5.03

Description of the business planning and consolidation (BPC) model

Ausgrid

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1 INTRODUCTION

1.1 What is the purpose of this document?

This document describes how the Business Planning Consolidation (BPC) tool has been used to help derive the forecast standard control services capital expenditure (capex) for the 2019-24 regulatory period.

BPC is an important element in Ausgrid's regulatory model architecture, as it serves as source data for deriving revenue forecasts and indicative prices, through the AER's Regulatory Asset Base (RAB) model and the Post Tax Revenue Model (PTRM).

1.2 Where does this document fit with other material in our regulatory proposal?

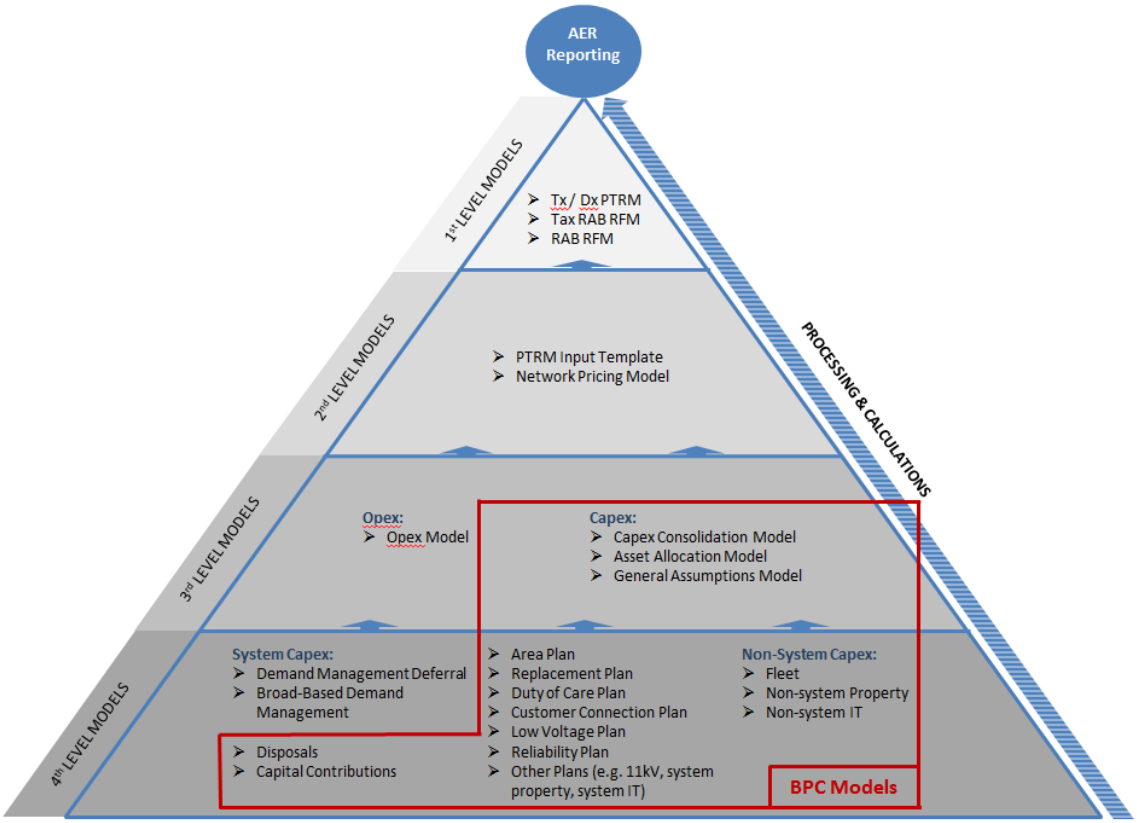
This document should be read in conjunction with Attachment 5.01 which describes Ausgrid's end to end method for deriving the capex forecast for the 2019-24 period.

2 OVERVIEW

BPC is an integral element of Ausgrid's regulatory model architecture which is depicted in Figure 1.

A bottom-up approach is used to develop Ausgrid's capex forecast including both network and non-network components, starting with a number of separately developed capex models including the Area Plan, Replacement, Customer Connection and Reliability models that form the basis of the raw capex forecast. Some feed directly into the BPC application, the scope of which is indicated by the red box in Figure 1.

Figure 1. Ausgrid's regulatory model architecture



Source: EY Audit report 2014-2019 regulatory proposal

These capex model outputs are summarised into the Capex Consolidation Model. Together with the Asset Allocation Model, which holds a detailed breakdown of cost types, and the General Assumptions Model, which holds cost escalators, they form an integrated view of the overall capex forecast. Also at the third level is the Opex Model, which is provided at Attachment 6.02.

Both the Consolidated Capex Model and the Opex Model feed into the PTRM Input Template which prepares the data for entry into the Distribution (Dx) and Transmission (Tx) PTRMs. Some additional data (such as a pricing and volumetric forecast) are also entered.

Apart from being used in the PTRM and deriving the regulatory revenue, the capex data is also used to populate the Roll Forward Model (RFM), which is used to measure the RAB over time. Data is processed and refined at each level of the framework, which means all models at all levels are essential to the overall structure, process and integrity of the framework.

3 BPC PROCESS

This chapter sets out the high level purpose, inputs, process and outputs of the BPC application.

3.1 Business Planning and Consolidation application

The BPC application is used to develop Ausgrid's capex forecast and is the repository for this forecast. It is a SAP-based program that provides a robust means of maintaining the integrity and security of the regulatory modelling data. With respect to capex, the BPC application has three core purposes:

- To act as a repository for capex data from Ausgrid's base level models. A key feature of the BPC is its ability to report and summarise data from each of the bottom level capex input models by the same attributes, thereby enabling further data interrogation and regulatory reporting in applications other than the BPC.
- To serve as a robust calculation mechanism, where unit costs and volumes can be uniformly joined together and allocation percentages consistently applied across multiple strategies and scenarios. This allows comprehensive models involving large volumes of data to be built with a high level of integrity and rigour.
- To provide a platform for cost escalation (such as material and labour cost escalators and CPI escalators). Not only are escalations applied on a monthly basis, they can be tailored to more granular asset categories. These escalators are sourced from third-party sources prior to being entered into BPC.

3.2 Inputs

Key inputs to the BPC are either applied globally across the models in the form of cost estimates and cost escalators or as annual forecasts in the case of non-asset or support costs:

- Detailed Planning Models:

Subject matter experts in Asset Management & Operations identify assets with poor condition, restricted capacity or regulatory compliance issues, and align investment specifications with needs based network drivers. These requirements are then financially modelled on the basis of planning estimates at an asset and cost category level. Area Plan, Replacement Plan, Duty of Care Plan, Customer Connection Plan, Low Voltage (LV) Augmentation Plan, and Reliability Plan Models have been developed in this way. All plans share the same asset and cost structures, and cover the same regulatory period of 2019-24. All forecast are entered in December 2016 direct dollars.

- High Level Annual Forecasts:

These forecasts are generated on the basis of;

  - detailed bottom-up modelling of identified requirements;
  - engineering models; and
  - base/step/trend modelling.

Detailed bottom-up modelling is used in the case of Property, IT and Non-System Plans. This approach is used due to the specific nature of the projects within these plans.

Engineering Models have been used in the case of the HV and LV Augmentation Plans. The HV Augmentation model identifies capacity constraints on the basis of the current network configuration with apportionment of forecast load from the upstream zone substation to the associated HV network. The modelling for the LV Augmentation Plan is based on analysis of recent LV projects. From this analysis, projects of varying scope and cost are forecast and allocated to cost categories (labour, materials and contracted services) using base year costs.

A Base/Step/Trend modelling approach was used to forecast Engineering Support Costs which incorporated corporate productivity targets.

The Assumptions Model contains data relating to productivity and cost escalators which are applied globally across all models.

3.3 Process

The core BPC process can be split into Integration, Allocation and Escalation:

- Integration refers to the process of identifying the volume of assets within each project/program and generating forecast expenditure on the basis of unit cost estimates. Their results are aggregated to achieve an annual capex forecast for each year of the regulatory control period in December 2016 dollars.
- Once total capex is calculated, it is broken down into different attributes based on pre-determined percentages applied via the various network driver models. This is referred to as the allocation process. Typically the expenditure can be allocated by cost types, regions, asset categories, network type and other attributes. This allows the total capex to be reported by different dimensions as specified by regulatory information notice (RIN) requirements.
- Escalation refers to the application of cost escalators to the constant based forecast. For all years prior to the beginning of the 2019-24 regulatory control period (i.e. July 2019), both real and nominal escalations apply. However, nominal escalation is frozen as at 30 June 2019, beyond this date, only real cost escalators apply. In other words, the capex forecast is presented in real June 2019 dollars.

The BPC application also has the ability to categorise data stored within it, so as to generate reports by each cost attribute. This process is primarily an internal reporting function.

3.4 Outputs

The BPC application presents capex data by asset class and network type, for each year from 2019 to 2024. This links directly to the PTRM Input Template.

For Non-System Capex, further cost allocation is performed outside of the BPC environment to separate standard control services forecast from other lines of business forecast, before the data can be utilised by the PTRM Input Template.

4 VALIDATION

We engaged PwC to undertake a review of our regulatory model's architecture including the BPC. The key findings from the review can be found in Attachment RIN04.