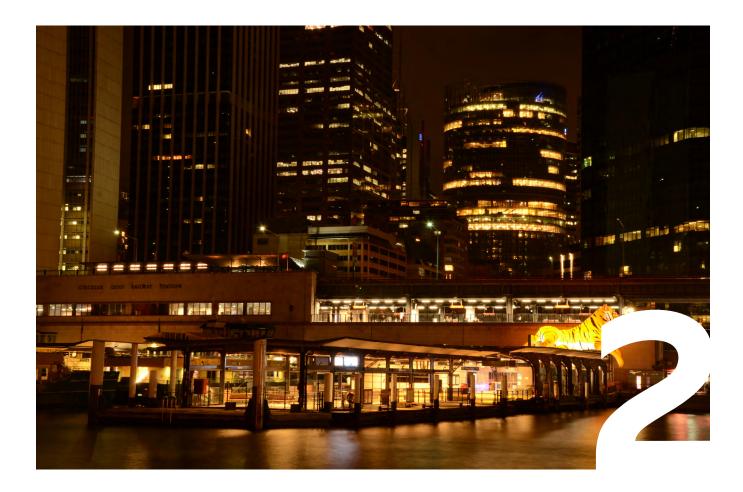
The rest of this discussion paper explains our current thinking, as informed by customers, on our public lighting services for 2024-29, and seeks your feedback:

- Section 2 outlines what we are hearing through our engagement on public lighting services, and our potential responses;
- Section 3 explains how you can provide feedback on these potential responses, and how we will use your feedback; and
- Appendix A outlines the likely impacts of the transition to LED luminaires on local councils' overall expenditure on public lighting.



<sup>1</sup> Legacy luminaires are traditional lighting technologies including compact fluorescent, sodium and metal halide.

<sup>2</sup> Smart controllers enable individual monitoring and control of a luminaire and allows functions such as on/off dimming, autonomous operation, smart scheduling and fault notification.



# 2 What we are hearing and our potential responses

In our engagement on public lighting services to date, we have heard that local councils want a faster transition to LED luminaires. This includes the introduction of smart controllers – devices that can be fitted to individual LED luminaires – that would enable public lighting to be controlled and monitored remotely and providing other smart city solutions<sup>3</sup> and services. Local councils also want the process of having public lighting minor capital works approved and delivered to be easier, faster and cheaper for them.

In relation to public lighting pricing, they generally want greater transparency and simplicity. They support changes to simplify prices provided they do not significantly reduce cost-reflectivity and are clearly explained.

**Figure 2** provides an overview of the feedback we have heard to date and what we are considering in response. The sections that follow outline our public lighting prices and discuss the pricing changes we are considering in more detail.

<sup>3</sup> Smart city solutions refer to sensors and other smart devices connected to the public lighting network and can be used by local councils to monitor and perform other functions in public spaces.

Figure 2 What we are hearing on our public lighting services, and what we are considering in response

	What we have heard to date	We are considering	For our customers, this would mean	
Pricing	Our pricing, including any changes in pricing, should be transparent  Moving to simpler (weighted average) pricing is supported, provided that the prices for the most commonly used products are cost-reflective	<ul> <li>Rationalising existing public lighting charges where feasible</li> <li>While consulting with local councils during this review, sharing the models and assumptions we use to build prices</li> </ul>	<ul> <li>A simpler, more transparent list of public lighting prices so they can find pricing information relevant to them more quickly and easily</li> <li>Greater understanding of, and confidence, in the methodology used to calculate our prices</li> </ul>	
	Customers would like to have flexibility in paying their pre-2009 capital charges	<ul> <li>Providing an option for local councils to accelerate payment of remaining pre-2009 capital values during the 2024-29 period so they are fully paid off by the end of 2028-29</li> </ul>	<ul> <li>Flexibility to manage public lighting expenditure to suit their funding profiles over time</li> </ul>	
Transition to LED and smart city solutions	The transition to LED public lighting and introduction of smart controllers to facilitate smart city applications should be accelerated	<ul> <li>Ways to accelerate the rollout of LED replacements on major roads by 30 June 2026</li> <li>Installing smart controllers as part of the rollout of LED streetlights on minor roads (when local councils choose this option)</li> <li>Starting the rollout of LED decorative lighting and floodlights in the 2024-29 period</li> <li>Extending our smart control rollout to residential and decorative luminaires</li> </ul>	<ul> <li>More reliable, energy efficient and affordable public lighting</li> <li>Ability to install sensors to monitor the local environment and improve local services (e.g. air quality monitoring, traffic counting)</li> </ul>	
	The AER's annual price setting process delays the adoption of new technologies and pricing	<ul> <li>Consulting with local councils when sourcing new lighting technologies/products</li> <li>Proposing that the AER approve a pricing approach which allows new public lighting technology to be adopted sooner, without needing to wait for annual price reviews</li> </ul>	Ability to adopt new and more efficient technology sooner, resulting in more timely cost savings and lower carbon emissions	
Minor public lighting projects	For public lighting minor capital works (MCW) projects, the approval process should be simpler, the time required to install light poles should be shorter, and the pricing should be more transparent	<ul> <li>Reviewing the end-to-end process for customer requests for public lighting MCW (up to 10 lights).</li> <li>The review would cover customer engagement, processes, delivery and pricing transparency, and commence in FY23</li> </ul>	<ul> <li>A cheaper, faster, and overall improved experience for customers requesting public lighting minor capital works</li> </ul>	

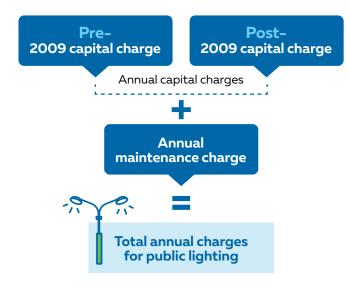
#### 2.1 Public lighting prices

The AER determines the maximum prices we can charge for public lighting services for the first year of the 5-year regulatory period, and how we may change this price over the remaining 4 years.

As shown in **Figure 3**, we currently have 3 types of annual public lighting charge:

- 2 capital charges these recover the costs we incur
  to fund and install the customer's public lighting
  infrastructure, depend on when the infrastructure was
  installed and are calculated using different approaches;
  and
- 1 maintenance change which recovers the costs of maintaining the customer's public lighting assets (regardless of when they were installed).

Figure 3 Our public lighting charges



For the 2024-29 period, we propose to maintain these 3 charges, and the approaches used to calculate them. This will maintain consistency in how public lighting charges are calculated across 5-year regulatory periods. However, as **Figure 2** indicated, we are considering some pricing changes related to each of these charges in response to what we have heard through our engagement with local councils to date.

#### 2.1.1 Pre-2009 capital charge

In 2009, the AER made a change to the way our public lighting capital charges are calculated, based on when the assets were installed. For assets installed before 1 July 2009, the charge is calculated based on a return on capital invested (to recover our ongoing financing costs) and return of capital invested (or depreciation, to recover the cost of the asset over its useful lifespan).

The AER determined the value of our public lighting asset base as at 30 June 2009, by customer and by asset category. The value of this asset base is updated each year, reducing in value to account for depreciation (based on the average age of assets within each category). The value is also adjusted each year to remove the residual capital value of assets replaced or removed in the previous year.

By 1 July 2024, the value of the pre-2009 asset base will have reduced from \$111.3 million in 2009 to an estimated \$9.7 million. This is because the capital value of pre-2009 public lighting assets will be almost fully recovered. For example, all luminaires will be fully depreciated, and assets in other categories will be mostly depreciated.

However, poles will not be fully depreciated until 2044. This means some local councils will continue to pay a small annual pre-2009 capital charge for another 22 years.

As noted in **Figure 2**, in our engagement to date, some local councils indicated they would like flexibility in their pre-2009 asset charges and more transparency. In response to this feedback, we are considering providing local councils with the option to accelerate payment of remaining pre-2009 capital values during the 2024-29 period so all assets are paid off by 30 June 2029. Local councils would pay the same amount in net present value terms whether they bring payments forward or continue to pay until 2044. However, bringing payment forward would simplify their future public lighting bills, and may provide other benefits.

We expect that whether this option makes sense for a local council will depend on its individual financial circumstances and preferences. We have sent individual letters to all local councils outlining the potential financial implication of this option. We will assess each local council's feedback in preparing our 2024-29 proposal to the AER, due in January 2023.

#### 2.1.2 Post-2009 capital charge

For assets installed after 1 July 2009, the capital charge is calculated as an annuity. This means it is calculated so that our one-off installation costs and our ongoing financing costs are recovered over the expected asset life.

We calculate the installation cost component for all post-2009 public lighting assets in the categories shown in **Figure 4**, using the inputs shown in **Figure 5**. The financing cost component is set independently by the AER.

Figure 4 Asset categories for calculating the installation costs

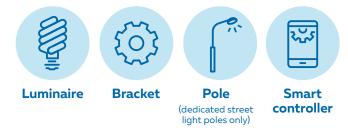


Figure 5 Inputs for calculating the installation cost component



For the 2024-29 period, the AER has requested that the three NSW network businesses use a standardised model to calculate the installation costs included in their proposed post-2009 capital charges. We don't expect that this will have a material impact on our proposed prices.

We are considering how to respond to local council feedback that our capital price lists are confusing. In our consultation in May 2022, we raised the possibility of rationalising these lists by introducing some weighted average prices for similar products. Local councils indicated they would support this approach, provided that the most commonly used products are properly costreflective (i.e. not included in a weighted average price).

We are currently considering two options:

#### 1. Rationalising the bracket capital price list

We could introduce weighted average prices for 2 categories of bracket - those used in minor road streetlights and the other for major road streetlights. Within each of these categories, we could have:

- One weighted average price for all brackets in the category;
- Multiple weighted average prices based on bracket size;
- Multiple weighted average prices based on specific price ranges.

We plan to do further analysis and consult with local councils to identify the most suitable approach.

#### **Consultation question 1:**

• Do you have any feedback on how we could rationalise the list of post-2009 capital charges for brackets?

#### 2. Rationalising legacy decorative and floodlight luminaire prices

The relatively small volume of legacy decorative and floodlight luminaires on our network will likely be replaced with LED luminaires from 1 July 2024. We could introduce weighted average prices for these legacy luminaires where it would not have a material financial impact on local councils.

Similar to brackets, we could have:

- One weighted average price for all legacy luminaires in each category (i.e. decorative light or floodlight);
- Multiple weighted average prices based on wattage; or
- Multiple weighted average prices based on specific price ranges.

#### **Consultation question 2:**

• Do you have any feedback on how we could rationalise the list of post-2009 capital charges for legacy decorative and floodlight luminaires?

**Financing** 

costs

#### 2.1.3 Maintenance charge

The cost of scheduled and unscheduled maintenance services is priced through an annual maintenance charge. The average charge reflects the average time taken for each activity, a labour rate, and materials required. Maintenance costs apply to both pre- and post-2009 capital assets.

Figure 6 describes the components of the annual maintenance charge. Figure 7 outlines the inputs we use to calculate these components.

Figure 6 Maintenance charge components

Component	Description	
Luminaire	Applied to all luminaires to recover the costs of scheduled and unscheduled maintenance tasks. These tasks include replacing the lamp (required for legacy luminaires), replacing the PE-cell, fixing cable or fuse supply issues, scheduled servicing of luminaires, night-time traffic route patrol (required for luminaires on major roads)	
Connection	Applied to public lighting poles with underground connections to recover the cost of repair work to underground cabling	
Smart controller	Applied to LED luminaires with smart controllers only to recover the costs related to system licence fees, data charges and cyber security management	

Figure 7 Inputs for calculating maintenance charges



assumptions

Frequency/ **Overhead** failure rate percentage

assumptions

We currently have 50 maintenance prices. A number of them are the same as, or only slightly different to, another price. Local councils have indicated that the prices could be rationalised without material impact on their charges. In response to this feedback, we are considering rationalising maintenance prices for luminaires.

We could group similar luminaires together and calculate one maintenance price for each group. For example, we could group them based on whether they are LED luminaires or legacy luminaires, and whether they are for:

- Streetlighting on a minor road or major road; or
- · Decorative lights or floodlights.

This would reduce the number of maintenance prices from 50 to 8. The ranges of current prices that would be rationalised into each group are shown in Figure 8.

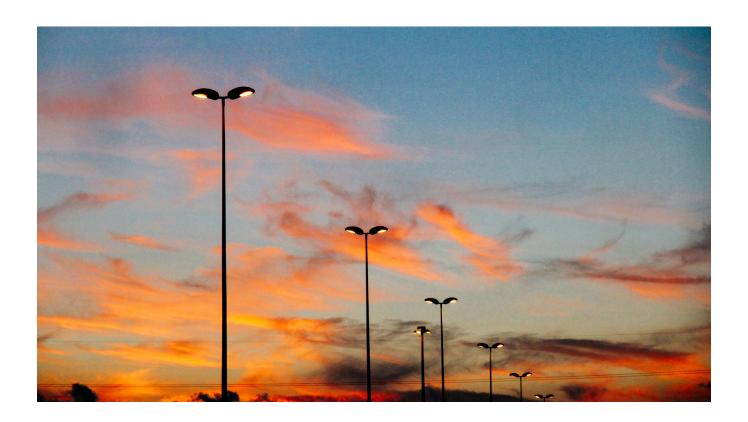
Figure 8 Possible groupings for luminaire maintenance prices

Group	FY23 annual price range
All LED luminaires installed on minor roads	\$25.26 - \$25.40
All LED luminaires installed on major roads	\$33.60 - \$33.63
All LED decorative luminaires	\$25.26 - \$33.60
All LED floodlights	\$33.60
All legacy luminaires installed on minor roads	\$39.46 - \$72.15
All legacy luminaires installed on major roads*	\$57.17 - \$187.09
All legacy decorative luminaires	\$39.46 - \$70.42
All legacy floodlights*	\$44.26 - \$99.72

<sup>\*</sup> A small number of luminaires in the legacy major road and floodlight groupings have multiple lamps, which result in higher maintenance prices

#### Consultation question 3:

• Do you have any feedback on how we might rationalise luminaire maintenance prices?





# 3 Providing feedback on this paper

We welcome all feedback on this consultation paper, whether in response to the questions included in Section 2 and summarised below, or on any topic you would like to share a perspective on.

You can provide feedback to us directly:

- By emailing us at yoursay@ausgrid.com.au; or
- Via the <u>yoursay.ausgrid.com.au</u> website

We request your feedback by close of business **7 October** 2022. Mark any information you do not wish to be published as confidential.

#### 3.1 Summary of consultation questions

#### **Consultation question 1:**

• Do you have any feedback on how we could rationalise the list of post-2009 capital charges for brackets?

#### **Consultation question 2:**

• Do you have any feedback on how we could rationalise the list of post-2009 capital charges for legacy decorative and floodlight luminaires?

#### **Consultation question 3:**

• Do you have any feedback on how we might rationalise luminaire maintenance prices?

#### 3.2 How we will use your feedback

We will consider all comments we receive to inform the development of our 2024-29 regulatory proposal, which we will submit to the AER on 31 January 2023.

Figure 9 sets out the timetable for our 2024-29 regulatory reset. Figure 10 outlines how you can find out more and share your views on our Public lighting consultation paper.

Figure 9 Ausgrid's 2024-29 regulatory reset timeline

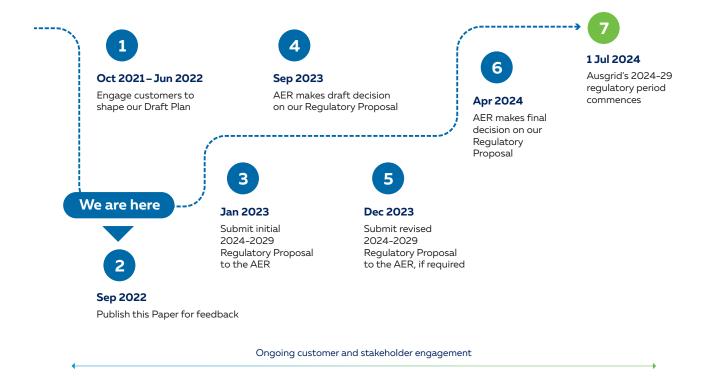
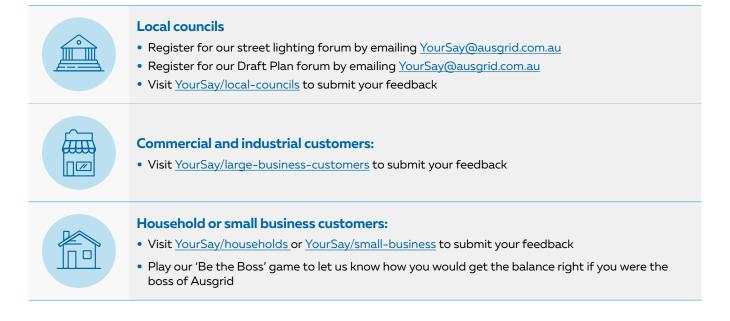
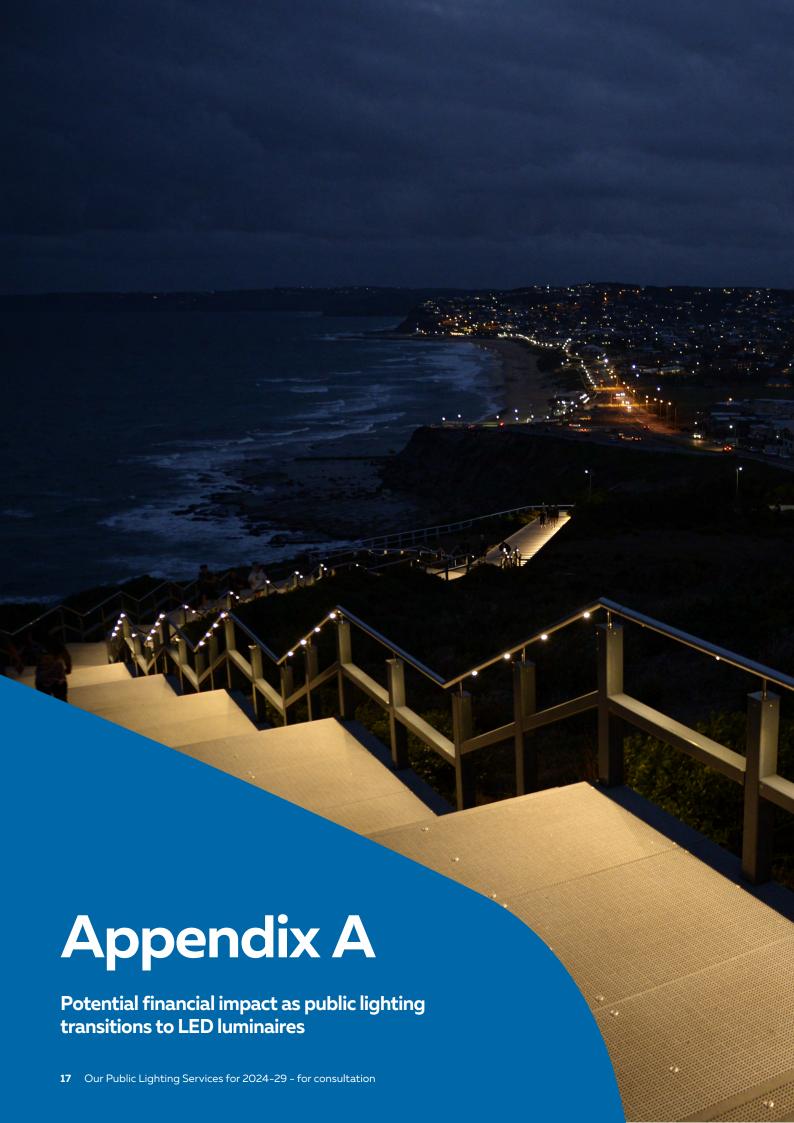


Figure 10 Opportunities to find out more and share your view on our Public lighting consultation paper





#### Potential financial impact as public lighting transitions to LED luminaires

As the transition from legacy luminaires to LED luminaires progresses, there will be changes to the cost of public lighting services. The size of the change for each local council depends on:

- The mix of luminaires currently in their area;
- Changes to this mix over the 2024-29 period;
- The average age of existing luminaires; and
- Decisions the council has made in relation to up-front payments.

The indicative financial impacts are outlined in Figure 11. When the impacts of reduced energy consumption and available incentive schemes are considered, we expect the transition to LED lighting will reduce the overall cost of public lighting for councils.

Figure 11 Potential financial impacts for councils of transition to LED luminaires<sup>4</sup>

Cost or revenue source	Impact on overall cost of public lighting	Reason
Residual capital charges		The large volume of legacy luminaires being replaced before the end of their useful life will potentially increase local councils' residual capital payments or keep them at a higher than normal level until the rollout of LED luminaires is completed.
Pre-2009 capital charges		As pre-2009 legacy luminaires are replaced, local councils' total pre-2009 capital charges will come down. (These charges also decline each regulatory period, due to depreciation of the pre-2009 asset base).
Post-2009 capital charges		As pre-2009 legacy luminaires are replaced with LED luminaires, local councils' post-2009 capital charges will increase to start recovering capital costs of the new assets.
Maintenance costs		LED luminaires are more reliable than legacy luminaires, last longer, have a lower failure rate and require less maintenance. Local councils' average maintenance charges will come down a result.
Electricity consumption		LED luminaires are on average 60% more energy efficient than legacy luminaires, resulting in lower consumption and comparatively lower energy consumption costs.
Rebates and Energy Savings Scheme		LED replacement qualifies councils for various incentive schemes such as Energy Savings Certificates ( <b>ESC</b> ) as part of the NSW Energy Savings Scheme.

<sup>4</sup> Where the option is available, a local council may decide to pay certain capital costs up-front and in doing so, minimise the increase in ongoing annual capital charges.

### Glossary

**2024-29 period** - Ausgrid's next regulatory control period from 1 July 2024 to 30 June 2029.

**AER** - Australian Energy Regulator. The AER is an Australian federal government authority that regulates wholesale and retail energy markets, and energy networks, under national energy legislation and rules. Their functions mostly relate to energy markets in eastern and southern Australia.

**ACS** - Alternative control services. These are regulated 'specific' network charges provided by a DNSP and includes public lighting services.

**ANS** - Ancillary network services. Non-routine services provided to individual customers on an 'as needed/customer requested' basis.

**ASPs** - Accredited service providers. Accredited to perform contestable work on NSW electricity distribution network and can be engaged by individuals or businesses who need to connect to the network. There are three levels of accreditation:

- ASP 1 constructs new or makes changes to the existing 'poles and wires' network
- ASP 2 completes service wire and cable connection work
- ASP 3 designs 'poles and wires' network

**Bracket** - The bracket supports the luminaire from a pole and connects it to the pole.

**Connection** - The point where the electrical circuit of the light is joined to the wider electrical network. Maintenance costs for repairs of underground cables are recovered through the connection charge.

**Communities** - Communities include our residential and business customers and the people and institutions who support them engage with energy, such as our partners (including retailers, councils, metering providers, ASP's and aggregators) and other stakeholders (including customer advocates and government agencies).

**Draft Plan** - Document seeking out feedback on Ausgrid's proposed approach to balancing affordability and service delivery for the period 1 July 2024 to 30 June 2029.

**ESC** - Energy savings certificate, are tradeable certificates created under the NSW Energy Savings Scheme. They represent energy savings arising from a recognised energy saving activity.

**LED** - Light-emitting diode. An electronic semiconductor device that emits light when an electric current passes through it. LED luminaires are considerably more efficient than legacy luminaires, and rarely burn out.

**Light source** - The device which produces the illumination. It is mounted inside the luminaire. A range of technologies are used for light sources including different types of lamps in legacy luminaires and more recently, LEDs. Repair or replacement of the light source is treated as maintenance.

Luminaire - Provides the housing for the light source. The luminaire protects the light source and reflects and diffuses the light. This directs the light to the desired area of coverage and ensures the light does not stray into other areas. Modern luminaires usually contain a photoelectric (PE) cell that automatically switches the light on at night-time and off again in daylight hours, LEDs have the option of smart controllers and/or connection ports such as Zhaga ports enabling a range of devices to be connected.

**MCW** - Minor Capital Works, which is the installation of up to 10 luminaires as required under the Public Lighting Code. There are two parts to the MCW process:

- (a) initial design and engineering costs, the recovery of which falls under ancillary network charges (ANS); and
- (b) the construction and recovery of related capital costs plus ongoing maintenance charges via public lighting charges.

**OECC** - Office of Energy and Climate Change, an agency of the NSW Treasury.

**Pole** - Elevates the entire public lighting assembly above the ground. Most public lights on the network are mounted on electricity distribution poles, however there also dedicated poles used for public lighting. Public lighting capital charges are only charged on dedicated poles.

**RAB** - Regulated asset base. The recovery of capital costs for public lighting assets installed pre-1 July 2009 is based on a valuation of the RAB with allowance for depreciation, indexation and assets that are written off.

**RCP** - Reset Customer Panel. An independent panel comprising 6 members and a Chair, separately funded to conduct independent research or engagement. The RCP is an integral part of our current customer and stakeholder governance structure.

Residual capital charges - A charge for the remaining capital cost of public lighting assets that are replaced or removed from the network prior to their end of useful life being reached. A specific invoicing process occurs once a year to recover residual costs of all public lighting assets replaced or removed in the prior year.

 $\ensuremath{\textbf{SCS}}$  - Standard control services. Distribution services provided to all customers.

**Smart controller** - A device that enables individual monitoring and control of a luminaire. Functions include on/off/dimming, autonomous operation, smart scheduling, remote control, parameter measurements, and malfunction notifications.

**SSROC** - Southern Sydney Regional Organisation of Councils. This is an association of 12 local councils spanning Sydney's southern, eastern, central and inner west suburbs. For the public lighting improvement program, SSROC represents 29 of the 33 councils in Ausgrid's network area.

**WACC** - Weighted average cost of capital. It represents a firm's cost of debt and equity.



#### **Contact us**

For more information, or to make a submission go to:

YourSay.Ausgrid.com.au