

Barriers to energy efficient street lighting

National Workshop on
Energy Efficient Street
Lighting

4 August 2011

Agenda

What were we asked to do?

What is the regulatory framework?

Does the framework encourage efficient outcomes?

Assessment of options to mandate energy efficient street lighting

What were we asked to do?

PwC was asked to provide advice on:

- Regulatory barriers to improved energy efficiency of street lights
- Mechanisms to overcome any barriers identified

We were also asked to provide analysis on options to mandate a roll out, including through:

- Proposing a change to the National Electricity Rules (NER),
- Changes to legislation

What is the regulatory framework (1)

- Street lighting services are regulated by the Australian Energy Regulator (AER) under the NER
 - This is on the basis of street lighting being defined as a distribution service
- AER has some options on the form of regulation it may apply, three approaches taken for street lighting:
 - Alternative control services – treated separately from other distribution services – this is the most common approach
 - Negotiated Services – price and T&C's agreed between parties based on negotiating framework in the NER
 - Non-regulated services – not subject to NER provisions
- Decision on form of regulation based on assessment of market power in the provision of services
 - Different treatment depending on whether new or existing street lights

What is the regulatory framework (2)

Costs of street lighting services are allocated to councils, a number of reasons for this:

- Only councils are able to influence the costs of street lighting assets
 - E.g. by determining the amount of street lights installed and the technology used
- Avoids cross-subsidies
 - Therefore, councils are able to receive the full incremental costs and benefits of their decisions

Does the framework encourage efficient outcomes? (1)

Our analysis of whether there are barriers turns on two questions:

- Would councils expect to receive a benefit equal to the reduction in network and energy costs that is caused by the reduction in energy use?
 - This depends on whether the form and structure of prices reflects the costs of provision
- Would the additional charges that city councils would bear from upgrades reflect the economic costs caused by that decision?
 - Means that councils are exposed to the full incremental costs – i.e. the costs of new energy efficient street lights
 - Also important that the residual costs of existing street lights are recovered efficiently to avoid subsidy to councils or windfall gain to network businesses

Does the framework encourage efficient outcomes? (2) - benefits

The ability for councils to negotiate retail prices means they can agree on an efficient pass through of wholesale costs

- Retail prices for councils are not directly regulated
- Wholesale spot price properly directs price to short-run marginal cost – important peak price is signalled to customers

Pricing principles in the rules direct network prices to be set on an efficient basis, such that prices:

- Should avoid cross-subsidy
- Reflect long-run marginal costs, and
- Ensure any residual costs are recovered in the least distortionary manner

Any concerns with actual network tariffs can be addressed by AER in its annual review of tariffs

Does the framework encourage efficient outcomes? (3) - costs

Councils would be expected to be exposed to the incremental costs of new energy efficient street lights

- Where charges are regulated, the AER's common practice is to assess costs against a prudence test focused on efficiency
- Where contestable arrangements exist, competition should encourage efficient costs to be signalled

The AER's approach in NSW and VIC accurately reflected the residual costs of existing assets

- However, we consider councils should have a choice about how they pay for the costs associated with residual assets, options include
 - Upfront, over the existing life, or over the life of new bulbs
 - Change to NER may be needed to improve certainty

Options to mandate a roll out

AEMC Rule change process:

- No certainty that it would approve a Rule change
- Obligation would need to be placed on distributors rather than councils – costs would, however, fall upon councils
- AEMC would be concerned to ensure that benefits exceed costs
 - However, it cannot consider broader environmental benefits
- May consider councils are best placed to make a decision on roll out – which reflects status quo

Legislative approach

- Increased certainty and flexibility in approach
- Broader policy goals can be factored into decision making

Interaction with regulatory framework from a mandated rollout

Need to ensure the regulatory framework allows distributors to recover additional costs in the event of a rollout of energy efficient street lights

- Where street lighting charges are negotiated, sufficient flexibility exists to change charges based on new costs
- Where charges are regulated by AER, simplest approach is to align decision with the timing of a revenue determination
- Less flexibility when retrofit occurs mid-period
 - Cost pass through mechanism an option
 - However, some uncertainty about whether it can be used (definition of pass through events, and threshold test)
 - Change to NER could provide additional certainty by defining a retrofit as a pass through event

Questions?

