Consultation Paper

AER Standardised Models for Metering Services

October 2021

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: AERPricing@aer.gov.au

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
AMI	Advanced Metering Infrastructure
distributor	Distribution network service provider
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
RAB	Regulatory Asset Base
RFM	Roll Forward Model
PTRM	Post Tax Revenue Model
SCS	Standard control services

1. About this consultation paper

We, the Australian Energy Regulator (AER), are developing standardised metering services models to use in future electricity distribution determinations. The development and implementation of standardised metering models follow our commitment in the AER Strategic Plan 2020–2025 to design our systems to work in ways that deliver efficient regulation of monopoly infrastructure.[1]

The standardised models are intended to replace the specific metering models currently used by distribution network service providers (distributors).

The development of these models is an important process for all stakeholders to be involved in as there will be benefits to all. The intention of developing the standardised models is to simplify and standardise the presentation of the distributors' metering expenditure proposals for our assessment. In doing so, it will benefit:

- consumers of electricity by developing a better and more transparent presentation of proposals, which will allow them greater opportunity to engage with how the metering services revenues and prices are determined.
- distributors by providing them guidance on our expectations on the information we need for our assessments.
- the AER as we will spend less time familiarising ourselves with distributor models and allow more time for assessing proposals.

We therefore encourage stakeholders to actively engage in the development of these models to best deliver these outcomes.

The preliminary standardised metering models we have developed for consultation are based on the building block approach to determine distributors' metering revenue. We consider the building block approach delivers efficient outcomes. Where applicable, the models apply the same principles of the standard control services (SCS) models. We consider the consistent treatment of expenditure between metering and SCS provides greater regulatory certainty.

We have developed two models for this purpose. The first is a combined capital expenditure (capex) and operating expenditure (opex) model for the presentation and assessment of the cost inputs for providing these services. The outputs of this model will be used as inputs into our post-tax revenue model (PTRM). Through the PTRM, the distributors' overall allowed revenue requirement for provision of metering services is determined.

In most jurisdictions, the metering services are regulated by a price cap. Therefore, we have developed a second model, a pricing model, that converts the overall revenue requirement into individual prices for the first year and the price path for the remaining years of the regulatory control period. In short, this model sets out the prices that customers will pay.

This consultation paper sets out some key areas of the standardised metering services models that we are seeking stakeholder feedback on. We hope to receive feedback from a broad range of stakeholders, in particular from consumers and consumer groups, to assist in the development of the standardised metering models. This follows our commitment to ensure consumer preferences drive outcomes and incentivise distributors to develop consumer-centric network proposals. As set out in our draft Better Reset Handbook, we are aiming to incentivise distributors to develop high quality regulatory proposals through

[1] AER, *AER strategic plan 2020–2025*, December 2020, p.9.

genuine engagement with consumers. We consider standardised metering models will assist distributors and consumers in their engagement for this purpose.

The development of standardised metering models is part of a suite of development projects we are undertaking to improve our distribution determination and annual pricing proposal processes. Separate processes are currently underway to develop standardised models for ancillary network services and SCS capex as well as a model for annual pricing proposals.

Invitation for submissions

Written submissions from interested stakeholders are invited by 19 November 2021. We will consider all submissions received by that date. Submissions should be in Microsoft Word or another machine-readable document format. Please address submissions to:

AERPricing@aer.gov.au
Warwick Anderson
General Manager – Network Pricing
Australian Energy Regulator

Alternatively, submissions can be mailed to:

Warwick Anderson
General Manager – Network Pricing
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

We prefer that all submissions are publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. All non-confidential submissions will be placed on our website. Parties wishing to submit confidential information should:

- clearly identify the information that is the subject of the confidentiality claim.
- provide a non-confidential version of the submission in a form suitable for publication.

Consultation process

After we have reviewed the submissions, we will host a workshop where we will discuss the key issues from the submissions. Following the workshop, we will have regard to all stakeholder comments (in written submissions and workshops) to develop a final model with an explanatory note which we intend to publish in March 2022.

Table 1 Indicative consultation timeframe

Key steps	Indicative dates
Publish consultation paper and draft models	25 October 2021
Submissions due	19 November 2021
Stakeholder workshop	2 December 2021
Publish final model	March 2022

2. Background

The AER is the independent regulator for Australia's national energy market (NEM). We regulate energy networks in all jurisdictions except Western Australia. We set the amount of revenue that network businesses can recover from customers for using these networks.

The National Electricity Law and Rules (NEL and NER) provide the regulatory framework governing electricity distribution networks. Our work under this framework is guided by the National Electricity Objective (NEO).[2]

We are responsible for the economic regulation of regulated metering services, which include the maintenance, reading, data services and recovery of capital costs related to installing meters. The types of regulated metering services vary across jurisdictions.

In Victoria, all the types of regulated metering services apply. The Victorian distributors are the monopoly providers of regulated type 5 (interval) and type 6 (accumulation) metering services, including meters installed as part of the Advanced Metering Infrastructure (AMI) program, which are classified as type 5-6 meters.

In other NEM jurisdictions, the provision of meters has become contestable and can be provided by a third party since the implementation of the Power of Choice reforms on 1 December 2017.

Distributors in these jurisdictions are still responsible for setting charges for meter reading, maintenance and data services. These charges exclude the provision of type 5 and 6 meters, so do not include up front capital charges for new meters. As such, most distributors outside of Victoria no longer incur any metering capex and only recover their asset base for meters installed prior to 1 December 2017.

To determine their charges, distributors submit their metering services proposals to the AER for assessment as part of their regulatory submissions typically every five years. Through our assessment we determine a ceiling on the revenue or prices that a distributor can charge having regard to the regulatory framework set out in the NEL and NER.

Currently, the distributors submit their own specific metering capex, opex, revenue and pricing models for our assessment. These models differ in layout, presentation and formula specification and vary from business to business. Some distributors submit a single model while others submit multiple models. The distributors also use various approaches to determine their metering revenue requirements.

The distributors' different approaches have caused significant process, time and assessment inefficiencies. We spend a significant amount of time in initial phases of assessing regulatory proposals trying to understand how the metering models work, reducing the time to undertake our assessment. In turn, we may issue information requests to better understand the models and proposals resulting in an additional burden for the distributors as well. The complexity of the various models also impedes stakeholders' understanding and engagement with metering proposals.

---

2 NEL, s. 7.

3 NER, cl. 6.2.6(c).

We consider there is a need to develop standardised metering models to address these issues. We expect standardised models will benefit all stakeholders and improve the distribution determination process:

- Benefits to distributors:

  Standardised metering models significantly reduce the need for distributors to "second guess" our information requirements for assessing metering proposals. Distributors would be able to prepare their metering proposals in a more targeted manner, saving time and resources. Standardised Metering models signal to distributors the pertinent information we require to assess metering proposals.

- Benefits to retailers and consumers:

  Standardised metering models will provide stakeholders such as retailers and end consumers (who request and ultimately pay for these services) greater scope to engage with distributors in developing their proposals and our distribution determinations. Different models with varying levels of complexity and information content are a significant barrier for retailers and consumers to engage with distributors' proposals. We aim to develop standardised metering models that contain only the most relevant information, in a simple and consistent format. We consider this would provide stakeholders a greater opportunity to understand and, therefore engage with metering proposals.

  As set out in the draft Better Reset Handbook, our expectations are that distributors will engage with their consumers and the outcomes of that engagement will be reflected in their proposals. Where distributors meet these expectations, they will benefit from a more efficient review. We consider the standardised metering models will assist distributors and consumers in their engagement for this purpose.

- Benefits to the AER:

  Standardised metering models will streamline our assessment processes and improve the efficiency, accuracy and transparency of our determinations.

  Standardised models will enable us to focus time and resources on assessing the substance of the distributors' metering proposals, rather than the metering models themselves. This provides greater assurance to all stakeholders that we are setting metering prices at efficient levels. This is a more efficient regulatory outcome.

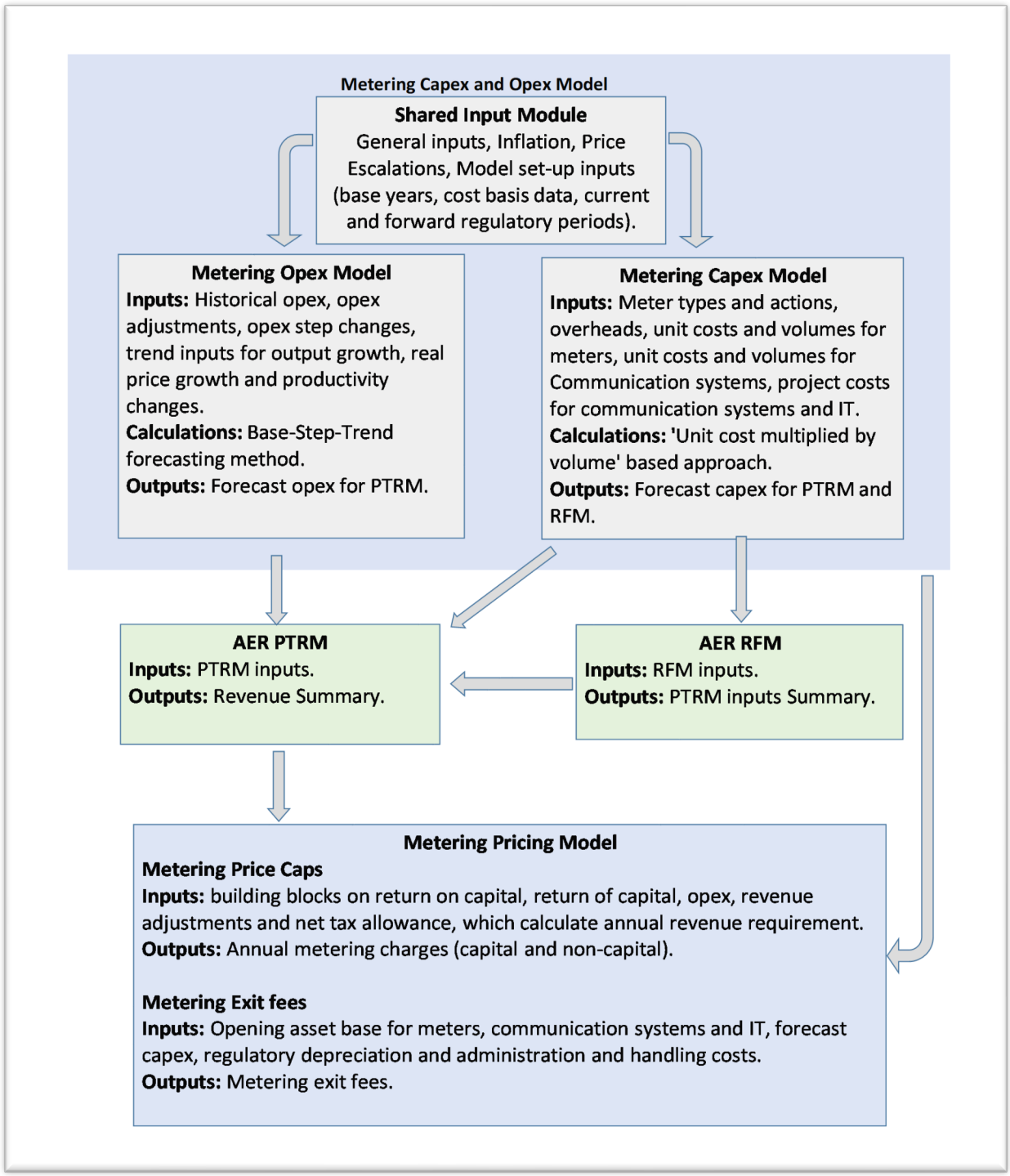
More generally, standardised metering models provide greater scope for all stakeholders to identify errors in metering proposals. Similarly, standardised metering models provide greater scope for all stakeholders to identify further improvements to the models. Improvements in the efficiency, accuracy and transparency of our determinations will finally benefit all stakeholders.

3. Preliminary standardised metering models

In developing the standardised metering services models, we have used the building block approach consistent with the approach set out in the NER (Chapter 6, part C) for SCS. We consider the building block approach delivers efficient outcomes as well as provides regulatory certainty and transparency to stakeholders.

Figure 1 shows the framework for preliminary standardised metering services models.

Figure 1: AER preliminary standardised metering models framework



The standardised capex and opex model develops forecast inputs to be applied through our PTRM. The PTRM uses these forecasts to derive distributors' cost build-up (i.e., building block costs) and calculate the allowed revenue requirement to be recovered in the forecast regulatory control period. These building block costs include an indexation of the regulatory asset base (RAB), a return on capital, a return of capital (depreciation), forecast opex, revenue adjustments and the estimated cost of corporate income tax. The standardised pricing model uses the PTRM outputs to determine metering prices and exit fees.

For simplicity and consistency, we have developed one model to be applied in all jurisdictions even though the types of metering services may differ. The standardised model provides a universal layout, presentation and formula specification while still allowing flexibility for distributors to reflect their own particular inputs. Distributors would only use the associated functions and parameters in the model relevant to their specific metering services.

For the benefits of standardisation to be fully realised, the standardised metering service models need to be "fit-for-purpose". In this regard, we see stakeholder feedback as a critical part of the process to developing standardised metering models.

The preliminary models are for consultation purposes only. We appreciate they do not reflect all the unique circumstances for each business. This consultation process is intended to help us work through key areas for further improvement. We intend to have a workshop to collectively work through the specific issues raised.

The following section briefly describes the preliminary standardised metering models we have developed. The methodological details of the model parameters and functions are available in the model handbook released with the preliminary model. Issues for consultation are presented at the end of this paper. These issues reflect the key areas of consideration we have identified. Stakeholders are also welcome to raise other areas of consideration not identified in this consultation paper.

3.1. Preliminary standardised capex and opex model

The standardised capex and opex model uses metering inputs and develops forecasts to be applied in the PTRM. This model contains three modules: Shared inputs module, capex module and opex module.

Shared inputs module

The standardised model contains a shared inputs module for parameters that drive calculations throughout the model. It sets up current and next regulatory control periods, base years and cost basis for inputs.

Where applicable, the metering services model applies the same core principles of the capex and opex models we use for SCS. We consider the consistent treatment of expenditures between metering services and SCS provides greater regulatory certainty and transparency for stakeholders.

We had regard to the following factors when developing shared inputs parameters.

- Inflation:

Inflation reflects the differing treatment between the SCS capex and opex models. The metering capex module uses a lagged inflation series to be consistent with the approach used in the SCS capex model. In contrast, the metering opex module uses an unlagged inflation series to reflect the treatment in the SCS opex model.

- Base year:

  The model applies the third year of the current regulatory period as the efficient base year for both capex and opex. Alternative approaches to establish the base year include choosing the most recent year or using an average across several years.

- Input price growth (i.e., escalation):

  The model allows for labour price growth and does not include any non-labour (i.e., materials) price growth. An alternative approach would be to include material price growth inputs in the shared input module.

Metering Opex module

The metering opex module includes the costs distributors incur in operating and maintaining metering information systems, maintaining meter installations and meeting regulatory and market obligations.

The opex module reflects the core principles of the SCS opex model.

The opex module allows distributors to enter necessary metering inputs such as historical opex, opex adjustments, step changes and trend inputs for output growth, real input price growth and productivity growth. The module uses the Base-Step-Trend approach to estimate efficient forecast opex, as briefly described in the following steps reflecting the methodology used in the SCS opex model.

Step 1 for forecasting opex involves establishing an efficient base year. The opex module applies the third year of the current regulatory period as the efficient base year. Alternative approaches to establish the base year include choosing the most recent year or using an average across several years.

Step 2 adjusts the base year for non-recurrent expenditure. The opex module allows distributors to provide four separately specified adjustments. Other possible reasons for adjustment include capitalisation and changes to the cost allocation method.

Step 3 trends the base year forward. In this step, the opex module trends the base year for output growth, real input price growth and productivity growth. To forecast output growth, the module provides provisions to enter customer numbers or link to meter population. The module has the flexibility for multiple real input price growth indices. Further, an economies of scale factor has been incorporated as part of forecast productivity growth. The module also allows for other forms of productivity growth.

Step 4 adjusts for opex step changes. Step changes may be added (or subtracted) for any other efficient costs not captured in base opex or the rate of change. Step changes should not double count costs included in other elements of the opex forecast. The model allows for up to four separately specified annual step changes.

Metering capex module

The nature of capex relating to regulated metering services varies across jurisdictions depending on whether contestability for metering services applies.

In jurisdictions outside of Victoria, most distributors no longer incur any metering capex in relation to regulated metering services. There can be some capex attributable to capital works such as asset replacements but they can be minimal.

In Victoria, while differences exist between distributors, the common metering capital expenditure relates to augmentation and replacement of metering assets. Metering assets comprise meters, communication systems and IT systems.

In developing the metering capex module, we considered these jurisdictional differences. The metering capex module includes common metering capex categories mostly applicable for Victoria but also allows distributors in other jurisdictions to use these categories if applicable.

The module provides necessary inputs for metering capex and transparently calculates forecasts for three separate asset categories; meters, communication systems and IT.

- Meters

  The capex module allows distributors to enter multiple meter types, meter-related actions, unit costs and volumes. To forecast capex for meters, volumes are multiplied by unit costs for labour and equipment.

- Communication systems

  Forecasts for metering communication systems are based on equipment and installation costs, specific project costs and overheads.

  To estimate forecast equipment and installation costs, the capex module multiplies the forecast volumes of the communication network components by respective unit costs. The module allows distributors to input direct forecasts for specific projects relating to the communications systems. It also allows flexibility to provide overhead costs.

- IT

  The capex module makes provisions for distributors to enter direct forecast costs for IT systems. The module aggregates IT capex into two categories: Project costs and overheads.

The capex module provides distributors with the functionality to enter metering capex at a disaggregated level to reflect their specific circumstances. An alternative approach would be to aggregate capex into broader consistent categories, where possible.

Outputs

The preliminary capex and opex model provides forecasts in a format compatible with our PTRM and roll forward model (RFM).

The capex module produces three separate outputs for the PTRM and RFM: Forecast capex for meters, communication systems and IT. It allows capacity for more asset classes.

The opex module produces one output category for the PTRM that is forecast opex.

An alternative to this simplified approach may involve the capex and opex modules producing multiple output categories for the PTRM.

3.2. Preliminary standardised metering pricing model

The approach for determining metering service charges varies across jurisdictions depending on respective forms of control. In Victoria, a revenue cap control mechanism applies to all metering services whereas a price cap applies to the metering exit fees. For non-Victorian distributors, price caps apply to type 5 and 6 metering services.

For the metering services regulated by a revenue cap, the revenue cap amount is determined as the total allowed revenue requirement through the PTRM.

For the metering services regulated by a price cap, the PTRM revenue requirement is subsequently disaggregated into the respective metering service price caps.

We have developed a preliminary pricing model to calculate the price caps for metering services and exit fees.

In developing the pricing model, we sought to strike an appropriate balance between applying a consistent method and providing the distributors with the functionality in their specific-distributor models. The standardised pricing model provides a simple and universal presentation of information contained in the specific models used by distributors.

Price cap charges

The pricing model sets price caps for metering capital and non-capital charges based on the outputs of the PTRM. These include year one building blocks on return on capital, return of capital, opex, revenue adjustments and net tax allowance, which calculate annual revenue requirement.

As a starting point for consultation, the model allows for separate X factors for the metering capital and non-capital components. An alternative approach would be to allow for a single X factor.

Metering exit fees

The preliminary pricing model uses the opening asset base for meters, communication systems and IT, forecast capex, regulatory depreciation together with administration and handling costs to determine metering exit fees.

The model sources inputs on meter types, unit costs and gross meter population from the preliminary standardised metering capex and opex model. It allows flexibility for distributors to directly enter administration and handling costs or calculate these inputs within the model.

Invitation for submissions

We are seeking feedback from stakeholders on the preliminary standardised metering capex, opex and pricing models. In particular, we are interested in hearing your views about the layout, principles and functions of the models, including:

General

- whether the models provide an appropriate balance between applying a consistent method and providing the distributors with the functionality for their specific circumstances.

- whether the models need more or less functions.
- whether the functions in the models are fit for purpose, transparent and can be adopted by distributors and understood by stakeholders.
- whether it is suitable to use the building block approach to determine distributors' metering revenue requirement.

Metering capex and opex model

- whether the shared inputs module of the metering capex and opex model contains all relevant information
- whether the shared input parameters such as base years and inflation have been developed based on principles that are fit-for-purpose for metering services.
- whether non-labour price growth inputs (i.e, material) should be included as part of broader price growth inputs in the shared input module.
- whether the capex and opex models define input categories at an appropriate level.
- whether to aggregate capex into broader categories where possible.
- whether the preliminary model's reliance on the principles of the SCS model fundamentals are fit-for-purpose for metering services.
- whether the opex and capex forecasting methodologies are appropriate.
- whether the output categories are defined at an appropriate level.

Metering pricing model

- whether it is appropriate to have both the price caps and metering exit fees functionality within the same model.
- whether the pricing and metering exit fee model contains methodologies that are fit-for-purpose for metering.
- whether the pricing model contains all relevant inputs and outputs.
- whether the model has defined input and output categories at an appropriate level.
- whether it is appropriate to allow for separate x factors for the metering capital and non-capital components of pricing.
- whether the pricing and metering exit fee model needs more or less functions.

We also welcome feedback on any other issues relating to the preliminary standardised metering models.

In submissions, we encourage stakeholders to provide examples or explanations that support the issues raised. This will help us to make improvements so that the final version of the standardised metering model is more usable for distributors, retailers and customers, and the AER.

We also appreciate that it may be more constructive to demonstrate your point by going through the preliminary standardised metering models (or your own model) with us. In that circumstance, please contact and we will arrange a time to discuss.

Further, as part of this consultation process, we are intending to quality-assure the preliminary standardised models with the distributors by applying their data. We would like to hear from distributors on their interest in being involved in this process.