

## Profiling Expert Group Recommendations

### Supplier Volume Allocation Group

Date of meeting **1 February 2022**

Paper number **SVG252/03**

Owner/author **Derek Weaving**

Purpose of paper **Decision**

Classification **Public**

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**Summary** **The Profiling Expert Group (PEG) has reviewed the profiling Technical Product Deliverables (TPDs), the Average Fraction of Yearly Consumption (AFYC) and Default Estimated Annual Consumption (EAC) data. The PEG recommends that the TPDs from Set 1 are used in Settlement from 1 April 2022. The PEG also recommends that certain AFYCs and Default EACs are updated in Market Domain Data (MDD) for use in Settlement from 1 April 2022.**

### 1. Introduction

- 1.1 The PEG reports to the Supplier Volume Allocation Group (SVG) on matters related to profiling, Supplier Volume Allocation (SVA) and certain Settlement parameters. The PEG periodically reviews the Settlement profiles (Technical Product Deliverables (TPDs)) which Elexon receives from the Profile Administrator (PrA) on a bi-annual basis, before recommending to the SVG whether new TPDs should be approved and used in Settlement.
- 1.2 The PEG has reviewed the TPDs for the Spring and High Summer 2022 seasons. Two sets of TPDs were created, both based on three years of pooled data: Set 1 used pooled data from 2019/20, 2020/21 and 2021/22, whilst Set 2 used pooled data from 2018/19, 2019/20 and 2021/22. This was done to allow the PEG to take into account any changes, such as lockdown constraints being removed, in its recommendation.
- 1.3 The PEG has also reviewed the results of the recalculation of Average Fraction of Yearly Consumption (AFYC) and Half Hourly (HH) Default Estimated Annual Consumption (EAC) data.
- 1.4 The review process for the TPDs has been the same as previous years, whereby Elexon checks for formats and completeness and conducts an initial qualitative review. The PEG undertakes a further qualitative review before making a recommendation to the SVG. Note all profiling data is designed for use in Settlement from 1 April 2022.

### 2. Profiling TPDs

- 2.1 The new TPDs are made up of:
  - Regression data for the Spring, Summer and High Summer profiling seasons, based on a pooled set of the latest three years' data (Set 1: 2019, 2020 and 2021);
  - Group Average Annual Consumption (GAAC) data calculated for the following BSC Year (1 April 2022 to 31 March 2023); and
  - Default Profile Coefficients for use in the Half Hourly (HH) market in 2022/23.
- 2.2 The Autumn and Winter data is made up of a pooled set of the latest three years of data (2018/19, 2019/20 and 2020/21), and has not been updated in this set of TPDs.

2.3 Elexon and the PEG have undertaken a technical review of the profiles to be used in Settlement from 1 April 2022.

### 3. Evaluation and analysis of the new dataset

3.1 The new TPDs were subject to a number of standard Elexon checking procedures. The data passed all tests on content and format. Some further checks (e.g. negative evaluation counts at extreme Noon Effective Temperatures (NETs)) were also undertaken. The complete checklist is provided in Appendix 1 of this paper.

### 4. PEG review

4.1 At its meeting on 13 January 2022, the PEG confirmed that the new TPDs are appropriate to use. The PEG therefore unanimously recommends that the SVG approves the new TPDs for use in Settlement from 1 April 2022.

### 5. AFYC and Default EAC Data

5.1 The SVAA is required to recalculate the AFYC data annually. The process recalculates the following three sets of values that are held in Market Domain Data (MDD):

- AFYC values;
- GSP Group Profile Class Average EAC values (GGPCAEACs); and
- GSP Group Profile Class Default EAC values (GGPCDEACs).

5.2 The SVG agreed the AFYC review approach, timetable and calculation period at its meeting on 5 October 2021 ([SVG248/14](#)).

5.3 At its January 2022 meeting, the PEG reviewed Elexon's analysis of the recalculated AFYC and Default EAC data. The analysis rejected 64 new GGPCDEAC values as these fell outside the tolerances on population and difference percentage when compared against the previous values. The current methodology specifies that when a GGPCDEAC is rejected, its related GGPCAEACs will also be rejected.

5.4 51 of the rejected GGPCDEAC values were from Profile Classes 5 to 8. The PEG believes that the new values reflect genuine changes in the data population (following BSC Modification P272<sup>1</sup>), and that there would be merit to accepting the GGPCDEACs and their related GGPCAEACs, which are based on the most recent data, rather than keep the existing values.

5.5 In addition, Elexon has reviewed the HH Default EAC values for Measurement Classes (MC) C, D, E, F and G. These were recalculated using actual Consumption Component Class (CCC) level data from 1 November 2020 to 31 October 2021.

5.6 The PEG unanimously agreed with the new proposed HH Default EAC values for Measure Class C and D (C from 725MWh to 675MWh, D from 6,000MWh to 5,500MWh). Other MCs remain unchanged.

5.7 Comparison data, in MWhs, can be found in Table 1.

**Table 1: Comparison between live HH Default EACs and new calculated values**

MC	Live in MDD	New proposed values
C	725	675
D	6000	5500
E	100	100
F	4	4
G	50	50

<sup>1</sup> P272, 'Mandatory Half Hourly Settlement for Profile Classes 5-8'

## 6. PEG recommendation

6.1 The PEG recommends to the SVG that MDD is updated with:

- All 112 GGPCDEACs;
- 600 GGPCAEACs, and their associated sets of AFYCs; and
- The new set of HH Default EAC values for MC C and D.

## 7. Recommendations

7.1 We invite you to:

- a) **APPROVE** the TPDs for use in Settlement from 1 April 2022;
- b) **APPROVE** that 112 GGPCDEACs, 600 GGPCAEACs and their corresponding sets of AFYCs are updated with effect from 1 April 2022;
- c) **APPROVE** the new set of HH Default EACs for Measurement Classes C and D;
- d) **NOTE** that Elexon will raise the necessary Change Requests to update all data items in MDD; and
- e) **NOTE** that the SVAA systems will be updated with the new TPDs.

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## Appendices

Appendix 1 – Profiling TPDs checklist

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### For more information, please contact:

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## Appendix 1: Profiling TPDs Checklist

### PrA TPDs checklist (Pooled Regression)

Reporting period: Year 26\_1 (Spring - High Summer 2022)

Period of Operational Use: Spring - High Summer 2022 (01/04/2022 – 05/09/2022)

Check	Results	Comments																																													
<b>Date of receipt</b>	Monday 29 November 2021.	Within timeframes according to TPDs timetable																																													
<b>Data completeness (FF)</b>	We received all expected files.  Expected files: <ul style="list-style-type: none"> <li>x6 .csv Regression data (PC 1, 2b, 2s, 3, 4b, 4s)</li> <li>x6 .csv GAACs</li> <li>x8 .csv Profile coefficients (PC 1 to 4s)</li> <li>x48 .csv Algorithmic stretched coefficients</li> </ul>	Note stretched coefficients provided for PR2 and PR4; 48 .csv files for each																																													
<b>Data format (FF)</b>	All files in correct format. No issues.	Done																																													
<b>Data completeness (NFF)</b>  <u>Record Count of:</u> <u>Regression</u> <u>Coefficients</u>	We received all expected files as shown below.  <b>Regressions</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Expected</th> </tr> </thead> <tbody> <tr> <td>Records</td> <td>597552</td> <td>597552</td> </tr> <tr> <td>GSP</td> <td>1400</td> <td>1400</td> </tr> <tr> <td>PFL</td> <td>100</td> <td>100</td> </tr> <tr> <td>RES</td> <td>2500</td> <td>2500</td> </tr> <tr> <td>COF</td> <td>527600</td> <td>527600</td> </tr> <tr> <td>PER</td> <td>65950</td> <td>65950</td> </tr> <tr> <td>ZHD</td> <td>1</td> <td>1</td> </tr> <tr> <td>ZPT</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <b>Profile Coefficients</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Expected</th> </tr> </thead> <tbody> <tr> <td>ZHD</td> <td>1</td> <td>1</td> </tr> <tr> <td>PFC</td> <td>8</td> <td>8</td> </tr> <tr> <td>DPP</td> <td>140160</td> <td>140160</td> </tr> <tr> <td>ZPT</td> <td>1</td> <td>1</td> </tr> <tr> <td>Total</td> <td>140170</td> <td>140170</td> </tr> </tbody> </table>		Actual	Expected	Records	597552	597552	GSP	1400	1400	PFL	100	100	RES	2500	2500	COF	527600	527600	PER	65950	65950	ZHD	1	1	ZPT	1	1		Actual	Expected	ZHD	1	1	PFC	8	8	DPP	140160	140160	ZPT	1	1	Total	140170	140170	Done
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<b>Data format (NFF)</b>	All files in correct format. No issues.	Done																																													
<b>SVAA Test Loading</b>	SVAA test loading results showed no issue for all GSP Groups.  There were 'warnings' for the GSP Groups _N and _P. However, this was expected since the Scottish GSP Groups were not originally included, as they had their own profiles before BETTA.	Done.  SVAA Test load results received for Set 2 on 15/12/2021																																													

<b>Friendly (FF) Vs Non-friendly (NFF) data comparisons</b>	Basic Regression Coefficients are the same in both files.  14 Settlement Period stretch for Switched Load Profile Classes 2 and 4 also match.	Done																												
<b>Eval (new reg) vs. GAD</b>	Regression data evaluated (Y26_1) for 2022 Spring to High Summer (April 2022 to September 2022) and the outturn NET.  This evaluated demand is compared with GAD.Comparisons indicate regressions look okay.	Done																												
<b>Y26_1 Vs Y25_1 evaluated regressions at 10-year average NETs for 2021/22</b>	No overall issues identified.	Done																												
<b>Data Analyst analysis for Y26_1 GADs</b>	<table border="1" data-bbox="408 772 1117 1108"> <thead> <tr> <th>PC</th> <th>Avg Demand</th> <th>Avg Std Error</th> <th>Precision 2020/21</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.39199</td> <td>0.0261</td> <td>6.67%</td> </tr> <tr> <td>2b</td> <td>0.473726</td> <td>0.057176</td> <td>12.07%</td> </tr> <tr> <td>2s</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>1.272691</td> <td>0.060696</td> <td>4.77%</td> </tr> <tr> <td>4b</td> <td>2.194666</td> <td>0.1838</td> <td>8.38%</td> </tr> <tr> <td>4s</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	PC	Avg Demand	Avg Std Error	Precision 2020/21	1	0.39199	0.0261	6.67%	2b	0.473726	0.057176	12.07%	2s				3	1.272691	0.060696	4.77%	4b	2.194666	0.1838	8.38%	4s				Table presented by Data Analyst at the last PEG meeting.
PC	Avg Demand	Avg Std Error	Precision 2020/21																											
1	0.39199	0.0261	6.67%																											
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<b>Evaluated algorithmic stretched coefficients all sum to same value per stretch</b>	Differences in all Profile Class 2 stretches are inside tolerable limits.  Differences in all Profile Class 4 stretches are inside tolerable limits.	Done																												
<b>Group Average Annual Consumptions (GAACs)</b>	The percentage ratios between the average GAACs and the average annual consumption per PC are 100%	Done																												
<b>Negative evaluation counts at long run average NETs +/- 10°F for an evaluated matrix of 365 x 48 values (17,520 half-hourly evaluations).</b>	<table border="1" data-bbox="408 1565 1066 1839"> <thead> <tr> <th>Profile Class</th> <th>HH Count + 10°F</th> <th>HH Count - 10°F</th> </tr> </thead> <tbody> <tr> <td>PC1</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC2b</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC2s</td> <td>28</td> <td>1</td> </tr> <tr> <td>PC3</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC4b</td> <td>0</td> <td>0</td> </tr> <tr> <td>PC4s</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Profile Class	HH Count + 10°F	HH Count - 10°F	PC1	0	0	PC2b	0	0	PC2s	28	1	PC3	0	0	PC4b	0	0	PC4s	0	0	Small number of negative evaluations in PC2s – within accepted limits							
Profile Class	HH Count + 10°F	HH Count - 10°F																												
PC1	0	0																												
PC2b	0	0																												
PC2s	28	1																												
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