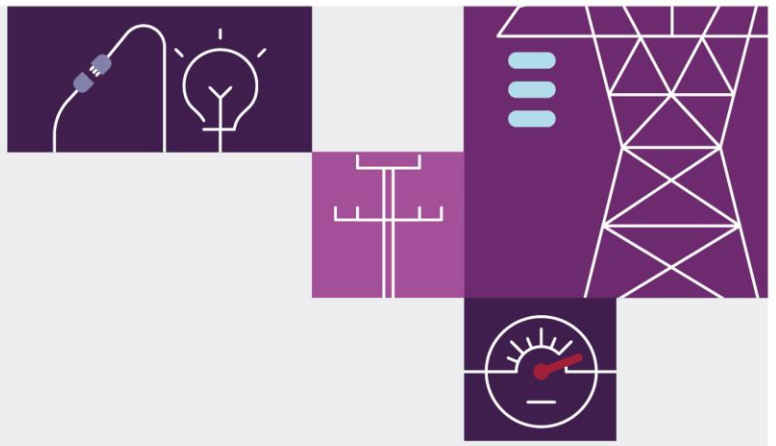


# Unaccounted For Energy (UFE) Trends Report

May 2024

Information and analysis of UFE for  
the National Electricity Market





# Important notice

## Purpose

AEMO publishes the Unaccounted for Energy (UFE) Trends Report, under clause 3.15.5B of the National Electricity Rules (NER), to provide information and analysis of unaccounted for energy (UFE) in each local area to facilitate efficient decreases in UFE over time.

This publication has been prepared by AEMO using information for the period 1 March 2022 to 9 March 2024. Information made available after this date may have been included in this publication where practical.

## Disclaimer

This document or the information in it may be subsequently updated or amended. This document does not constitute legal or business advice, and should not be relied on as a substitute for obtaining detailed advice about the National Electricity Law, the National Electricity Rules (NER), or any other applicable laws, procedures or policies. AEMO has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.

Accordingly, to the maximum extent permitted by law, AEMO and its officers, employees and consultants involved in the preparation of this document:

- make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of the information in this document; and
- are not liable (whether by reason of negligence or otherwise) for any statements or representations in this document, or any omissions from it, or for any use or reliance on the information in it.

## Version control

Version	Release date	Changes
1	17/05/2024	

# Executive summary

The Unaccounted for Energy (UFE) Trends Report provides information about UFE in each *local area* for the period 1 March 2022 to 9 March 2024. The content of the report addresses the requirements under National Electricity Rules (NER) 3.15.5B for AEMO to:

- Report on the total UFE for each *local area*,
- Analyse UFE in each *local area* against benchmarks,
- Identify sources of UFE in each *local area*,
- Recommend UFE visibility improvements in each *local area*, and
- Recommend actions to reduce UFE for each *local area*.

Total UFE and the components of UFE for each *local area* have been calculated in accordance with formulations prescribed in NER 3.15.5.

The report identifies sources of UFE that will be analysed in future reports.

Following the application of the Five-Minute Load Profile (5MLP) in the *settlements* processes, an interim solution, the “weights methodology”, was implemented to prevent energy volume spikes occurring. The periods of time during which the “weights methodology” was applied are stated in sections 2.1.3, 2.1.6 and 2.1.11 of this report. Consultation on the development of a 5MLP longer-term profiling methodology to replace the “weights methodology” was undertaken and the modified 5MLP profiling methodology became effective from 1 October 2023.

Following consultation with Participants, a longer-term Net System Load Profiling (NSLP) methodology to address spike-related issues will be implemented from 29 September 2024.

Based on the information presented in the **UFE values by settlement data versions** charts, AEMO considers that significant improvement in UFE values will come from the further deployment of remotely read interval metering. This will bring into closer alignment the Prelim and Final UFE values with the Rev 1 and Rev 2 UFE values, as demonstrated in the Victorian *local areas*.

As there are no recommended actions that are related to activities that are linked to pricing regulatory cycles, AEMO did not facilitate a discussion forum prior to the release of this UFE Trends Report.

# Contents

Executive summary	3
1 Introduction	7
1.1 Purpose and scope	7
1.2 Definitions and interpretation	7
1.3 Key definitions – UFE components	8
2 Summary and analysis of UFE	10
2.1 Trend interpretation	10
3 UFE benchmark analysis	24
3.1 ActewAGL	25
3.2 Ausgrid	26
3.3 AusNet Services	27
3.4 CitiPower	28
3.5 Endeavour Energy	29
3.6 Energex	30
3.7 Ergon	31
3.8 Essential Energy	32
3.9 Jemena	33
3.10 Powercor	34
3.11 SA Power Networks	35
3.12 TasNetworks	36
3.13 United Energy	37
4 UFE source analysis	38
4.1 DLF Values	38
4.2 Accumulation Metering Migration to 5-minute Metering	53
4.3 15 and 30-minute Metering Migration to 5-minute Metering	54
4.4 Unmetered Loads Migration to Metered Arrangements	56
4.5 NCONUML Alternative Calculation Methodologies	56
4.6 Review of Profiling Methodologies	56
4.7 Review of UFE Values by Settlement Data Versions	56
4.8 Review of Unmetered Cross Boundary Energy Volumes	57
5 Recommendations – UFE visibility improvements	58
6 Recommendations – UFE reduction actions	58
A1. UFE analysis supporting information	59
A1.1 UFE and UFE % of ADME for local areas	60





A1.2	UFE components by settlement data type	73
A1.3	Profiles for each local area	87

## Figures

Figure 1	UFE Components – ActewAGL	11
Figure 2	UFE Components – Ausgrid	12
Figure 3	UFE Components – AusNet Services	13
Figure 4	UFE Components – CitiPower	14
Figure 5	UFE Components – Endeavour Energy	15
Figure 6	UFE Components – Energex	16
Figure 7	UFE Components – Ergon	17
Figure 8	UFE Components – Essential Energy	18
Figure 9	UFE Components – Jemena	19
Figure 10	UFE Components – Powercor	20
Figure 11	UFE Components – SA Power Networks	21
Figure 12	UFE Components – TasNetworks	22
Figure 13	UFE Components – United Energy	23
Figure 14	UFE Median, Average, Maximum and Minimum – ActewAGL February 2023	25
Figure 15	UFE Median, Average, Maximum and Minimum – ActewAGL February 2024	25
Figure 16	UFE Median, Average, Maximum and Minimum – Ausgrid February 2023	26
Figure 17	UFE Median, Average, Maximum and Minimum – Ausgrid February 2024	26
Figure 18	UFE Median, Average, Maximum and Minimum – AusNet Services February 2023	27
Figure 19	UFE Median, Average, Maximum and Minimum – AusNet Services February 2024	27
Figure 20	UFE Median, Average, Maximum and Minimum – CitiPower February 2023	28
Figure 21	UFE Median, Average, Maximum and Minimum – CitiPower February 2024	28
Figure 22	UFE Median, Average, Maximum and Minimum – Endeavour Energy February 2023	29
Figure 23	UFE Median, Average, Maximum and Minimum – Endeavour Energy February 2024	29
Figure 24	UFE Median, Average, Maximum and Minimum – Energex February 2023	30
Figure 25	UFE Median, Average, Maximum and Minimum – Energex February 2024	30
Figure 26	UFE Median, Average, Maximum and Minimum – Ergon February 2023	31
Figure 27	UFE Median, Average, Maximum and Minimum – Ergon February 2024	31
Figure 28	UFE Median, Average, Maximum and Minimum – Essential Energy February 2023	32
Figure 29	UFE Median, Average, Maximum and Minimum – Essential Energy February 2024	32
Figure 30	UFE Median, Average, Maximum and Minimum – Jemena February 2023	33
Figure 31	UFE Median, Average, Maximum and Minimum – Jemena February 2024	33
Figure 32	UFE Median, Average, Maximum and Minimum – Powercor February 2023	34
Figure 33	UFE Median, Average, Maximum and Minimum – Powercor February 2024	34



Figure 34	UFE Median, Average, Maximum and Minimum – SA Power Networks February 2023	35
Figure 35	UFE Median, Average, Maximum and Minimum – SA Power Networks February 2024	35
Figure 36	UFE Median, Average, Maximum and Minimum – TasNetworks February 2023	36
Figure 37	UFE Median, Average, Maximum and Minimum – TasNetworks February 2024	36
Figure 38	UFE Median, Average, Maximum and Minimum – United Energy February 2023	37
Figure 39	UFE Median, Average, Maximum and Minimum – United Energy February 2024	37
Figure 40	Accumulation NMIs transitioned to 5-minute metering	53
Figure 41	Approximate accumulation and controlled load energy volumes % of ADME	54
Figure 42	15 and 30-minute NMIs transitioned to 5-minute metering	55
Figure 43	Approximate TI and Non-TI energy volumes % of ADME	55
Figure 44	UFE – ActewAGL	60
Figure 45	UFE % of ADME – ActewAGL	60
Figure 46	UFE – Ausgrid	61
Figure 47	UFE % of ADME Ausgrid	61
Figure 48	UFE – AusNet Services	62
Figure 49	UFE % of ADME – AusNet Services	62
Figure 50	UFE – CitiPower	63
Figure 51	UFE % of ADME – CitiPower	63
Figure 52	UFE – Endeavour Energy	64
Figure 53	UFE % of ADME – Endeavour Energy	64
Figure 54	UFE – Energex	65
Figure 55	UFE % of ADME – Energex	65
Figure 56	UFE – Ergon	66
Figure 57	UFE % of ADME – Ergon	66
Figure 58	UFE – Essential Energy	67
Figure 59	UFE % of ADME – Essential Energy	67
Figure 60	UFE – Jemena	68
Figure 61	UFE % of ADME – Jemena	68
Figure 62	UFE – Powercor	69
Figure 63	UFE % of ADME – Powercor	69
Figure 64	UFE – SA Power Networks	70
Figure 65	UFE % of ADME – SA Power Networks	70
Figure 66	UFE – TasNetworks	71
Figure 67	UFE % of ADME – TasNetworks	71
Figure 68	UFE – United Energy	72
Figure 69	UFE % of ADME – United Energy	72

# 1 Introduction

## 1.1 Purpose and scope

The purpose of the UFE Trends Report is to provide information and analysis of UFE in each *local area* to facilitate efficient decreases in UFE over time<sup>1</sup>.

NER 3.15.5B<sup>2</sup> requires AEMO to publish, at least once a year, a report on UFE trends that is prepared in accordance with the *UFE reporting guidelines*. The *UFE reporting guidelines*, made under NER 3.15.5B(d)-(f), is published on AEMO's UFE Information and Reports web page.

<https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/metering-data/unaccounted-for-energy-ufe-information-and-reports>

This UFE Trends Report has been prepared in accordance with the *UFE reporting guidelines*.

The *UFE reporting guidelines* require the UFE Trends Report to cover a rolling 24 month period. This UFE Trends Report covers the period 1 March 2022 to 9 March 2024. This period covers complete *billing periods*, i.e. complete trading weeks, for which *final statements* have been issued.

The content of this report includes:

1. Reporting on total UFE by *local area* over the reporting period.
2. Analysis of UFE in each *local area* against benchmarks.
3. Analysis of the sources of UFE in each *local area*,
4. Recommended actions to gain further visibility of UFE in each *local area*.
5. Recommended actions to reduce UFE in each *local area*.

Source data from which UFE Trends Reports and charts are derived and monthly UFE data with high level trend information is available via AEMO's UFE Information and Reports web page.

<https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/metering-data/unaccounted-for-energy-ufe-information-and-reports>


## 1.2 Definitions and interpretation

Terms defined in the National Electricity Law and the NER have the same meanings in this report unless otherwise specified in this report.

---

<sup>1</sup> NER 3.15.5B(b).

<sup>2</sup> Introduced by the National Electricity Amendment (Global settlement and market reconciliation) Rule 2018.



Terms defined in the NER are intended to be identified in this report by italicising them, but failure to italicise a defined term does not affect its meaning.

## 1.3 Key definitions – UFE components

For each *local area*, an amount representing UFE is determined by AEMO for each *trading interval* in accordance with section 1.3.1.

Calculations detailed in sections 1.3.2 and 1.3.3 are also undertaken by AEMO to assist with the allocation of UFE for each *distribution network connection point*.

### 1.3.1 UFE calculation

In accordance with NER 3.15.5, for each *local area*, the UFE amount for each *trading interval* is determined by the following formula:

$$\text{UFE} = \text{TME} - \text{DDME} - \text{ADME}$$

Where:

**UFE** is total unaccounted for energy for a *local area*,

**TME** is total energy flowing at *transmission network connection points* in a *local area*,

**DDME** is cross boundary energy flow between adjacent *distribution networks*. DDME is a positive value for the supplying *distribution local area* and a negative value for the receiving *distribution local area*, and

**ADME** is the aggregate of energy flows for each *connection point* in a *local area*.

UFE, TME, DDME and ADME information is available from the RM 46<sup>3</sup> Report for *financially responsible Market Participants (FRMPs)* and *Local Network Service Providers (LNSPs)*.

### 1.3.2 UFE allocation

The allocation of UFE for every *distribution network connection point* in a *local area* is determined by the following formula:

$$\text{UFEA} = \text{UFE} \times (\text{DME}/\text{ADMELA})$$

Where:

**UFEA** is the allocation of *local area* unaccounted for energy for a *connection point*,

**DME** is the load component (ME- x DLF) at a *connection point* in the *local area*,

**ME-** is load component as recorded in the *metering data* at a *connection point* in the *local area*,

**DLF** is the *distribution loss factor* applicable at a *connection point* in the *local area*, and

---

<sup>3</sup> RM46 Report [https://visualisations.aemo.com.au/aemo/web-help/Content/MSATSUserGuides/Reports\\_MDM\\_RM46.htm?tocpath=Market%20Settlement%20and%20Transfer%20System%20\(MSATS\)%7CGuide%20to%20MSATS%7CReports%20and%20Alerts%7CMDM%20reports%7CeMDM%20report%20types%7C\\_\\_\\_\\_\\_13](https://visualisations.aemo.com.au/aemo/web-help/Content/MSATSUserGuides/Reports_MDM_RM46.htm?tocpath=Market%20Settlement%20and%20Transfer%20System%20(MSATS)%7CGuide%20to%20MSATS%7CReports%20and%20Alerts%7CMDM%20reports%7CeMDM%20report%20types%7C_____13)



**ADMELA** is the aggregate of all DME amounts in a *local area* for which a *Market Customer* is *financially responsible*.

UFEA and ADMELA information is available from the RM 43<sup>4</sup> and RM 46 Reports for FRMPs and LNSPs.

### 1.3.3 UFE Factor (UFEF)

The UFE Factor (UFEF) is used to facilitate the allocation of UFE to individual *connection points*. As set out in section 1.4.3 of the *UFE reporting guidelines*:

$$\text{UFEF} = \text{UFE}/\text{ADMELA}$$

Where:

**UFE** is total unaccounted for *energy* for a *local area*, and

**ADMELA** is the aggregate of all DME amounts in a *local area* for which a *Market Customer* is *financially responsible*

UFEA = UFE x (DME/ADMELA), or can be expressed as:

UFEA = DME x (UFE/ADMELA), therefore

$$\text{UFEA} = \text{DME} \times \text{UFEF}$$

UFEF information is available from the RM 43 and RM 46 Reports for FRMPs and LNSPs.

---

<sup>4</sup> RM43 Report [https://visualisations.aemo.com.au/aemo/web-help/Content/MSATSuserGuides/Reports\\_MDM\\_RM43.htm?tocpath=Market%20Settlement%20and%20Transfer%20System%20\(MSATS\)%7CGuide%20to%20MSATS%7CReports%20and%20Alerts%7CMDM%20reports%7CeMDM%20report%20types%7C\\_\\_\\_\\_12](https://visualisations.aemo.com.au/aemo/web-help/Content/MSATSuserGuides/Reports_MDM_RM43.htm?tocpath=Market%20Settlement%20and%20Transfer%20System%20(MSATS)%7CGuide%20to%20MSATS%7CReports%20and%20Alerts%7CMDM%20reports%7CeMDM%20report%20types%7C____12)

## 2 Summary and analysis of UFE

### 2.1 Trend interpretation

The following charts provide a summary of the UFE calculation components, identified in section 1.3, for each *local area* over the reporting period. The underlying data for each chart comes from values that are available to participants in MSATS RM43 and RM 46 Reports. As this data is sourced from AEMO’s Metering Data Management system, load values are positive and generation values are negative.

Information presented in the charts is the total of each UFE component for a *day* and are displayed as kWh values. For the UFE Components charts, the left vertical axis scale is related to TME and ADME values and the right vertical axis is related to UFE values, and where applicable, DDME values.

Additional charts that support observations presented in this section are provided in Appendix A. These charts are:

- UFE for a *local area*
- UFE for a *local area* expressed as a percentage of *local area* ADME
- UFE components for a *local area* by settlement data version, i.e. Prelim, Final, Rev 1 and Rev 2.
- Profiles for each *local area*

Information presented in the charts is the total of each component for a *settlements day* and are displayed as kWh values.

Trends report charts are based on daily aggregation of UFE component values that are available for Participants from the RM43 and RM46 reports.

RM43 and RM46 reports provide UFE component values at *trading interval* level.

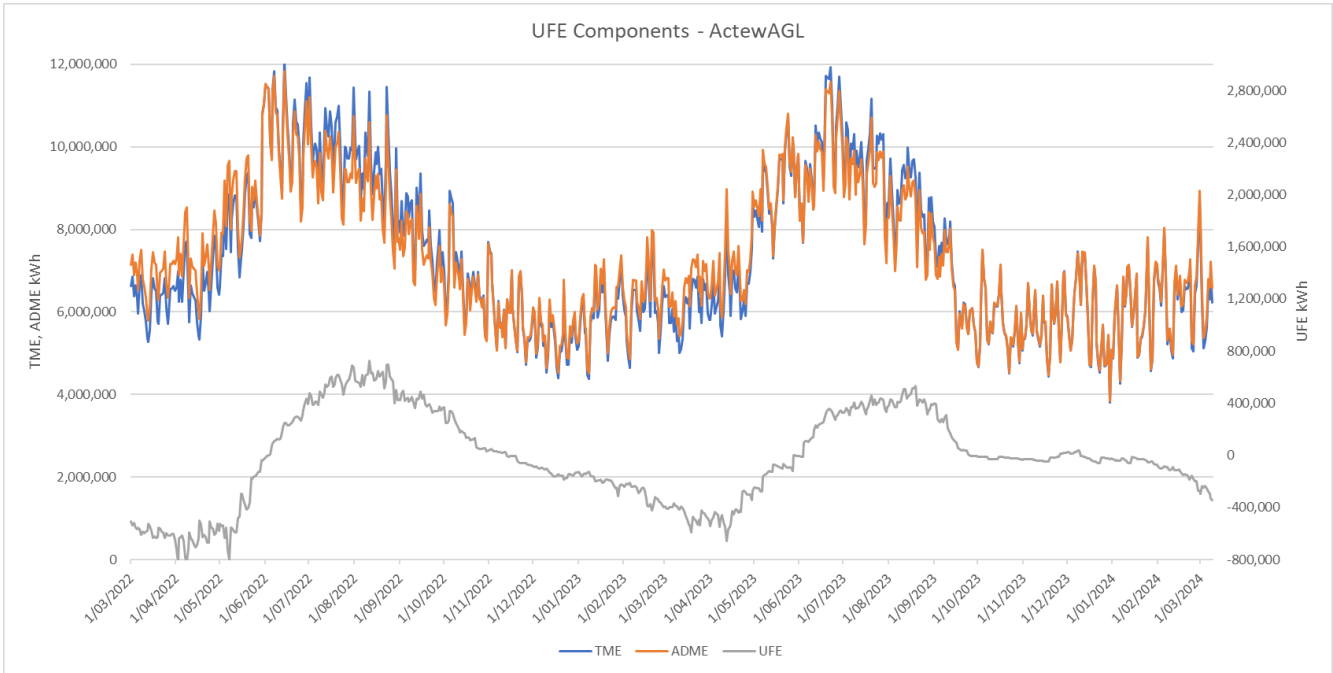
Following the application of the Five-Minute Load Profile (5MLP) in the *settlements* processes, an interim solution, the “weights methodology”, was implemented to prevent energy volume spikes occurring. This methodology increases the system load component of the profiles, which artificially shifts the profiles up. Prior to any weights being applied, analysis of the system load is performed and confirmed with the respective *Transmission Network Service Providers* (TNSPs) and the *Distribution Network Service Providers* (DNSPs). The “weights methodology” has been applied, until 30 September 2023, to the AusNet Services, Energex and SA Power Networks *local areas* as indicated in sections 2.1.3, 2.1.6 and 2.1.11.

Consultation on the development of a 5MLP longer-term profiling methodology to replace the “weights methodology” was undertaken and the modified 5MLP profiling methodology became effective from 1 October 2023. The modified (Uniform Allocation Method) profiling methodology is applied to 15 and 30-minute metering data where the 5MLP values are negative.

Following consultation with Participants, a longer-term Net System Load Profiling (NSLP) methodology to address spike-related issues will be implemented from 29 September 2024.



## 2.1.1 ActewAGL



**Figure 1** UFE Components – ActewAGL

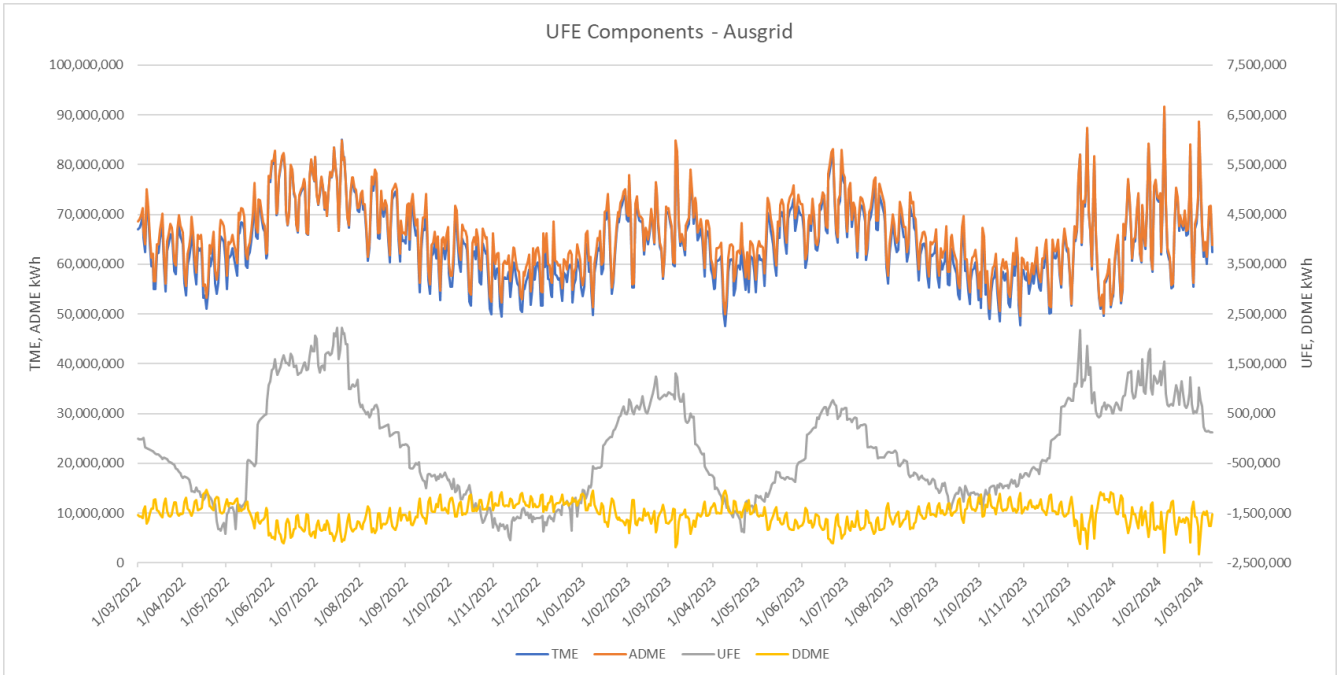
### Local Area Observations

ADME reduces with respect to TME over the May 2022 to August 2022 period and UFE to its maximum value in August 2022.

For the September 2022 to April 2023 period, ADME increases with respect to TME and UFE decreases.

The cycle repeats from May 2023 to August 2023 UFE increases, then reduces from September 2023.

## 2.1.2 Ausgrid



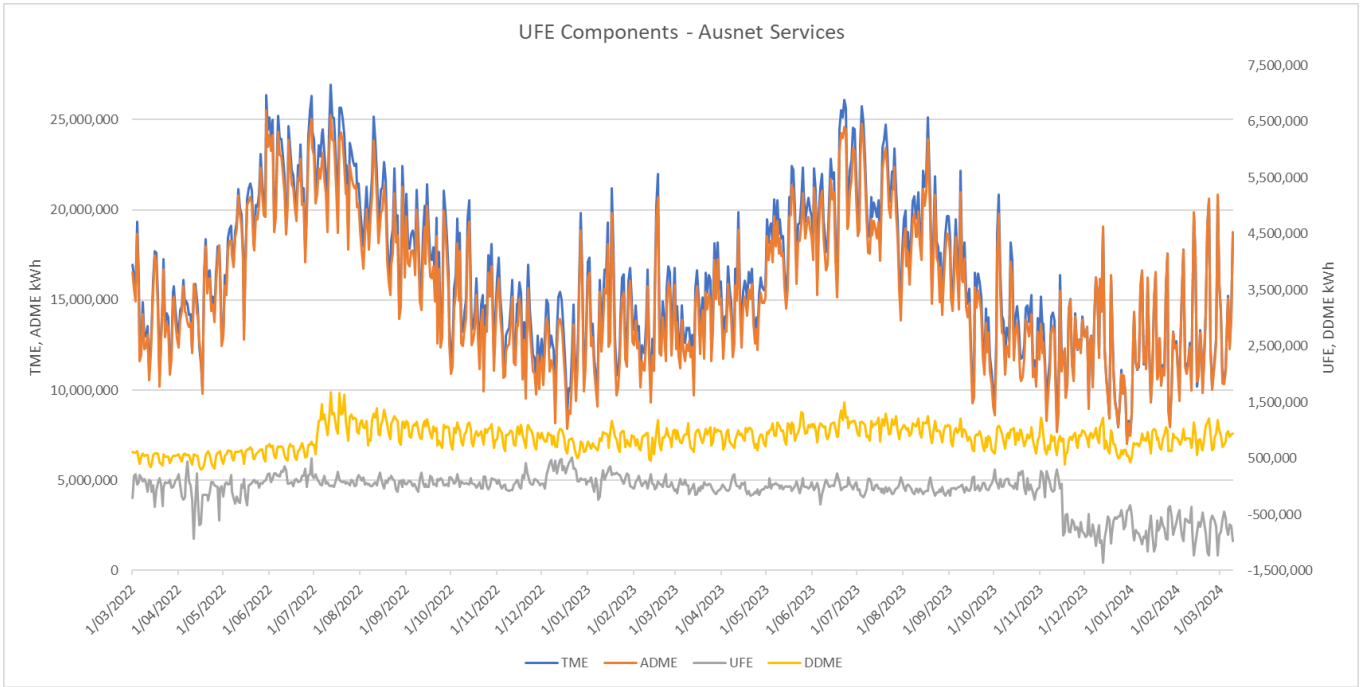
**Figure 2** UFE Components – Ausgrid

### Local Area Observations

Cross boundary *energy* inflows remained relatively steady over the reporting period. Rises and falls in UFE followed the relative increases and decreases, respectively, of ADME with respect to TME.



### 2.1.3 AusNet Services



**Figure 3 UFE Components – AusNet Services**

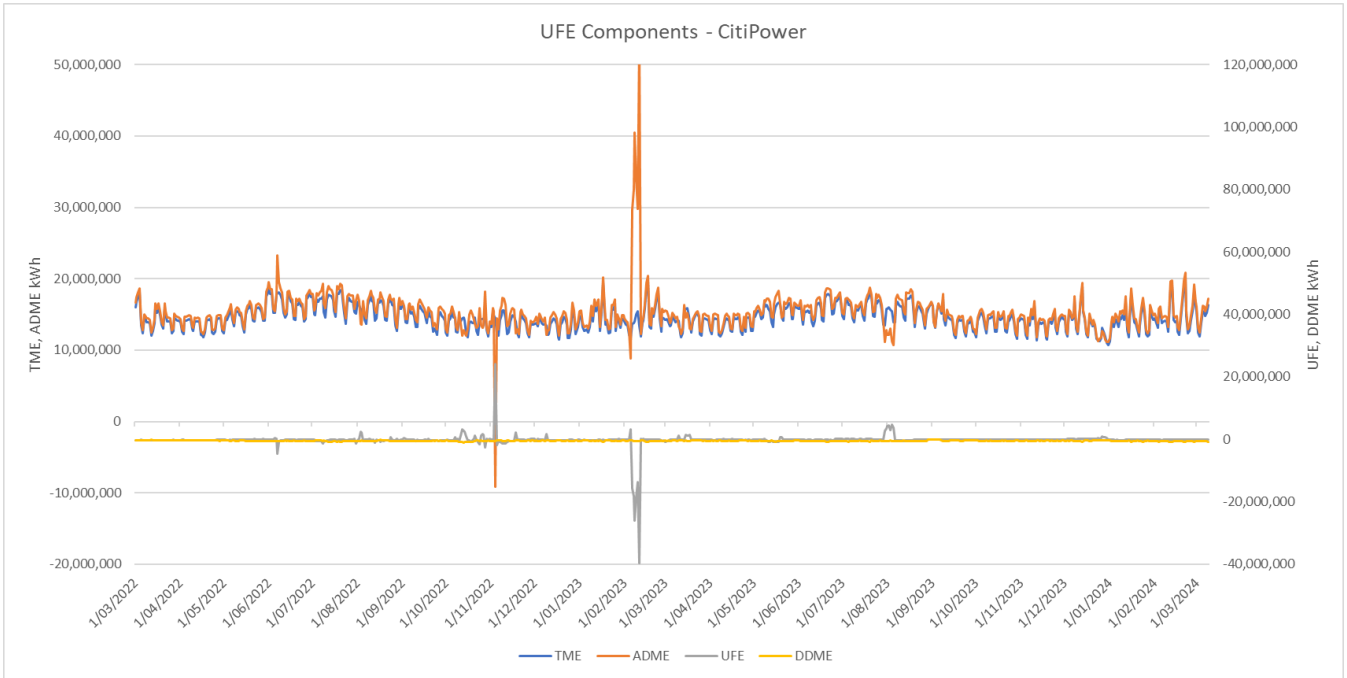
#### Local Area Observations

TME is generally greater than ADME for the reporting period. Cross boundary *energy* outflows have kept UFE values relatively stable for the reporting period.

Weights have been applied to Final version settlement data from January 2022 until 30 September 2023.

Since the application of the modified 5MLP profiling methodology from 1 October 2023, the UFE values appear to have reduced.

## 2.1.4 CitiPower



**Figure 4** UFE Components – CitiPower

### Local Area Observations

UFE has been relatively stable for the reporting period.

The UFE spikes in November 2022 and February 2023 are related to NSLP spikes.

## 2.1.5 Endeavour Energy

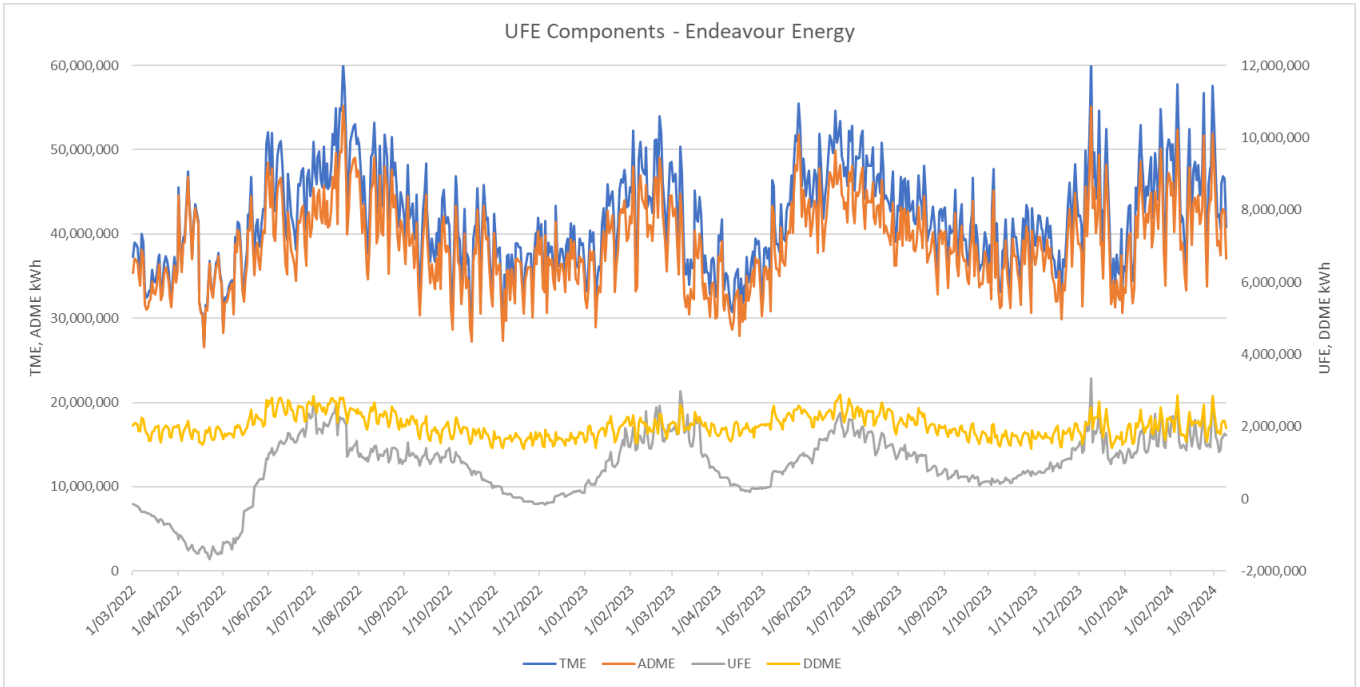


Figure 5 UFE Components – Endeavour Energy

### Local Area Observations

Cross boundary *energy* outflows remained relatively steady over the reporting period. Rises and falls in UFE followed the relative increases and decreases, respectively, of ADME with respect to TME.

## 2.1.6 Energen

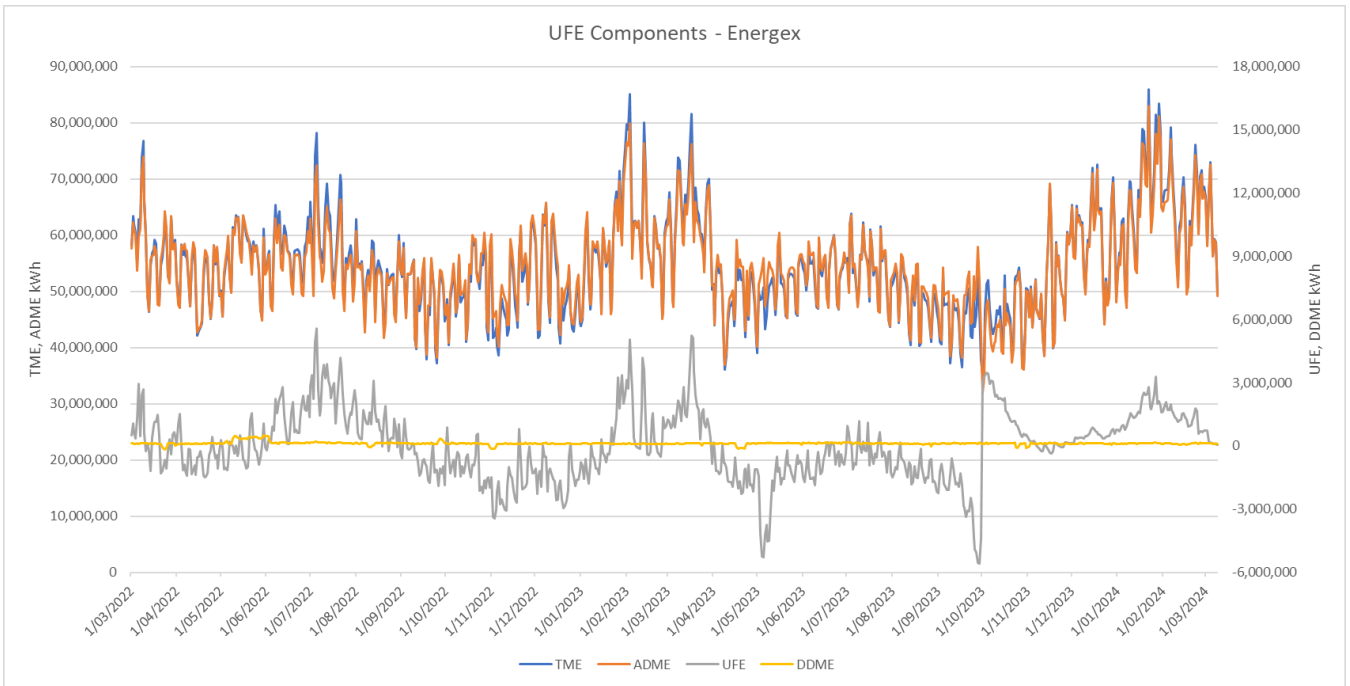


Figure 6 UFE Components – Energen

### Local Area Observations

UFE increased as TME increased with respect to ADME.

Weights have been applied to Final version settlement data from December 2021 until 30 September 2023.

## 2.1.7 Ergon

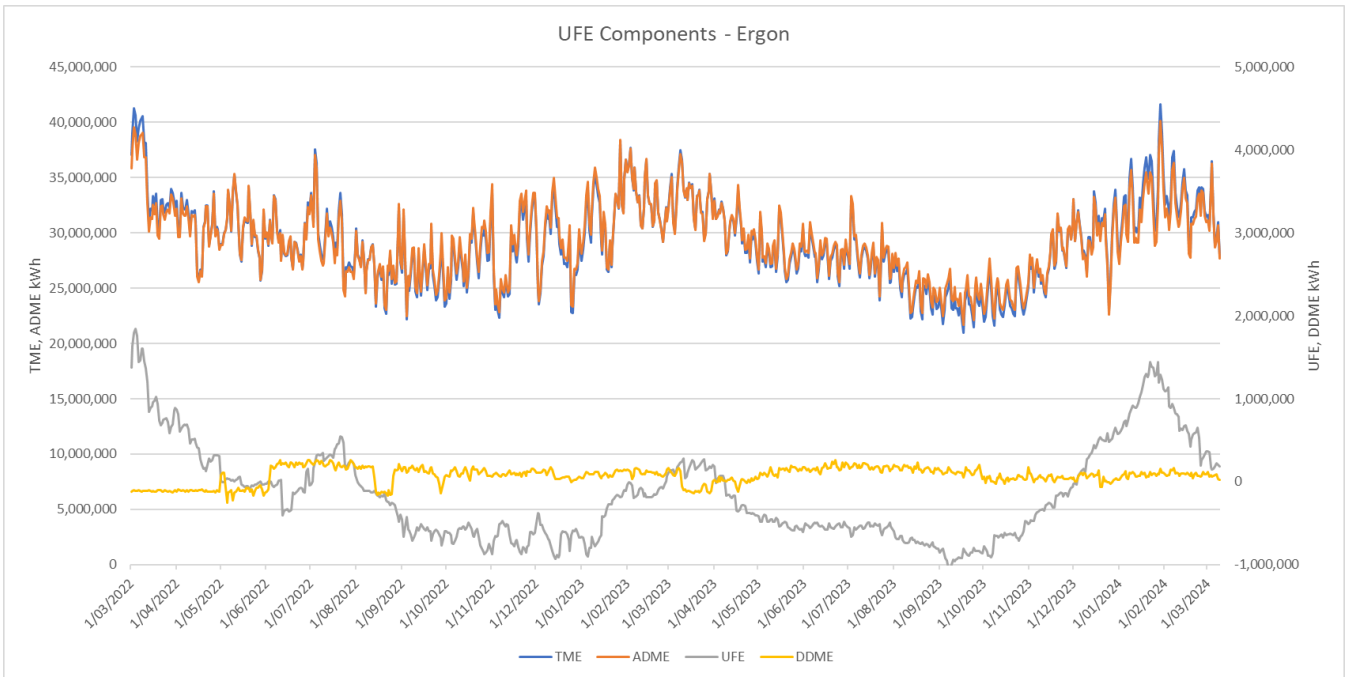


Figure 7 UFE Components – Ergon

### Local Area Observations

UFE increased as TME increased with respect to ADME.

## 2.1.8 Essential Energy

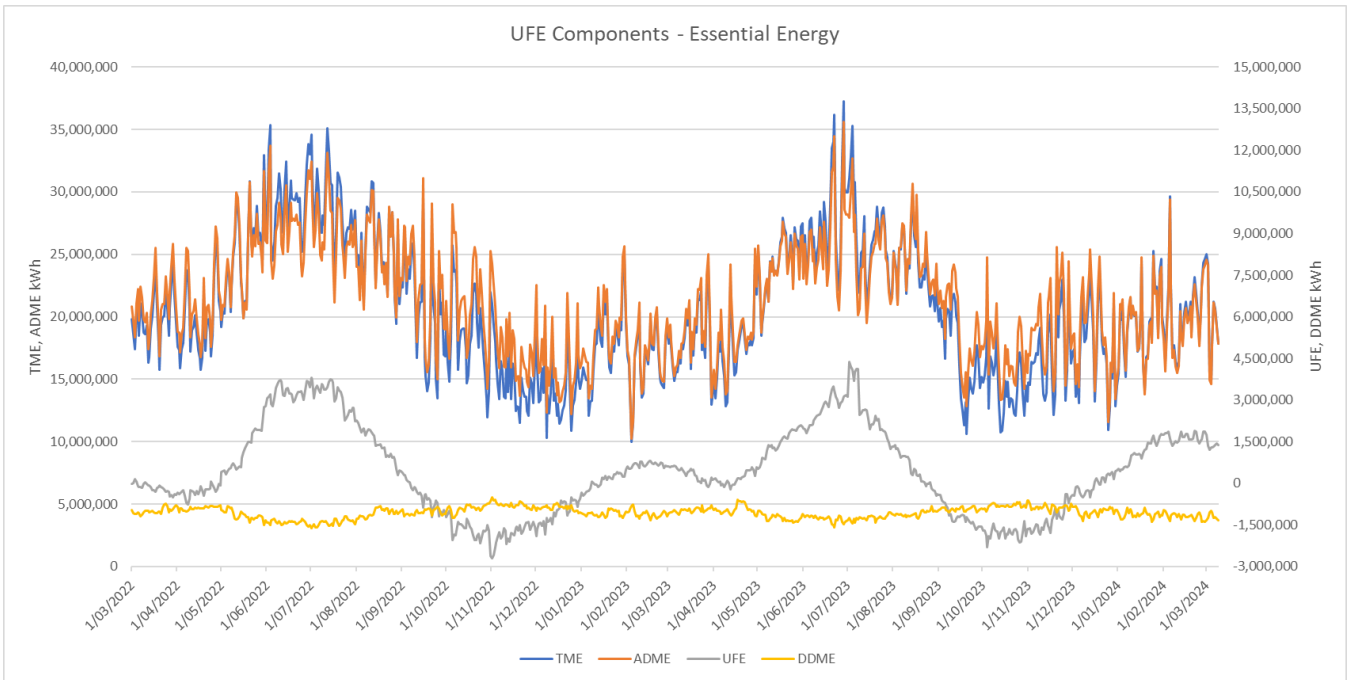


Figure 8 UFE Components – Essential Energy

### Local Area Observations

Cross boundary energy inflows remained relatively steady over the reporting period. Rises and falls in UFE followed the relative increases and decreases, respectively, of ADME with respect to TME.

## 2.1.9 Jemena

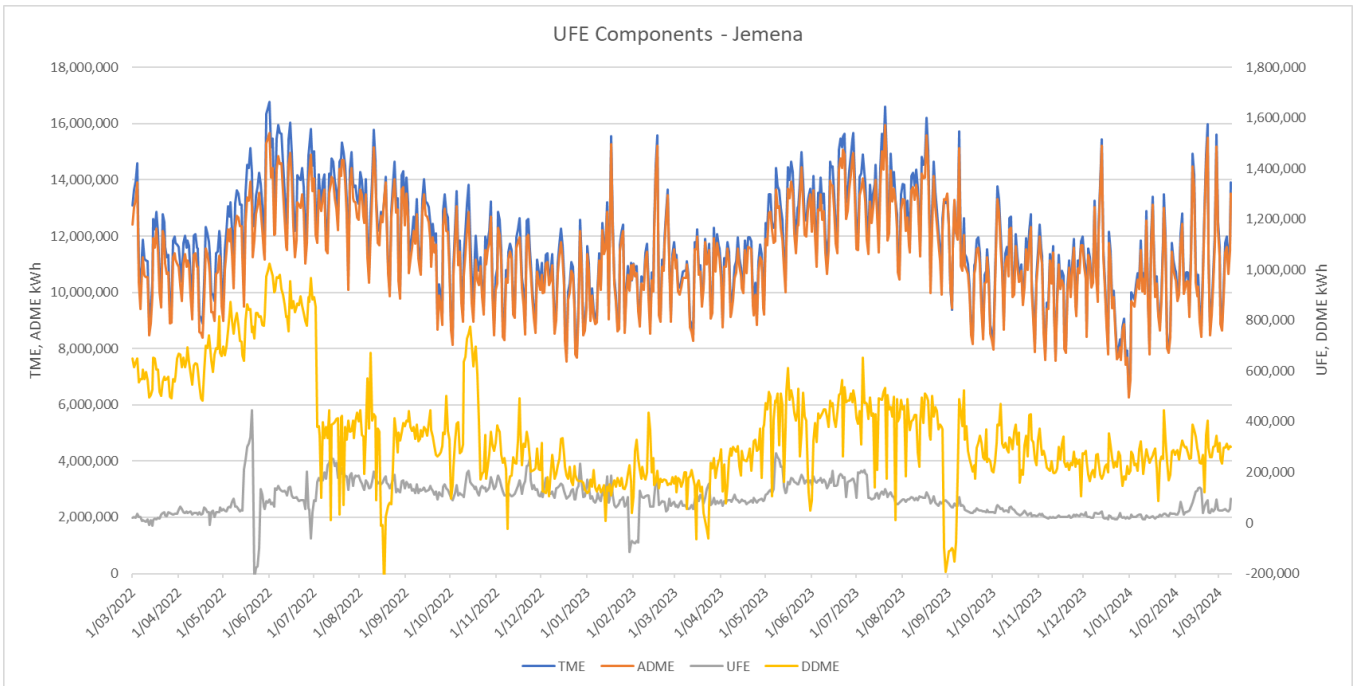
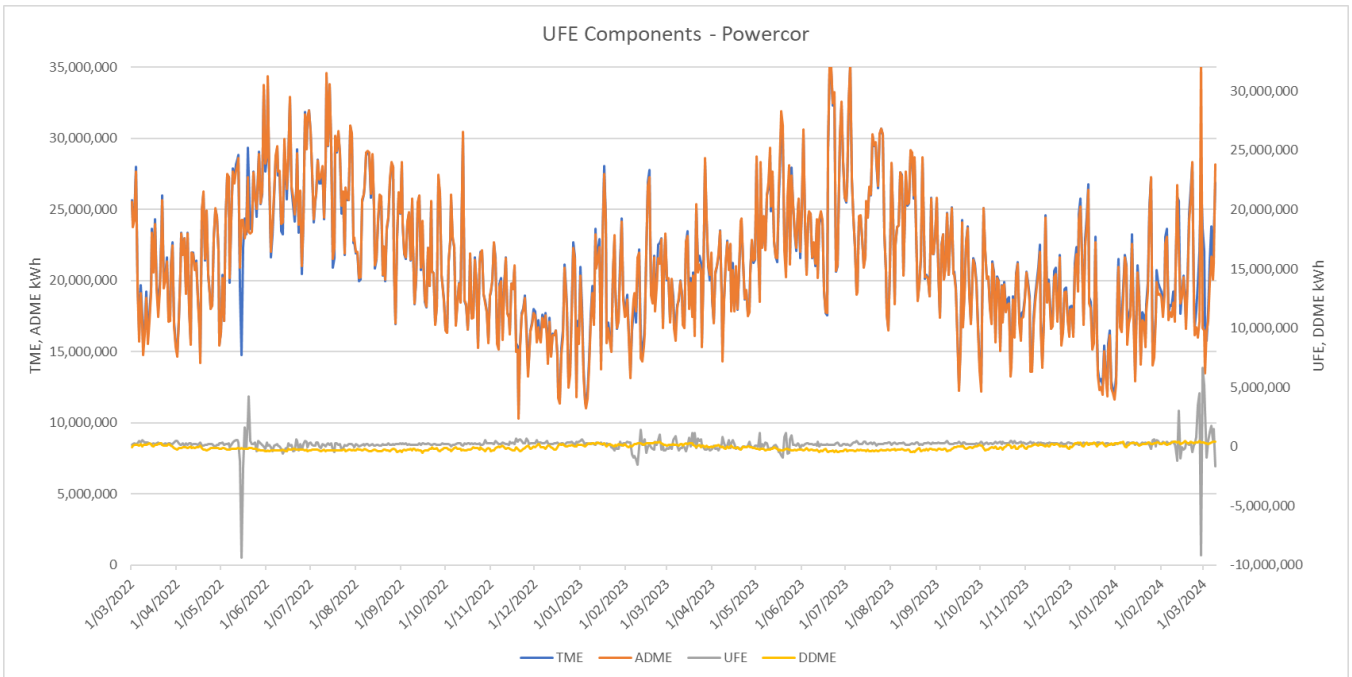


Figure 9 UFE Components – Jemena

### Local Area Observations

TME is generally greater than ADME for the reporting period. Cross boundary energy outflows have kept UFE values relatively stable for the reporting period.

## 2.1.10 Powercor



**Figure 10 UFE Components – Powercor**

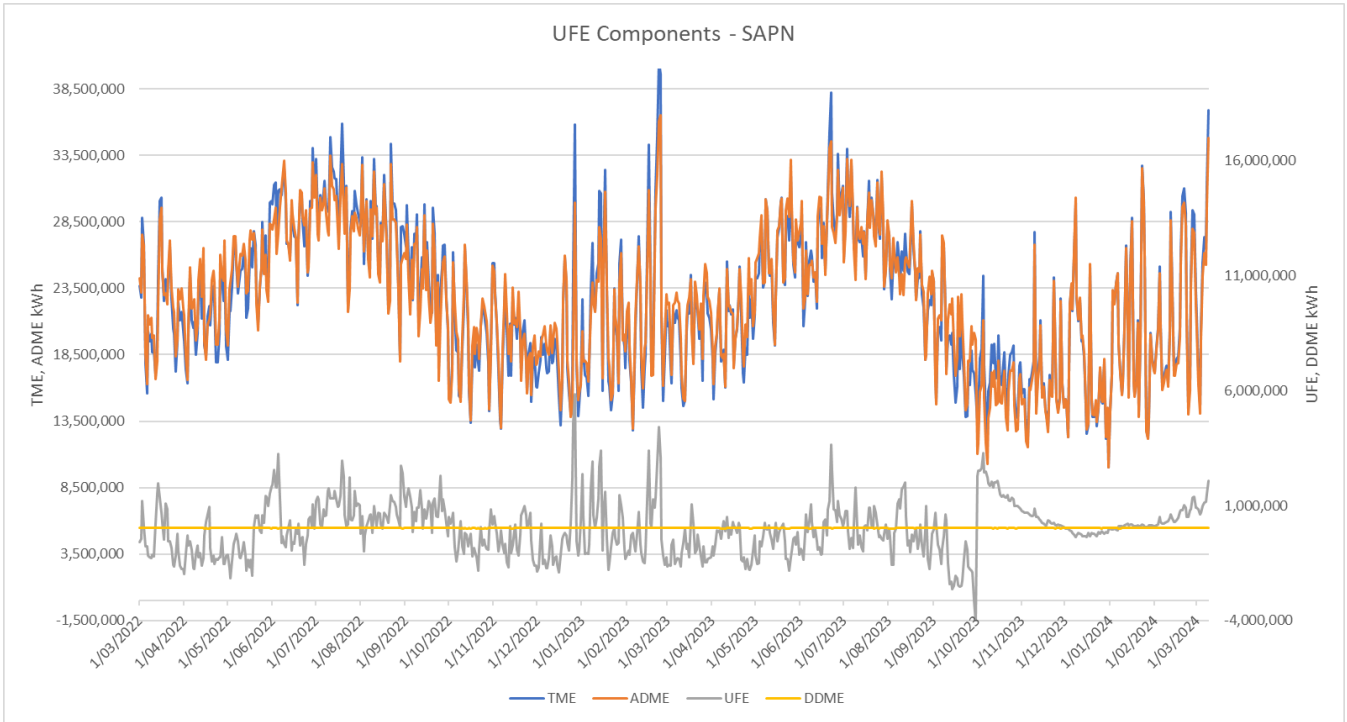
### Local Area Observations

ADME is generally greater than TME for the reporting period. Cross boundary *energy* inflows have kept UFE values relatively stable for the reporting period.

The UFE spikes in May 2022 and March 2024 are related to NSLP spikes.



## 2.1.11 SA Power Networks



**Figure 11** UFE Components – SA Power Networks

### Local Area Observations

TME and ADME fluctuations throughout the reporting period result in periods where TME is greater than ADME, producing positive UFE values, and periods where ADME is greater than TME, producing negative UFE values.

Weights have been applied to Final version settlement data from December 2021 until 30 September 2023.

## 2.1.12 TasNetworks

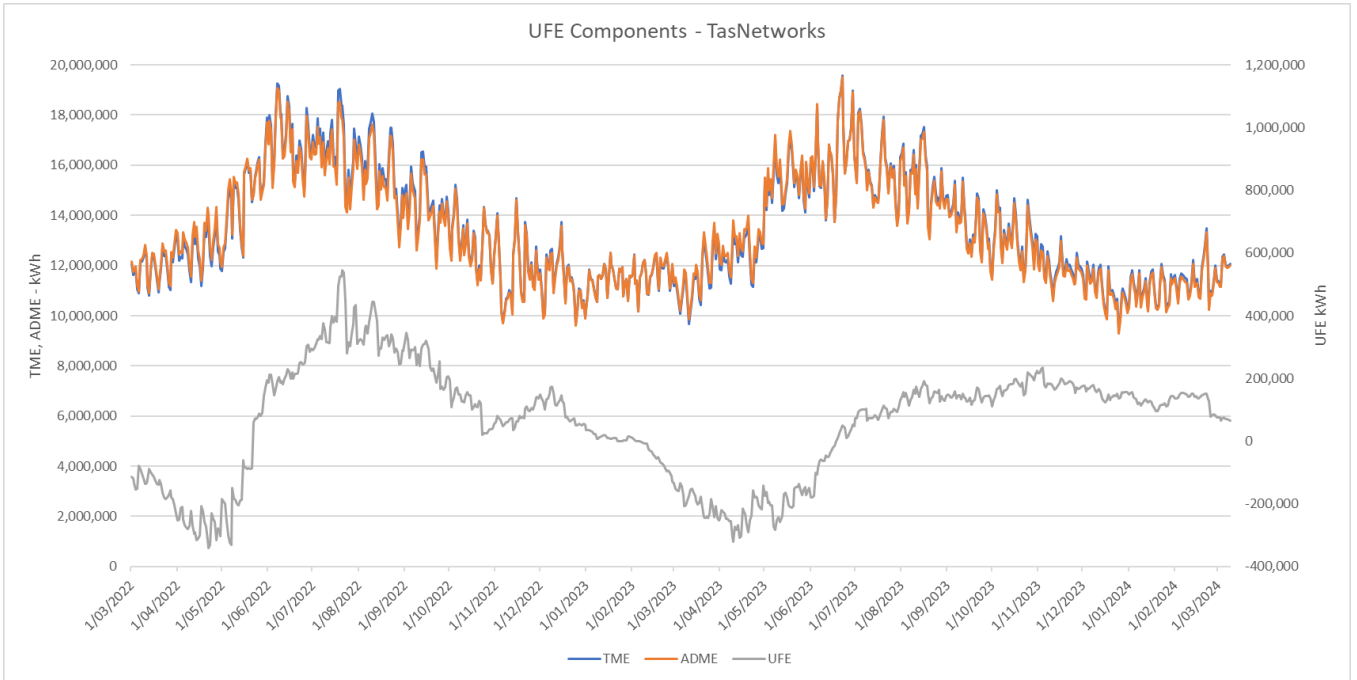


Figure 12 UFE Components – TasNetworks

### Local Area Observations

TME and ADME fluctuations throughout the reporting period result in periods where TME is greater than ADME, producing rising UFE values, and periods where ADME is greater than TME, producing falling UFE values.

## 2.1.13 United Energy

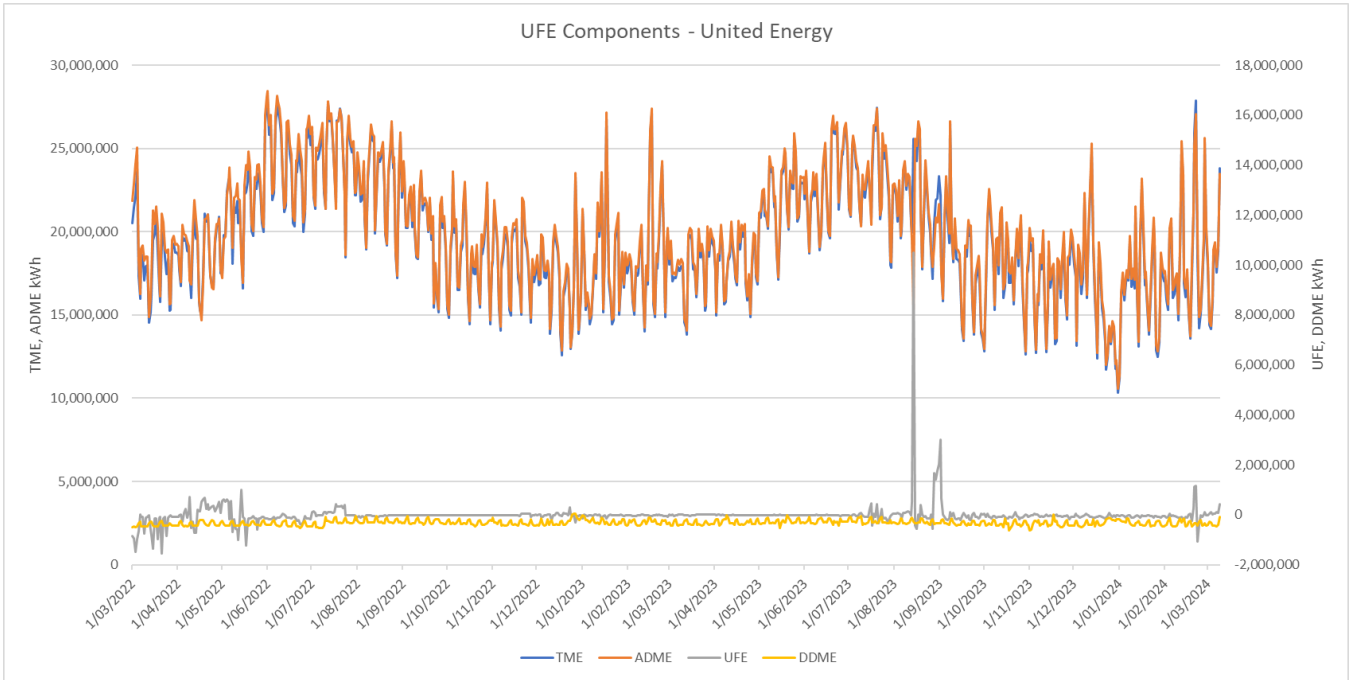


Figure 13 UFE Components – United Energy

### Local Area Observations

Cross boundary energy inflows stabilised from May 2022 and UFE also stabilised.

The UFE spikes in August 2023 are related to NSLP spikes



### 3 UFE benchmark analysis

Analysis of the unaccounted for *energy* amounts in each *local area* in the reporting period is to be performed against benchmarks that have been determined by AEMO.

Charts in this section show the average, for a day, of maximum, minimum, average and median values of UFE, over the months of February 2023 and February 2024. The range (difference between maximum and minimum values) of the values is also shown in the charts.

The February 2024 UFE positions will be used as the benchmarks for the next UFE Trends Report.

Generally, the Median and Average UFE values for each *local area* are similar for the reporting period.

### 3.1 ActewAGL

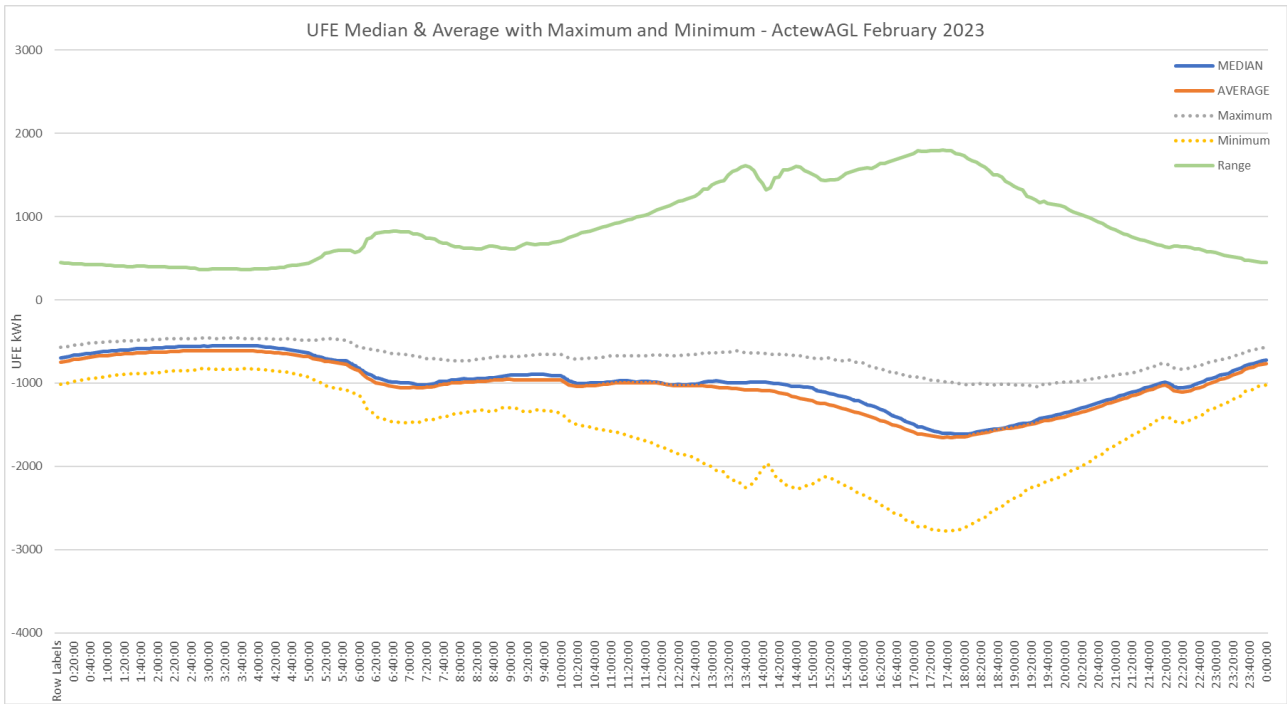


Figure 14 UFE Median, Average, Maximum and Minimum – ActewAGL February 2023

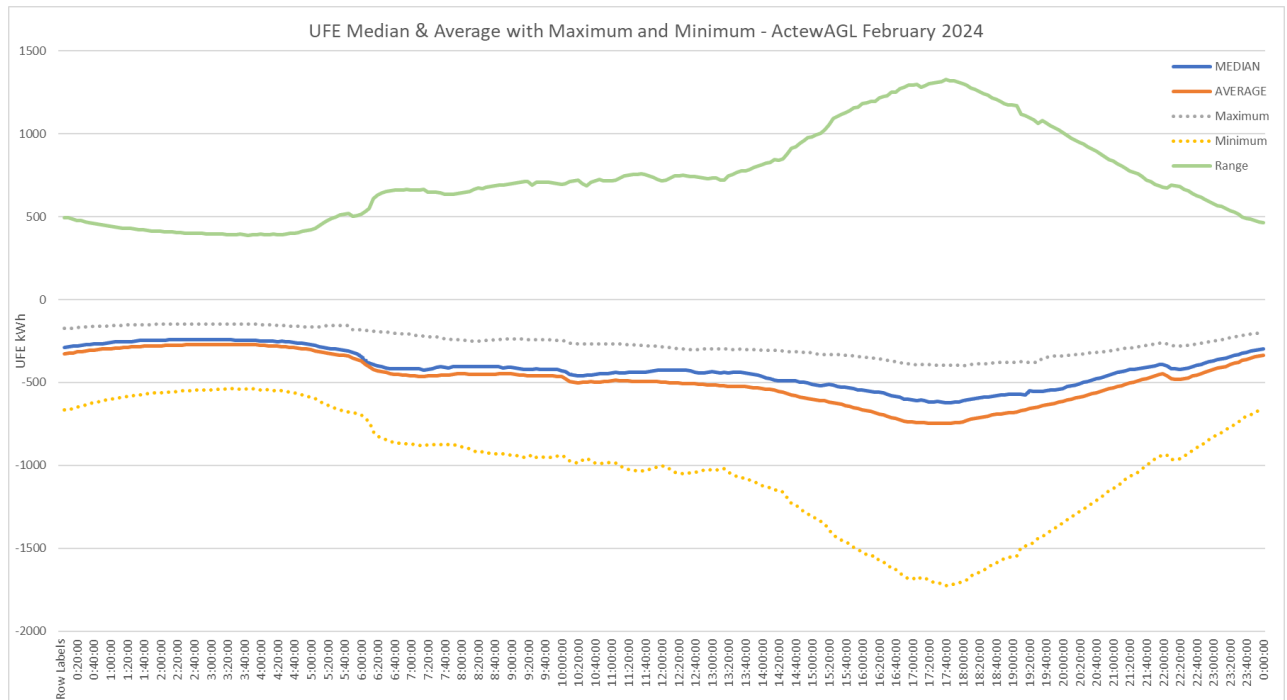


Figure 15 UFE Median, Average, Maximum and Minimum – ActewAGL February 2024

## 3.2 Ausgrid

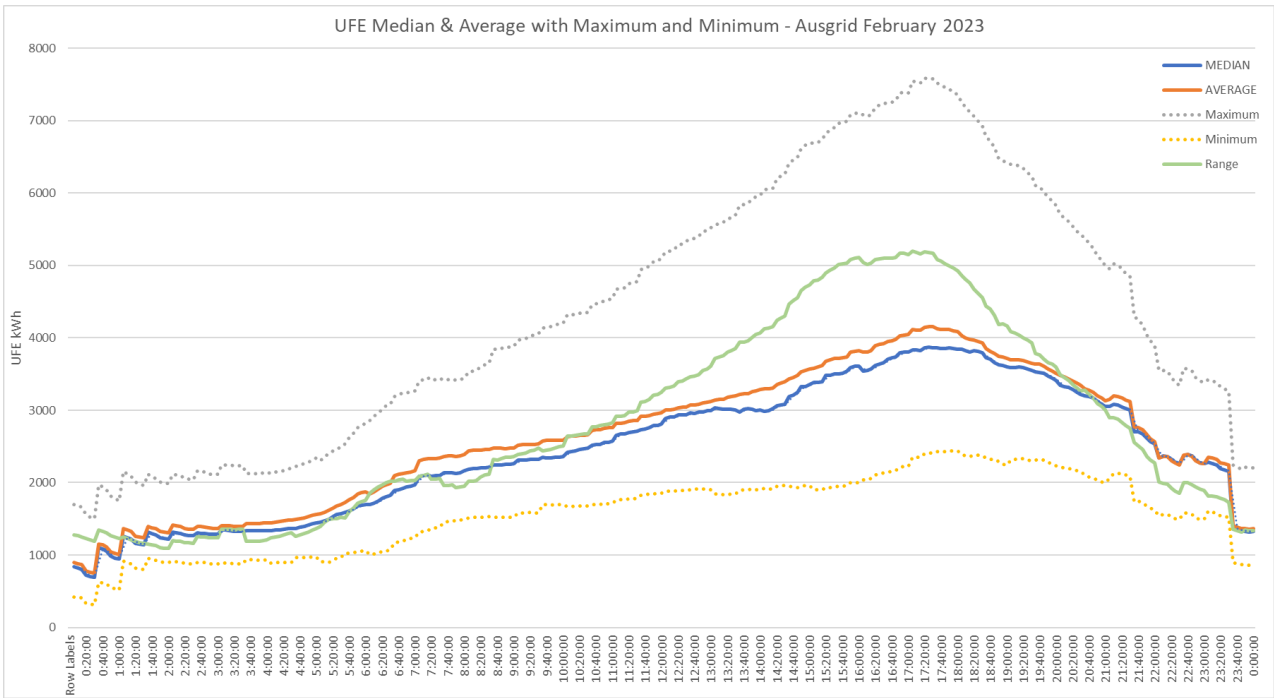


Figure 16 UFE Median, Average, Maximum and Minimum – Ausgrid February 2023

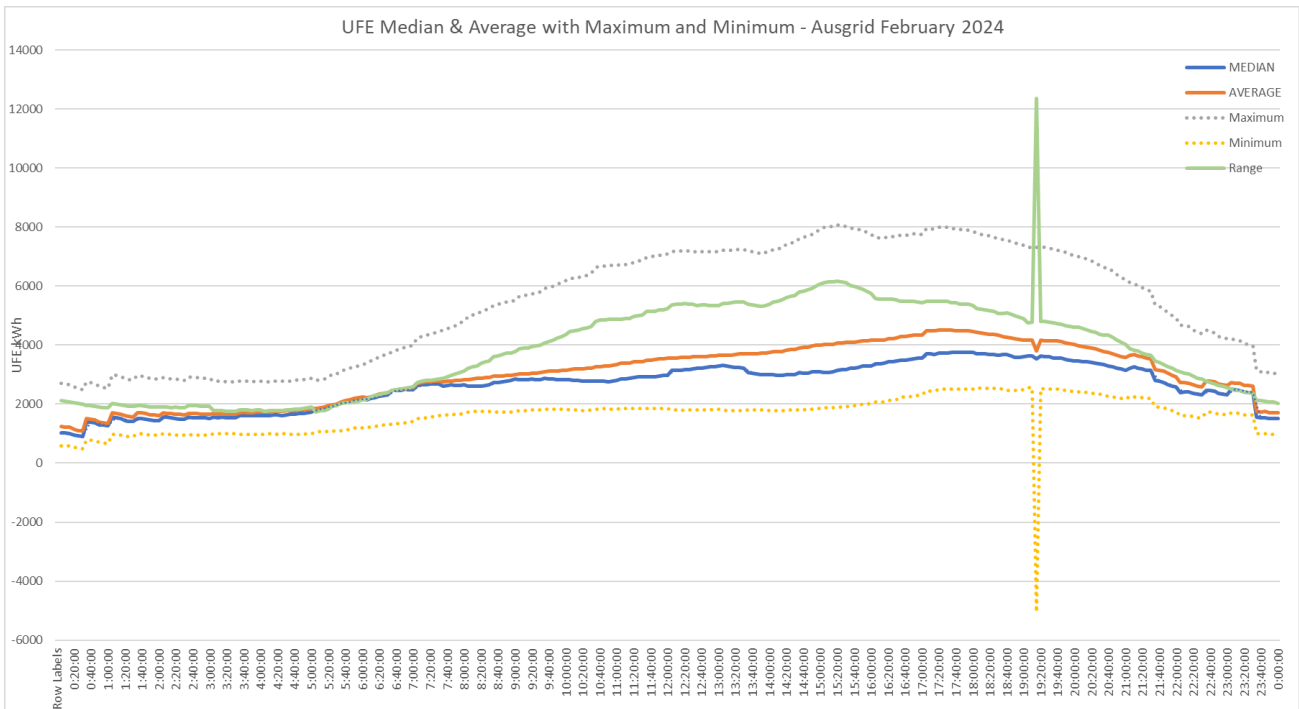


Figure 17 UFE Median, Average, Maximum and Minimum – Ausgrid February 2024

### 3.3 AusNet Services

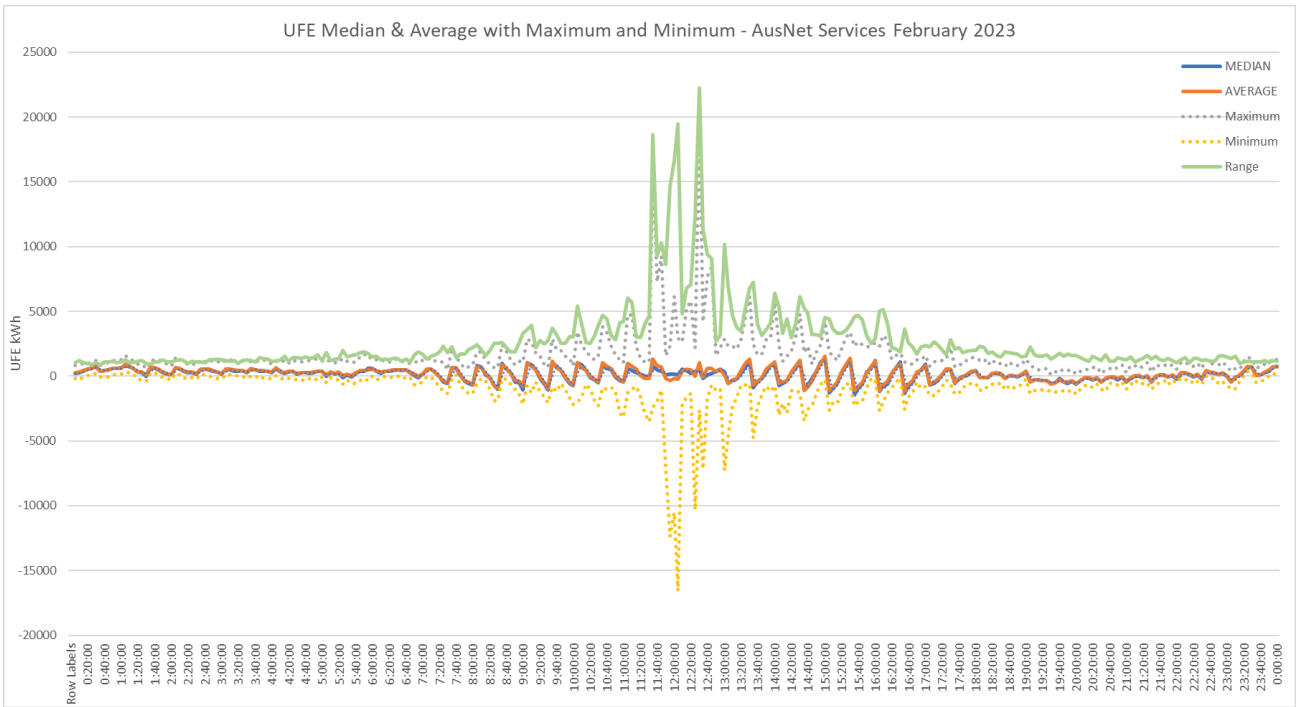


Figure 18 UFE Median, Average, Maximum and Minimum – AusNet Services February 2023

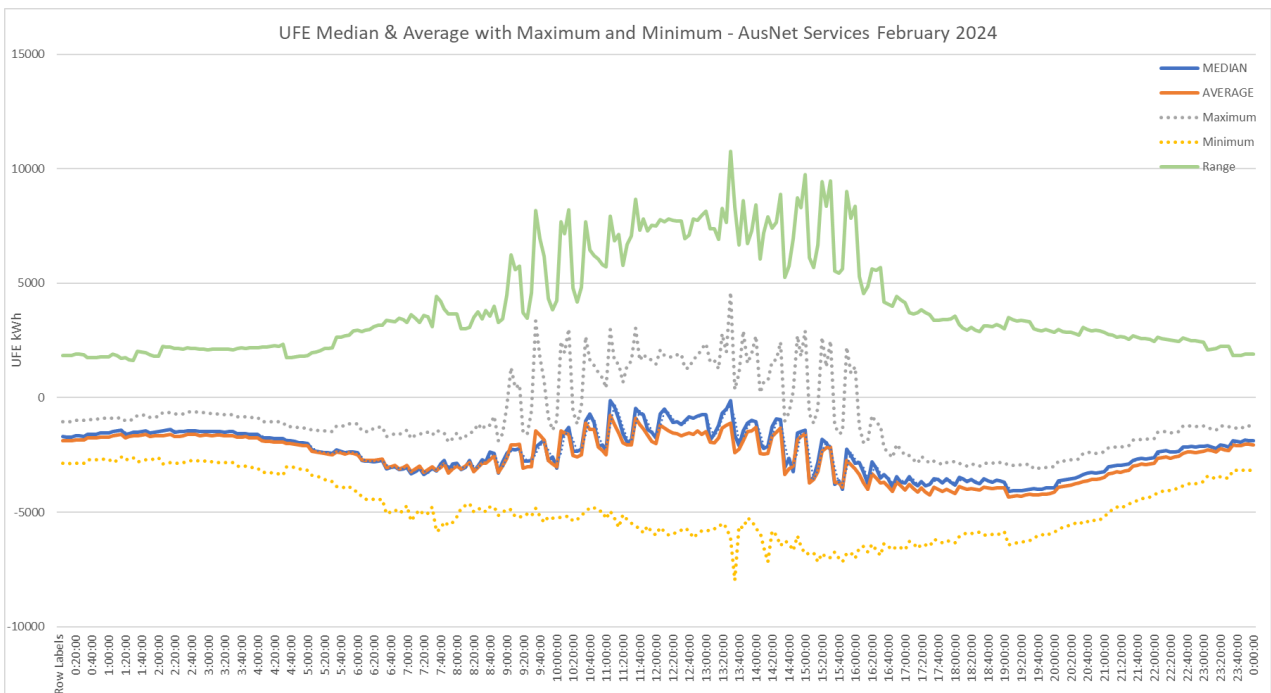


Figure 19 UFE Median, Average, Maximum and Minimum – AusNet Services February 2024

### 3.4 CitiPower

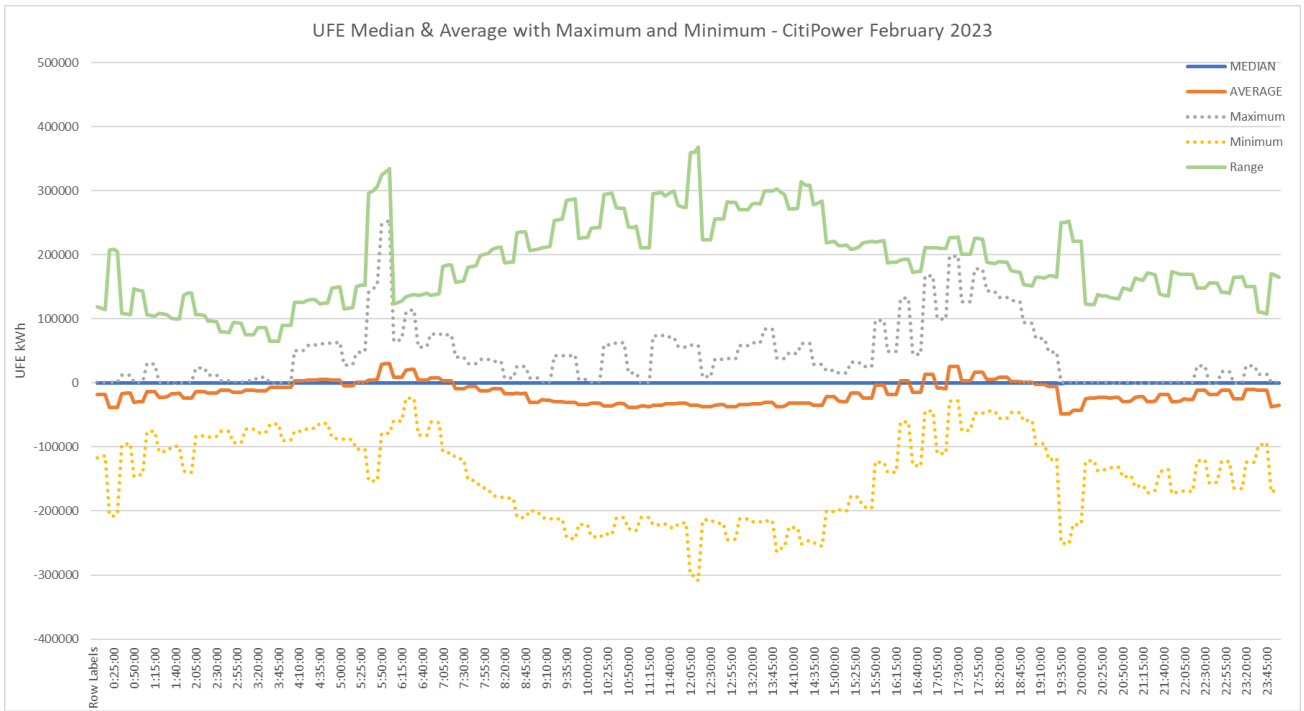


Figure 20 UFE Median, Average, Maximum and Minimum – CitiPower February 2023

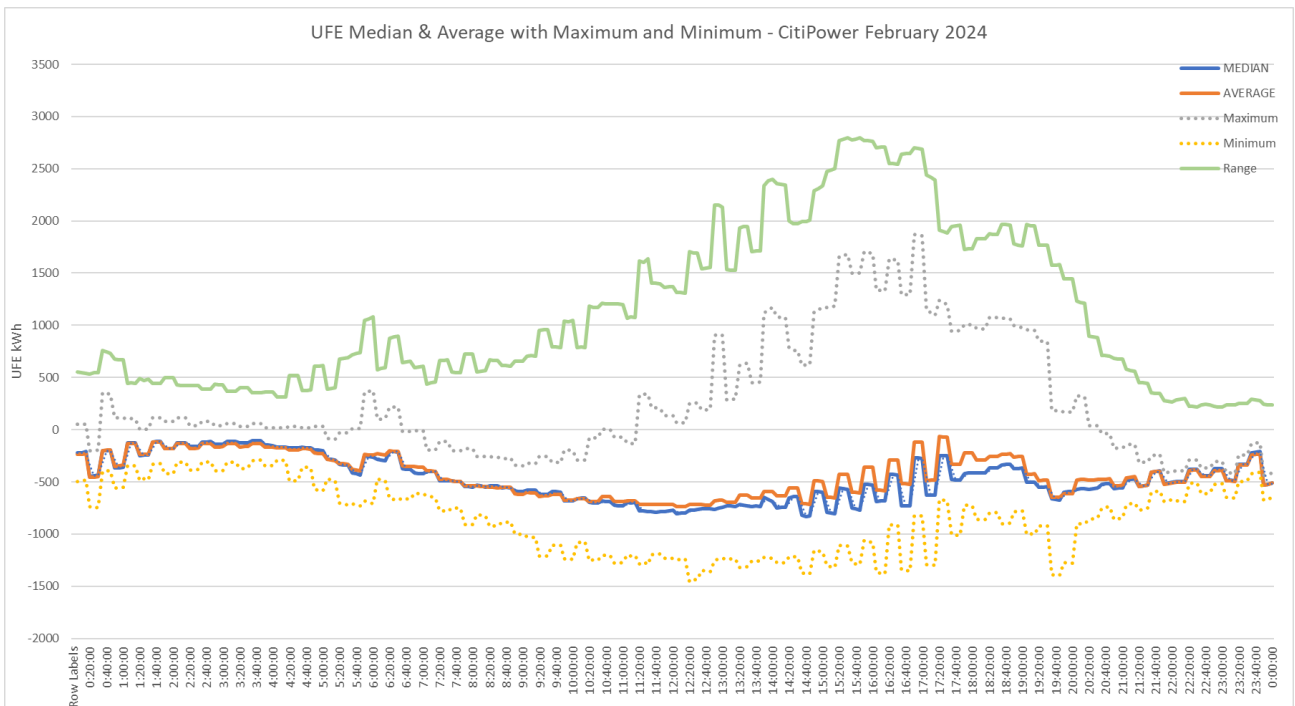


Figure 21 UFE Median, Average, Maximum and Minimum – CitiPower February 2024



### 3.5 Endeavour Energy

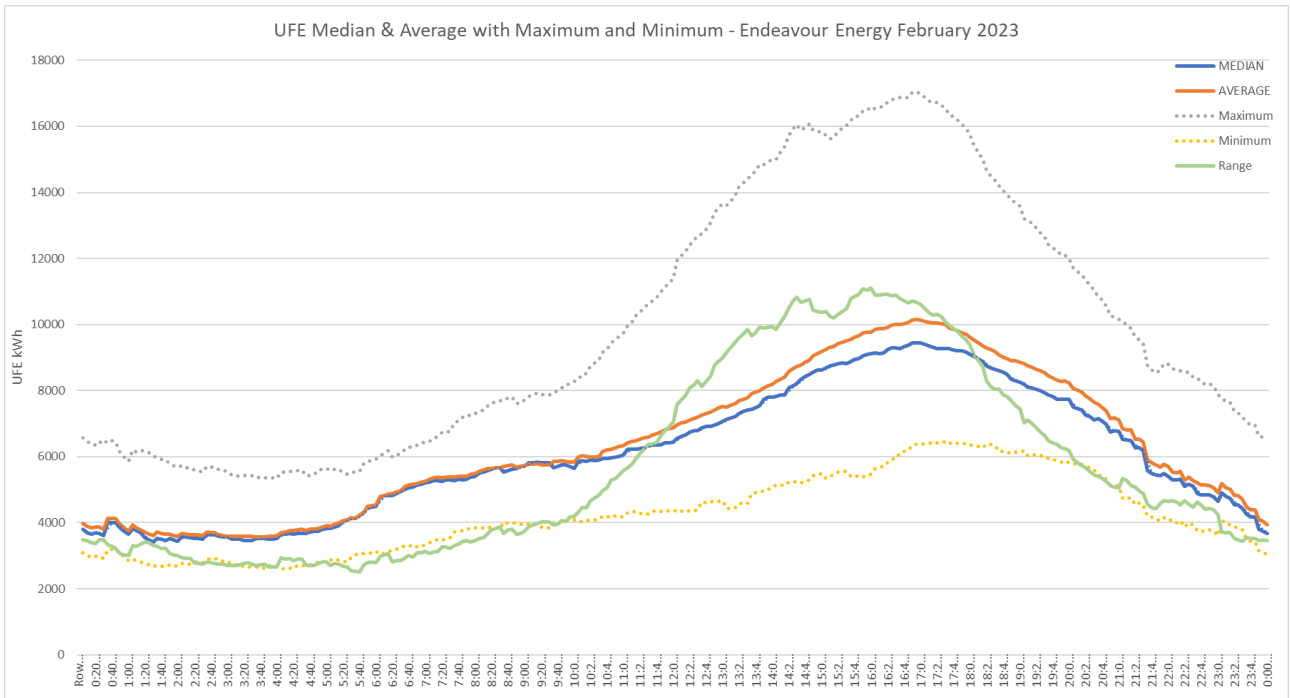


Figure 22 UFE Median, Average, Maximum and Minimum – Endeavour Energy February 2023

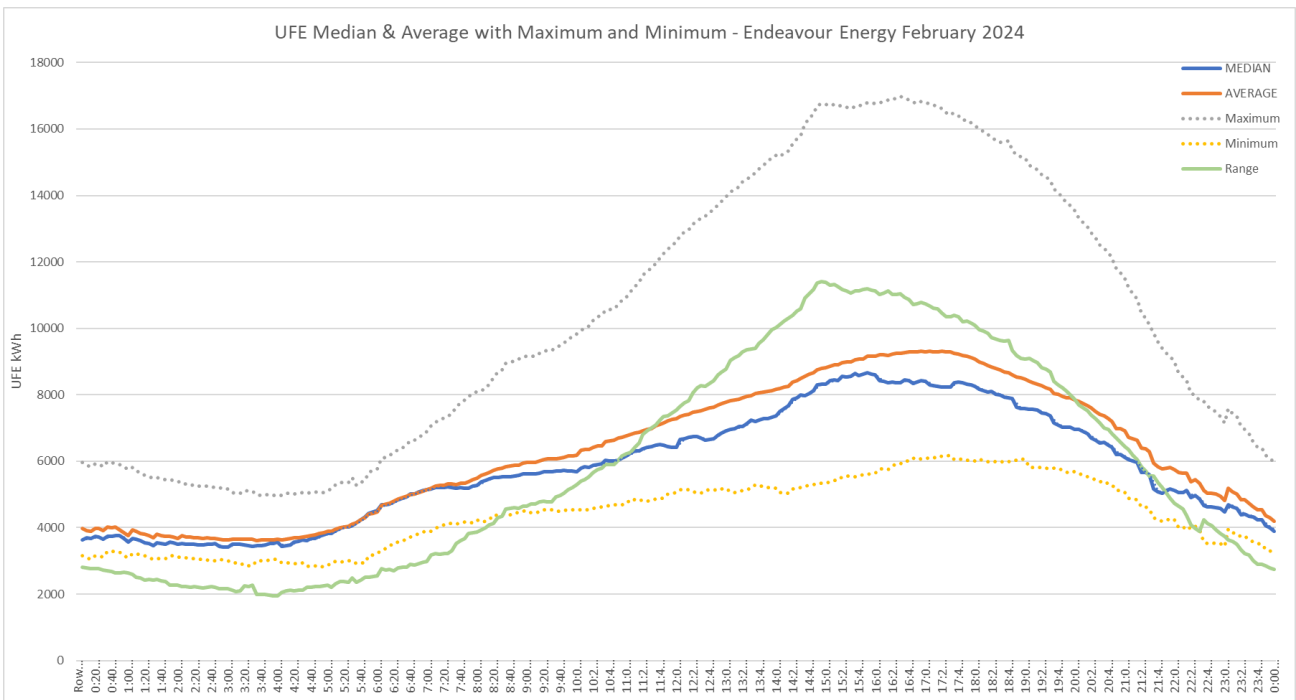


Figure 23 UFE Median, Average, Maximum and Minimum – Endeavour Energy February 2024

### 3.6 Energen

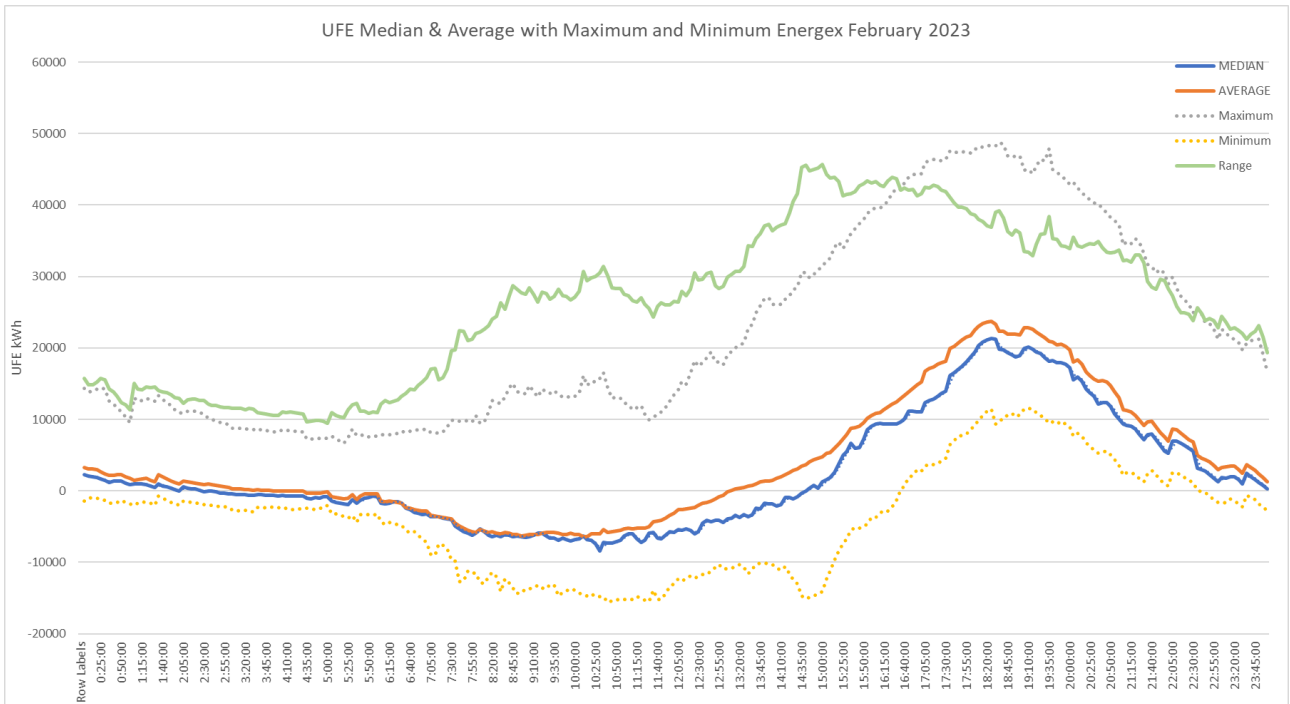


Figure 24 UFE Median, Average, Maximum and Minimum – Energen February 2023

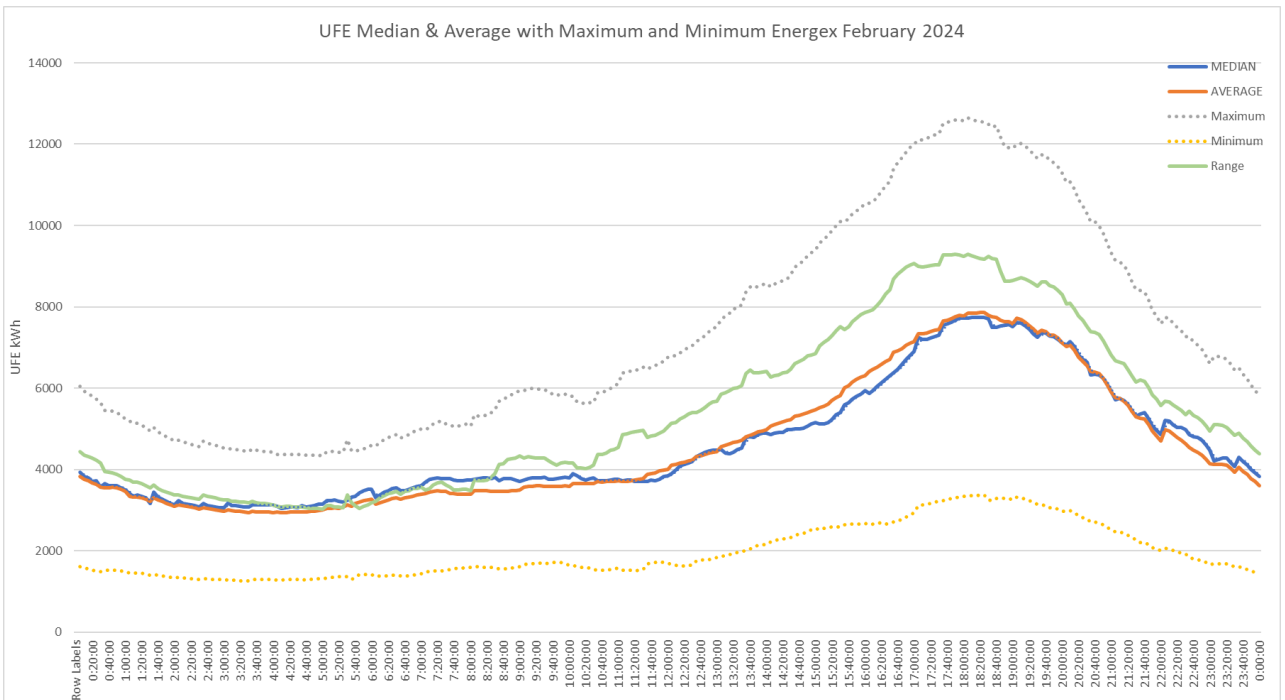


Figure 25 UFE Median, Average, Maximum and Minimum – Energen February 2024

### 3.7 Ergon

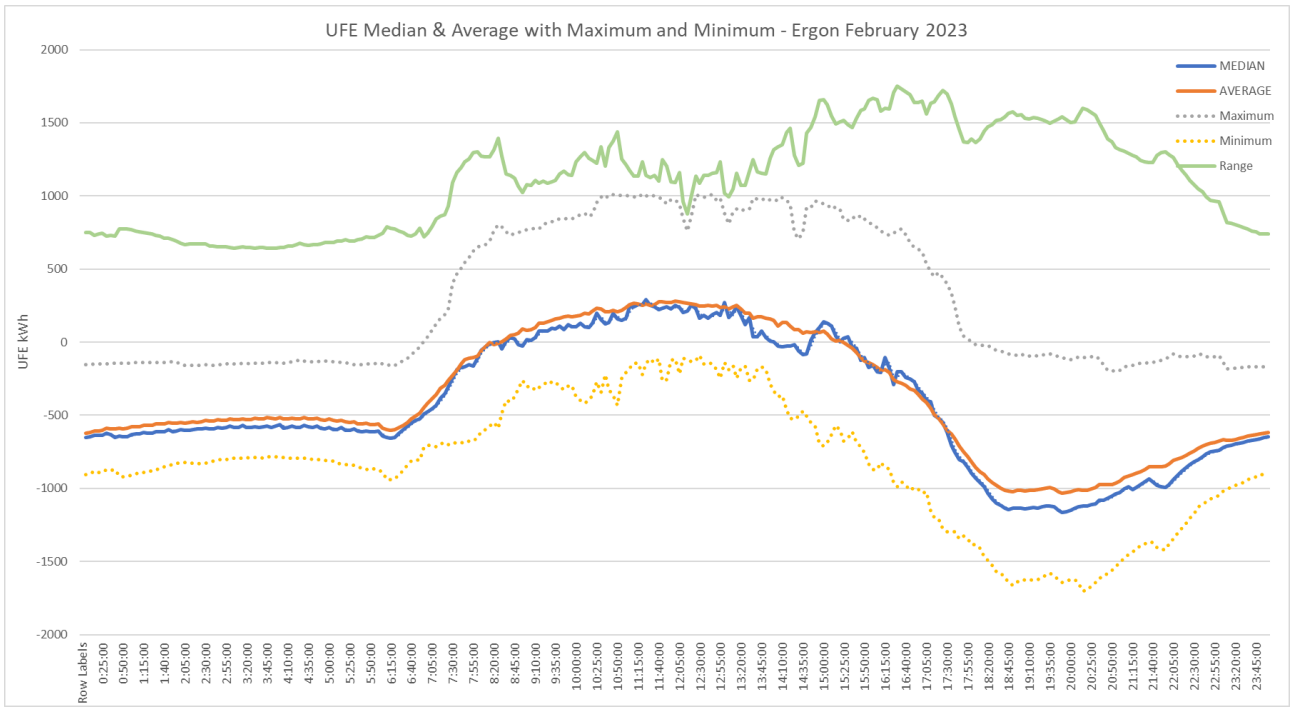


Figure 26 UFE Median, Average, Maximum and Minimum – Ergon February 2023

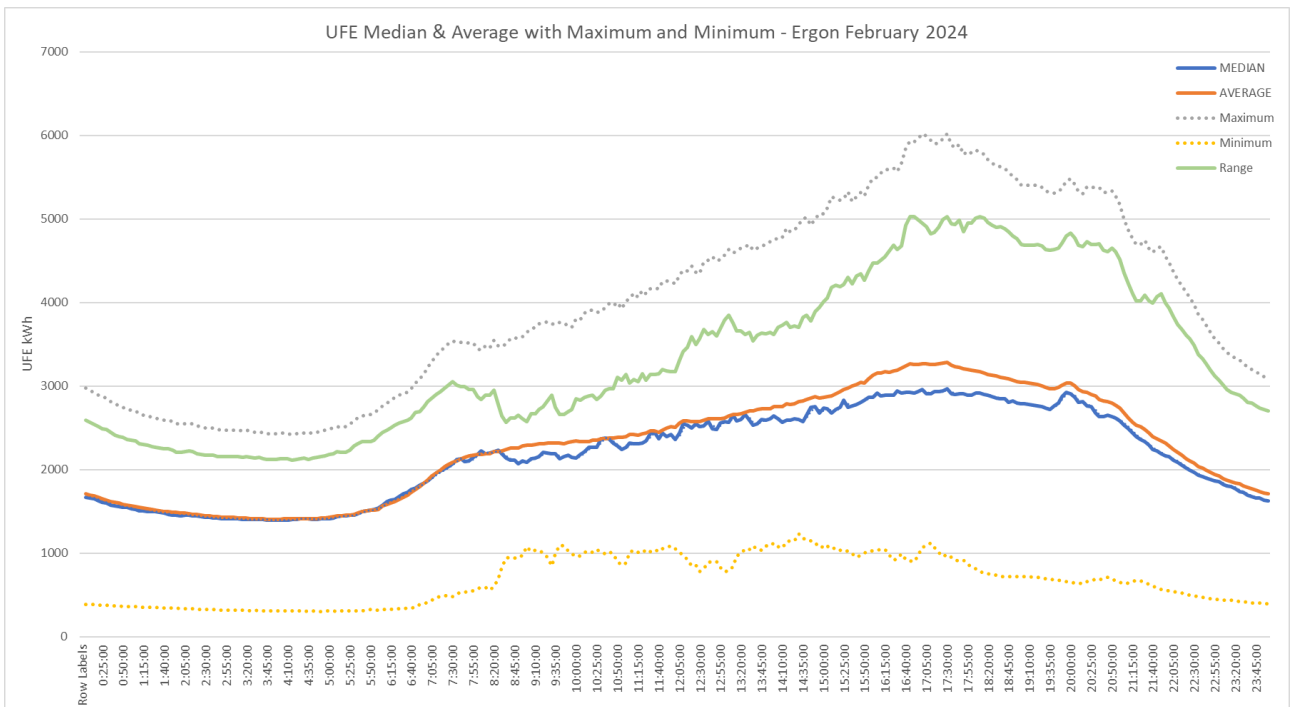


Figure 27 UFE Median, Average, Maximum and Minimum – Ergon February 2024

### 3.8 Essential Energy

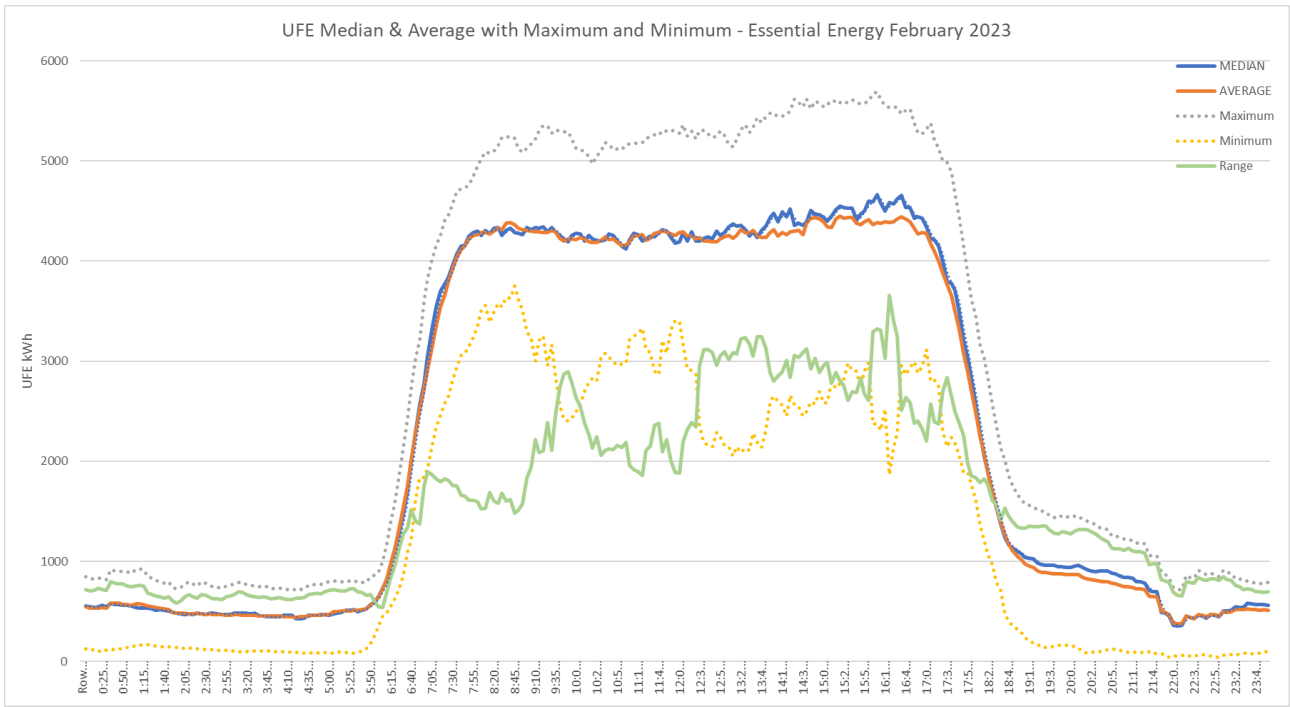


Figure 28 UFE Median, Average, Maximum and Minimum – Essential Energy February 2023

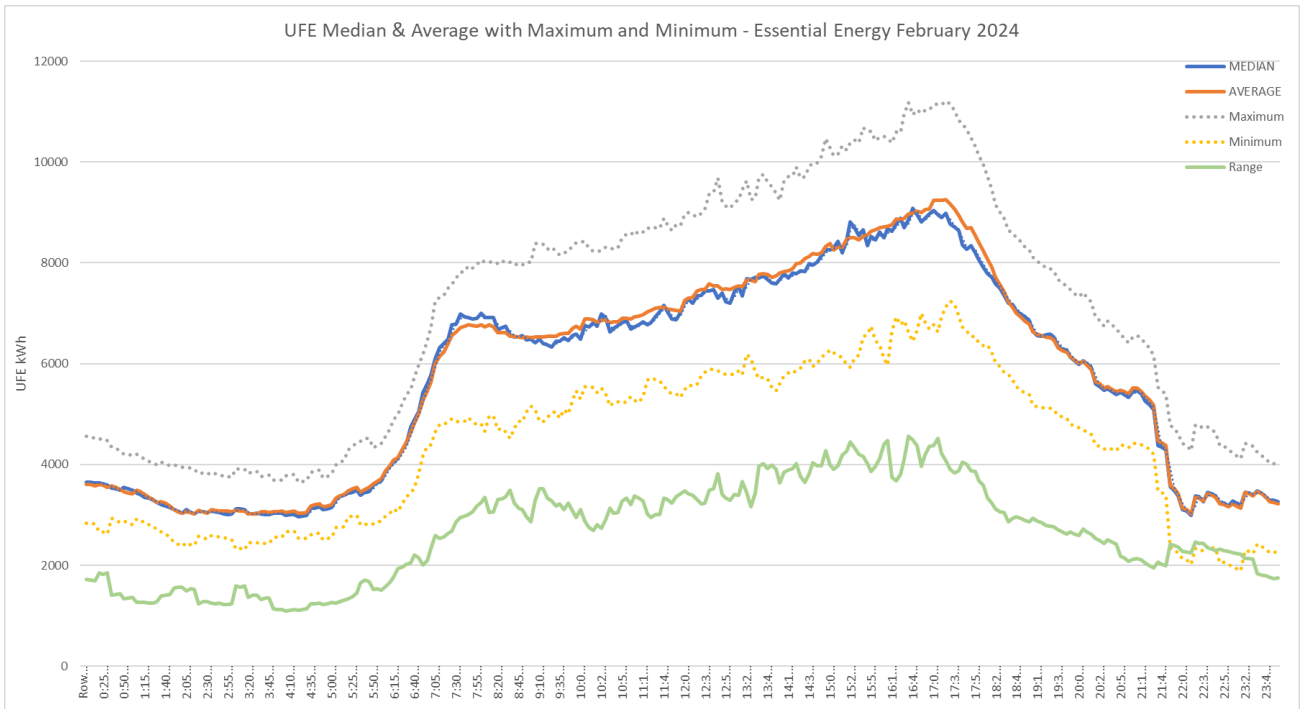


Figure 29 UFE Median, Average, Maximum and Minimum – Essential Energy February 2024

### 3.9 Jemena

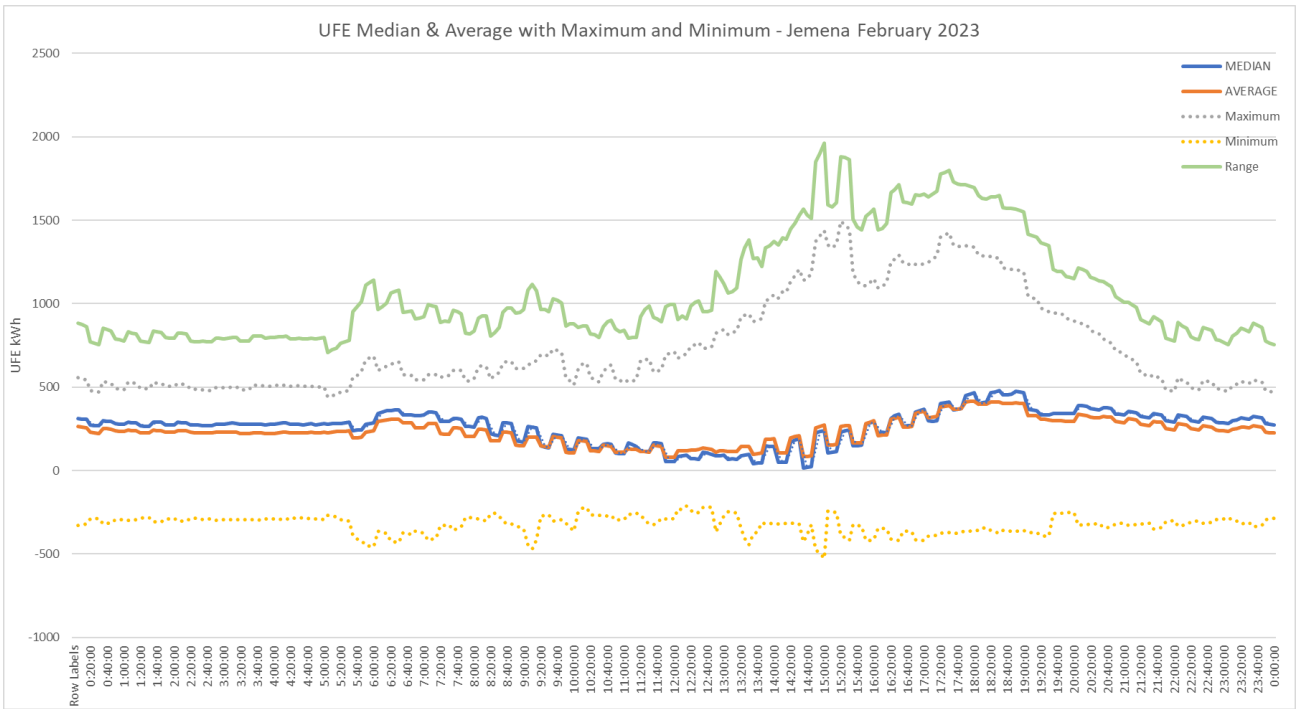


Figure 30 UFE Median, Average, Maximum and Minimum – Jemena February 2023

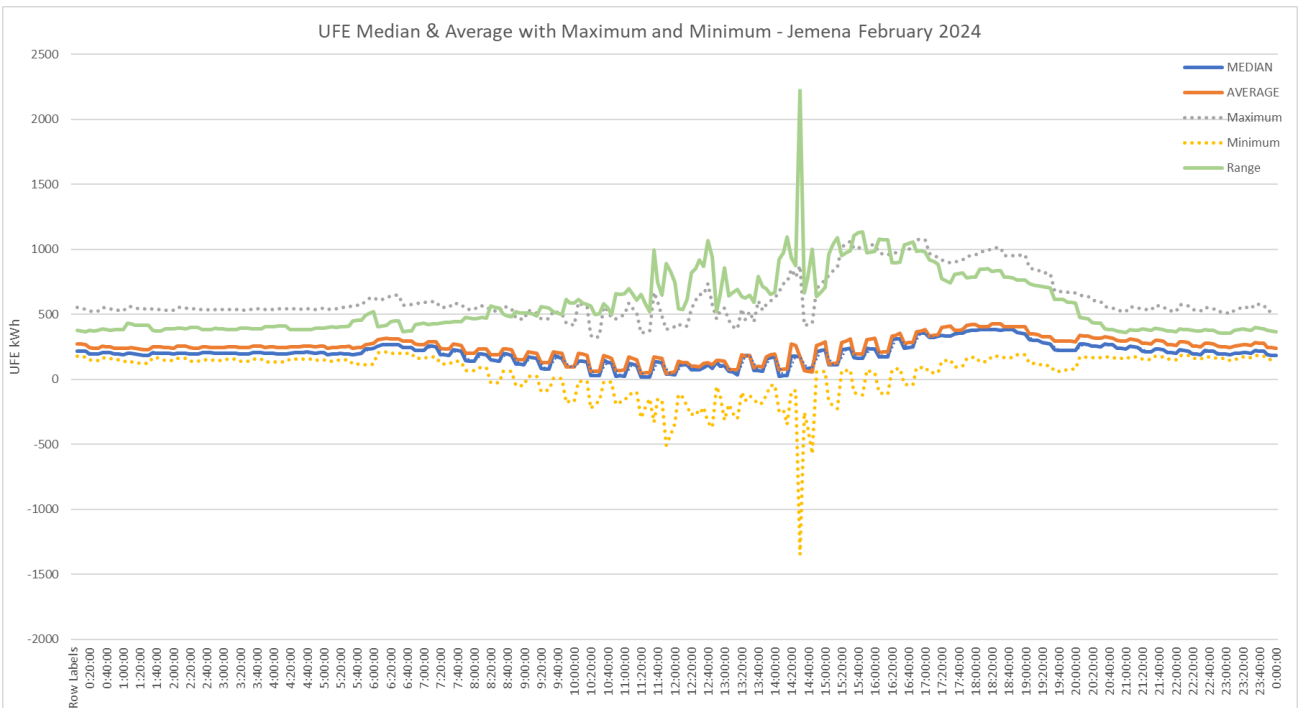


Figure 31 UFE Median, Average, Maximum and Minimum – Jemena February 2024

### 3.10 Powercor

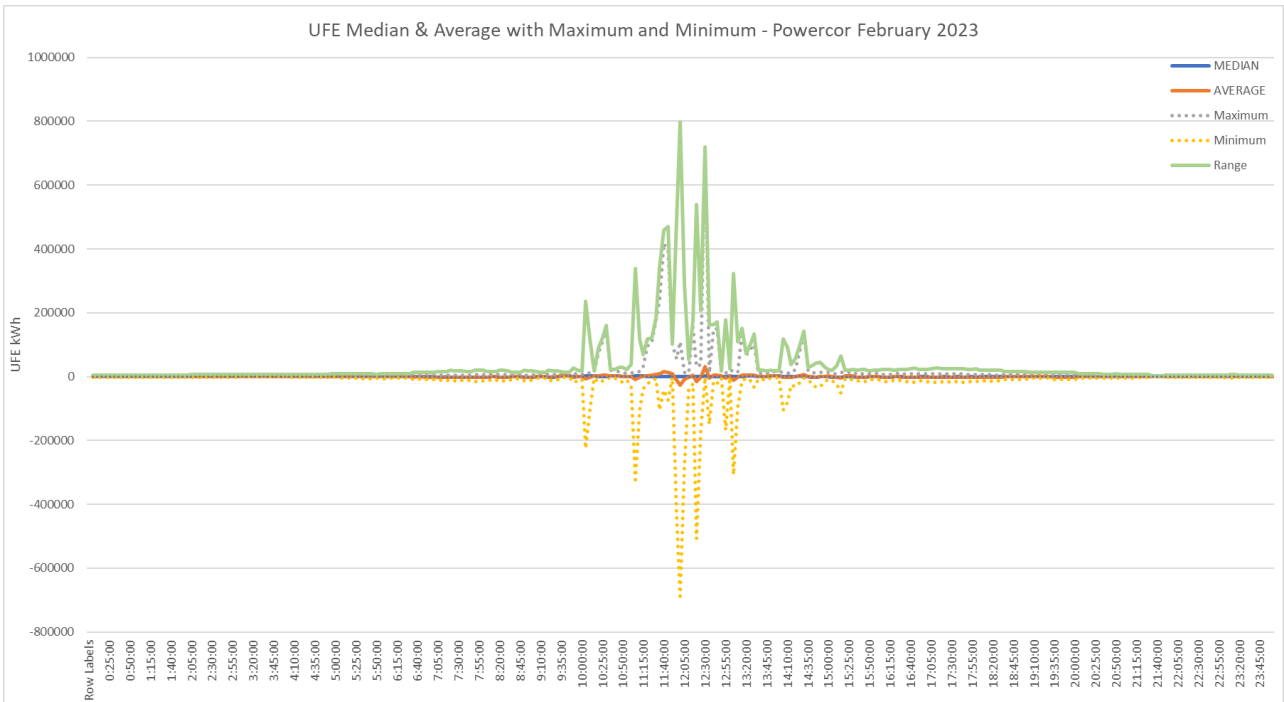


Figure 32 UFE Median, Average, Maximum and Minimum – Powercor February 2023

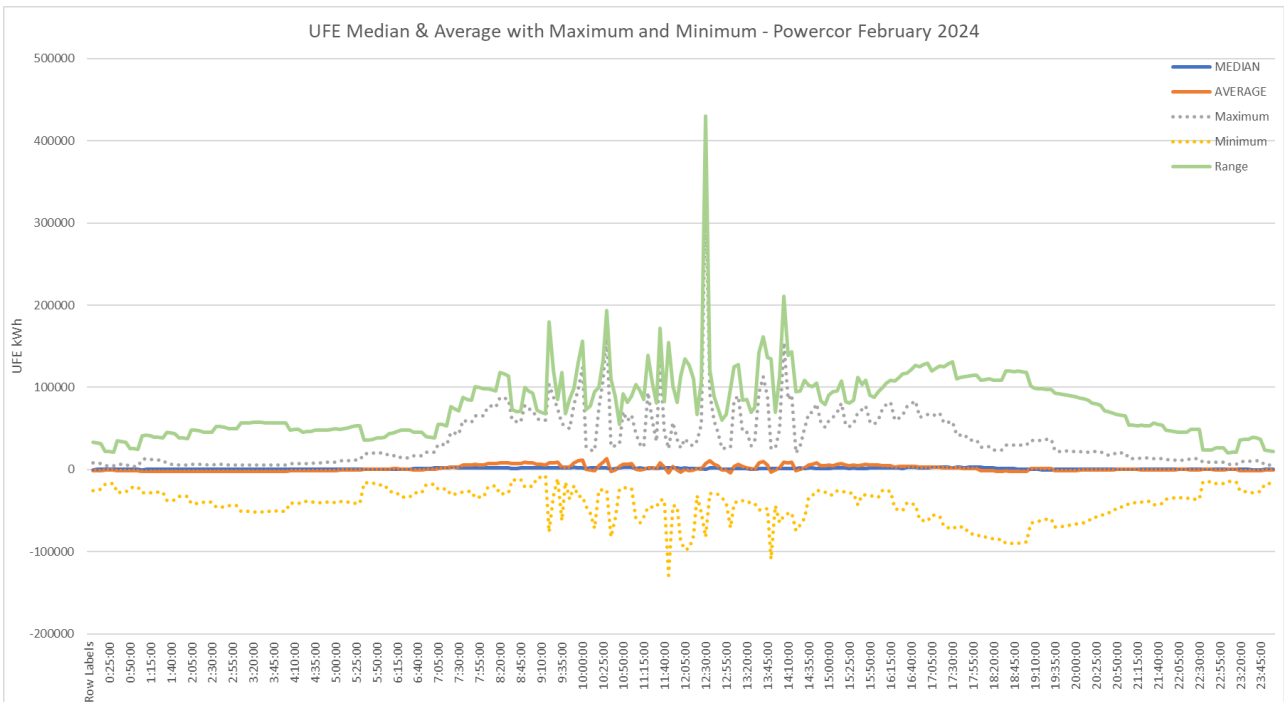


Figure 33 UFE Median, Average, Maximum and Minimum – Powercor February 2024

### 3.11 SA Power Networks

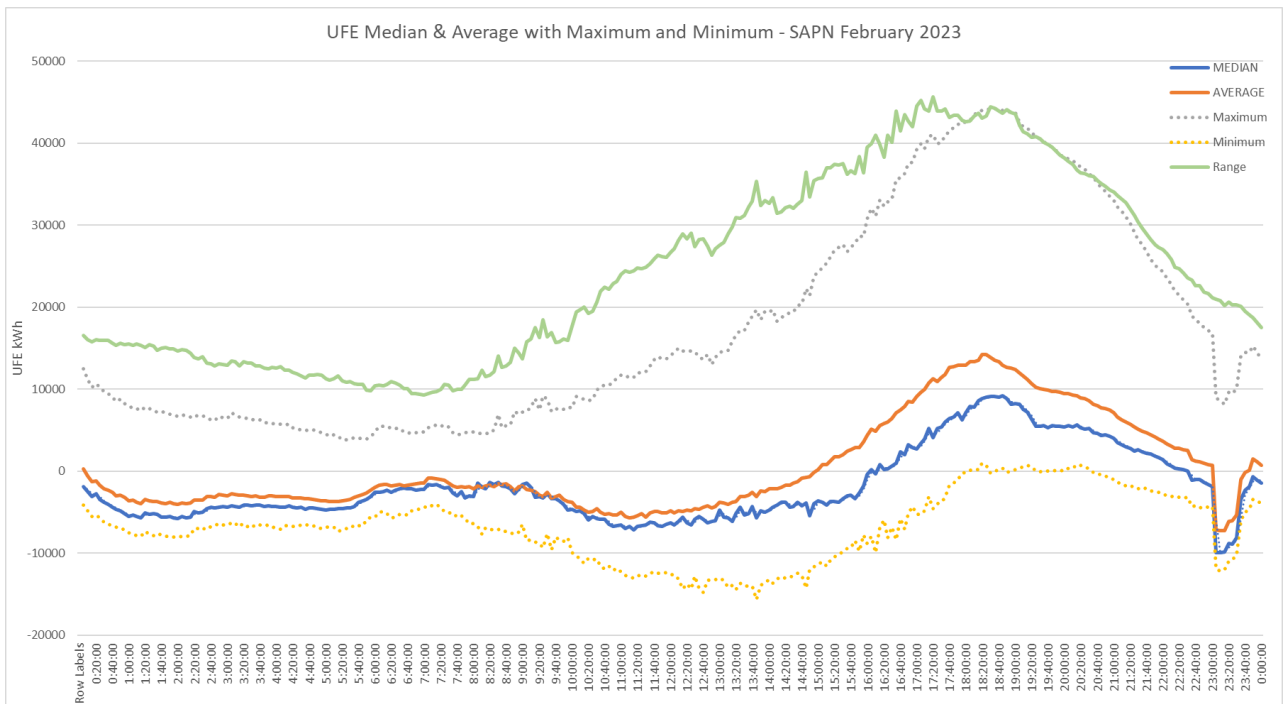


Figure 34 UFE Median, Average, Maximum and Minimum – SA Power Networks February 2023

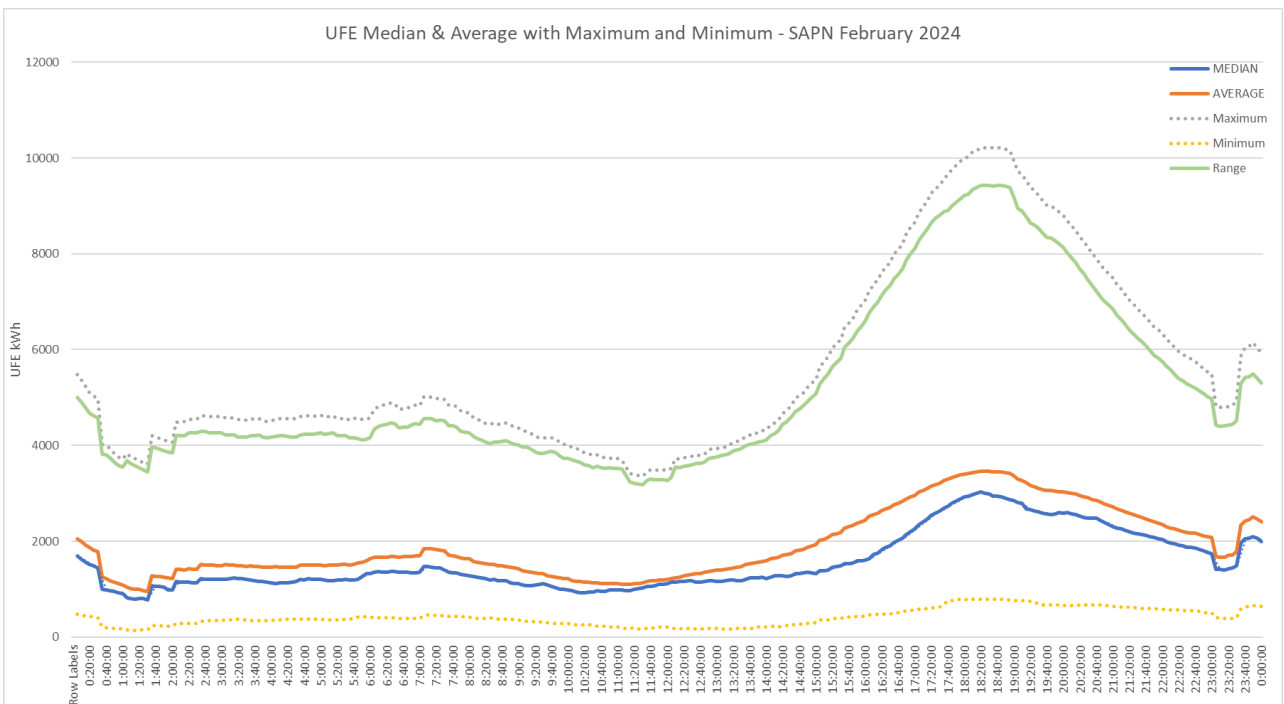


Figure 35 UFE Median, Average, Maximum and Minimum – SA Power Networks February 2024

### 3.12 TasNetworks

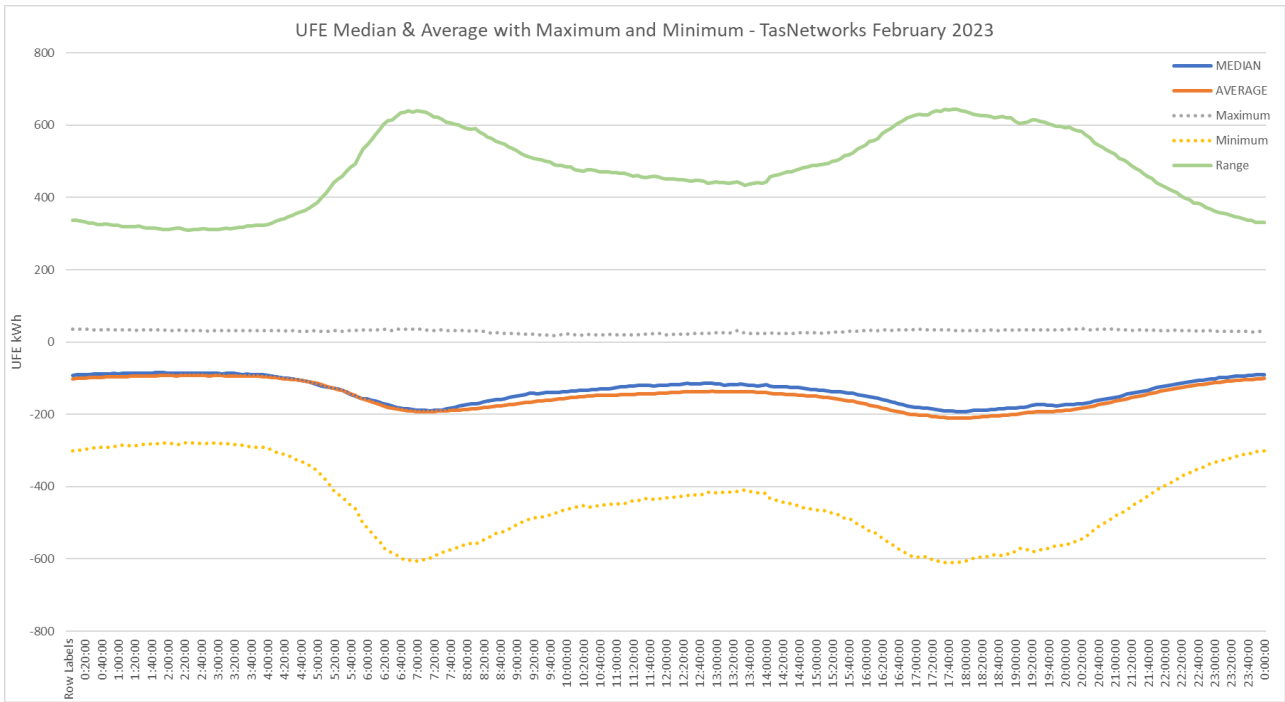


Figure 36 UFE Median, Average, Maximum and Minimum – TasNetworks February 2023

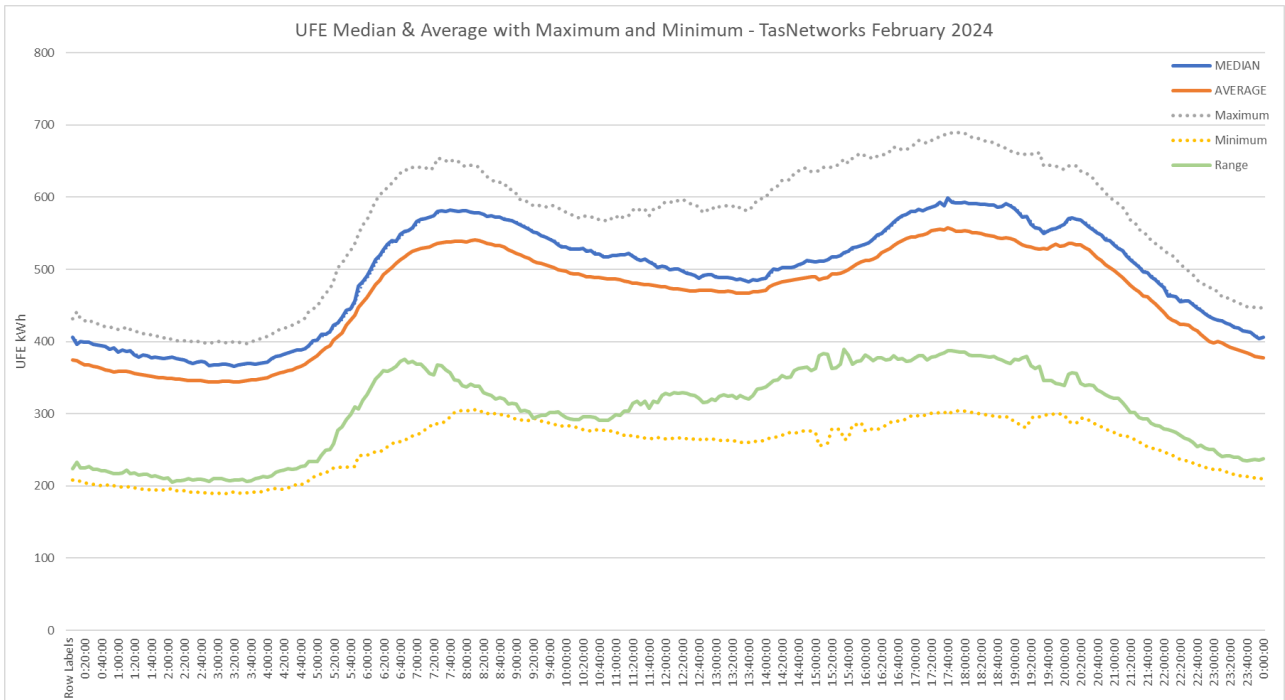


Figure 37 UFE Median, Average, Maximum and Minimum – TasNetworks February 2024



### 3.13 United Energy

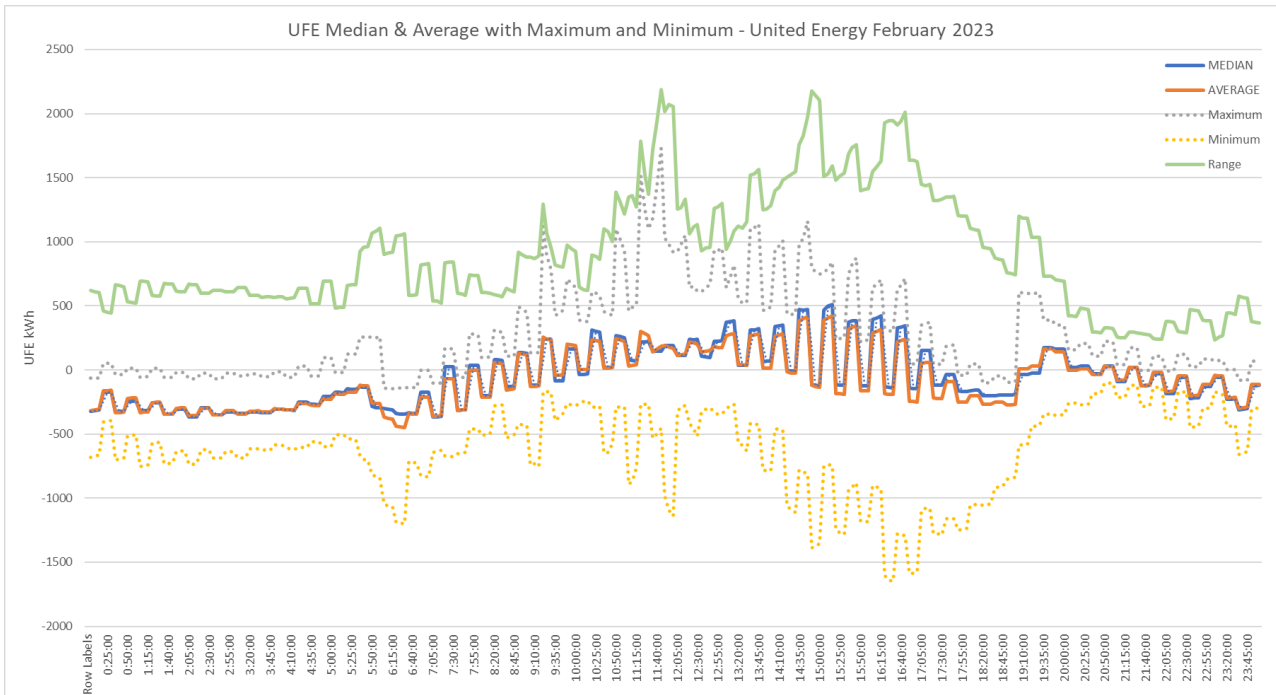


Figure 38 UFE Median, Average, Maximum and Minimum – United Energy February 2023

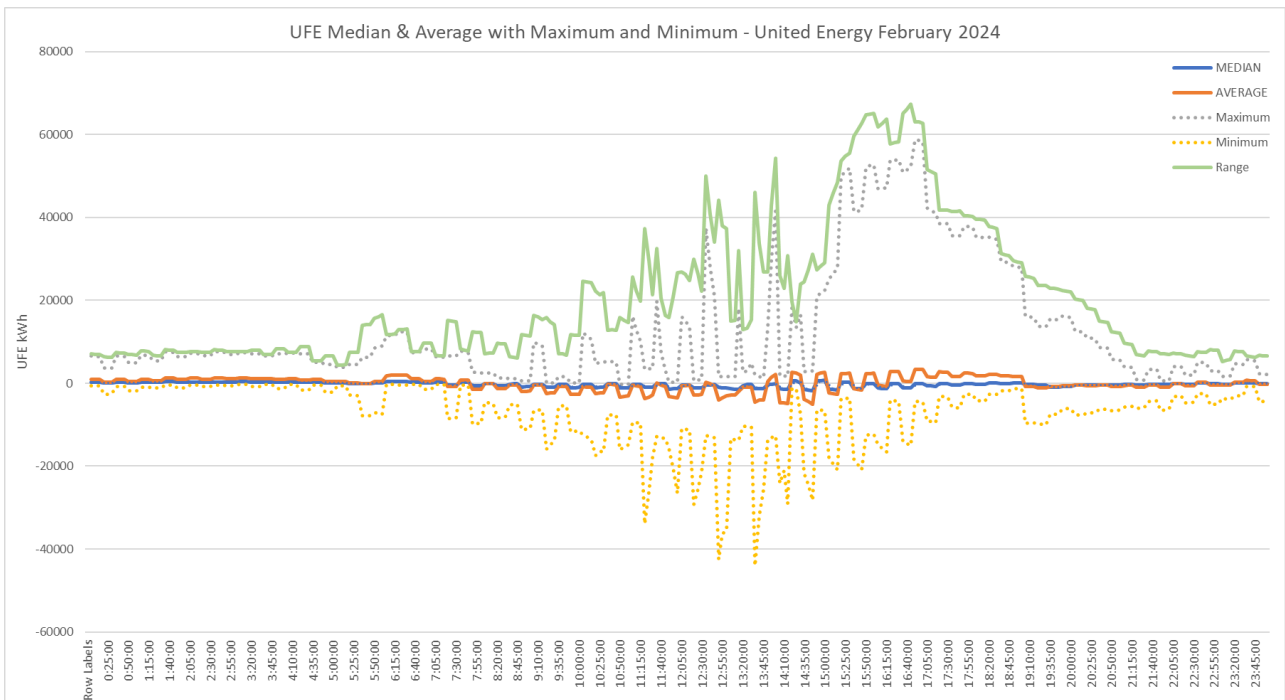


Figure 39 UFE Median, Average, Maximum and Minimum – United Energy February 2024

## 4 UFE source analysis

AEMO is required to undertake an analysis of the sources of UFE in each *local area* in order to recommend actions to reduce UFE. The areas of UFE source analysis would include:

- Time factors (e.g. season, day, time of day) that produce patterns of UFE that are occurring are likely to be important in identifying causes and solutions to reduce UFE.
- The sources of UFE and their respective solutions are diverse, therefore identifying the likely sources of UFE will be crucial to identifying actions to reduce UFE. This analysis will include the following variables that modify metering data:
  - DLF value changes – historical analysis of DLFs
  - Accumulation (BASIC) *meter* replacement with interval *meters*
  - 15 and 30-minute *metering data* transition to 5-minute *metering data*
  - Type 7 *loads* transitioned to metered arrangements
  - NCONUML loads transitioned to alternative calculation methodologies
  - Review of profiling methodologies
  - Review of UFE values by settlement data versions
  - Review impact of unmetered temporary emergency cross boundary *energy* volumes

### 4.1 DLF Values

This section of the UFE Trends Report provides, for each *local area*, a table of DLF codes and values for a five year period.

Some DLFs have reduced over the five year period and some have increased. The changes appear to very marginal as the increases or decreases have only been at the third or fourth decimal place.

DLF source data is available on AEMO’s “Loss factors and regional boundaries” web page via the link below.

<https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/market-operations/loss-factors-and-regional-boundaries>

#### 4.1.1 DLF codes and values – ActewAGL

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
ACT	AH00	1.0136	1.0111	1.0106	1.0178	1.0187
ACT	AL00	1.0471	1.0447	1.043	1.0369	1.0325
ACT	AS01	1.0062	1.0136	1.0176	1.0129	1.0140
ACT	AS02	1.01	1.0152	1.0104	1.0178	1.0187
ACT	AS04	0.9997	0.9998	0.9997	0.9997	0.9980

ACT	AS06	0.9983	0.9985	0.9985	0.9985	0.9964
ACT	AS07	0.999	0.9994	0.999	0.9995	0.9968

#### 4.1.2 DLF codes and values – Ausgrid

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 0 2022	2022 - 2023	2023-02024
NSW	J500	1.016	1.0166	1.0071	1.0124	1.0134
NSW	J521	1.0355	1.0355	1.0355	1.0355	
NSW	J522	1.0134	1.0134	1.0134	1.0134	
NSW	J541	1.0123	1.0145	1.0094	1.0103	1.0061
NSW	J543	1.0012	1.0012	1.0103	1.0072	1.0082
NSW	J550	1.0023	1.0022	1.0063	1.0037	1.0046
NSW	J560	1.007	1.0059	1.0068	1.0081	1.0069
NSW	J570	1.0723	1.0723	1.0723	1.0723	
NSW	J580	1.0049	1.0035	1.0018	1.0048	1.0031
NSW	J590	1.0045	1.0049	1.0045	1.0049	1.0045
NSW	J600	1.0068	1.0049	1.0028	1.0033	1.0038
NSW	J601	1.0076	1.0066	1.0139	1.0033	1.0116
NSW	J605	1.0056	1.0057	1.0056	1.0051	1.0167
NSW	J610	1.0087	1.0124	1.0061	1.0072	1.0049
NSW	J615	1.0054	1.0046	1.0083	1.0126	1.0049
NSW	J620	1.0008	1.0009	1.0053	1.0051	1.0134
NSW	J630	1.0031	1.0031	1.0037	1.0067	1.0061
NSW	J635	1.0026	1.0025	1.0031	1.0019	1.0027
NSW	J640	1.0004	1	1.0096	1.0091	1.0064
NSW	J645	1.0048	1.0045	1.0053	1.0057	1.0049
NSW	J655	1.0046	1.0032	1.008	1.0086	1.0025
NSW	J660	1.0116	1.0105	1.011	1.0123	1.0143
NSW	J670	1.0134	1.0123	1.0153	1.0175	1.0175
NSW	J680	1.0311	1.0111	1.0129	1.0145	1.0180
NSW	J690	1.0229	1.0229	1.0229	1.0229	
NSW	J700	1.0033	1.0033	1.0041	1.0082	1.0111
NSW	J710	1.0051	1.0051	1.0051	1.0051	
NSW	J720	1.0281	1.0281	1.0281	1.0281	
NSW	J721	1.0177	1.0177	1.0177	1.0177	
NSW	J731	1.0125	1.0125	1.0125	1.0125	
NSW	J732	1.0205	1.0205	1.0205	1.0205	
NSW	J750	1.0262	1.0262	1.0262	1.0262	
NSW	J770	1.0089	1.013	1.0155	1.0154	1.0124
NSW	J771	1.0202	1.0172	1.0075	1.012	1.0142
NSW	J772	1.0094	1.008	1.0082	1.0114	1.0039
NSW	J773	1.0166	1.0096	1.0176	1.0148	1.0228
NSW	J774	1.0148	1.0217	1.0096	1.0128	1.0135

NSW	J775	1.0472	1.0227	1.0283	1.0226	1.0142
NSW	J777	1.0088	1.0123	1.0084	1.0078	1.0090
NSW	J778	1.0164	1.0068	1.0076	1.0051	1.0079
NSW	J779	1.0183	1.0203	1.014	1.0148	1.0176
NSW	J780	1.0084	1.0113	1.0119	1.0099	1.0201
NSW	J781	1.0032	1.0029	1.0032	1.0075	1.0099
NSW	J782	1.003	1.003	1.0032	1.0075	1.0099
NSW	J783	1.0028	1.0027	1.0117	1.0098	1.0000
NSW	J784		1.0197	1.01	1.0131	1.0175
NSW	J785		1.0135	1.0094	1.009	1.0085
NSW	J786		1.0148	1.0084	1.0107	1.0131
NSW	J787		1.002	1.0024	1.0034	1.0040
NSW	J788		1.0244	1.0089	1.0168	1.0180
NSW	J789		1.0136	1.0035	1.0074	1.0088
NSW	J790		1.0192	1.0192	1.0192	1.0215
NSW	J791			1.0172	1.0106	1.0111
NSW	J792			1.0066	1.0147	1.0133
NSW	J793			1.0135	1.0214	1.0165
NSW	J794			1.0029	1.0029	1.0067
NSW	J795				1.0057	1.0024
NSW	J796				1.0044	1.0052
NSW	J797					1.0059
NSW	J798					1.0052
NSW	J799					1.0142
NSW	J800	1.0008	1	1.0037	1.0038	1.0000
NSW	J881	1.0044	1.0047	1.0046	1.0105	1.0130
NSW	J882	1.035	1.035	1.035	1.035	
NSW	J883	1.0128	1.0128	1.0128	1.0128	
NSW	J884	1.0128	1.0128	1.0128	1.0128	
NSW	J885	1	1	1.005	1.0015	1.0000
NSW	J886	1.0007	1.0006	1.0006	1.0011	1.0011
NSW	J887	1.0007	1.0006	1.0006	1.0011	1.0011
NSW	JASH	1.0265	1.0265	1.0265	1.0265	
NSW	JCAP	1	1	1.0007	1.0007	
NSW	JGEN	1.0043	1.0041	1.0056	0.9978	0.9991
NSW	JGLB	1.0037	1.0028	1.004	1.0034	1.0024
NSW	JGN1			0.935	0.9472	0.9718
NSW	JGN2				0.9969	0.9877
NSW	JHBH	1.009	1.0088	1.0102	1.0111	1.0099
NSW	JHSH	1.0127	1.0123	1.0139	1.0149	1.0137
NSW	JK23	1.007	1.0069	1.0059	1.0058	1.0070
NSW	JK24	1.0128	1.0123	1.0123	1.0123	1.0123
NSW	JKUR	1	1	1	1	
NSW	JL1L	1.0532	1.0514	1.0519	1.0517	1.0505
NSW	JL2L	1.0532	1.0514	1.0519	1.0517	1.0505
NSW	JL40	1.05	1.0479	1.0484	1.0489	1.0482

NSW	JLDL	1.0532	1.0514	1.0519	1.0517	1.0505
NSW	JLSL	1.046	1.0444	1.0453	1.0455	1.0441
NSW	JLSP	1.0568	1.0546	1.0563	1.0562	1.0543
NSW	JLSU	1.0461	1.0445	1.0461	1.0462	1.0446
NSW	JPAT	1.0619	1.0619	1.0619	1.0619	1.0007
NSW	JRED	1.0007	1.0007	1.0007	1.0007	1.0505
NSW	JSBS	1.0048	1.0044	1.0059	1.0058	
NSW	JSSS	1.0048	1.0044	1.0059	1.0058	1.0049
NSW	JTOL	1.0006	1.0004	1.0077	1.0119	1.0091
NSW	JTRN	1	1	1	1	
NSW	GENT				1.0147	

### 4.1.3 DLF codes and values – AusNet Services

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
VIC	LASL	1.0187	1.0174	1.0269	1.0212	1.0253
VIC	LASS	1.0018	1.0018	1.0036	1.0022	1.0016
VIC	LBSL	1.0262	1.0254	1.0345	1.0289	1.0328
VIC	LBSS	1.0093	1.0099	1.0113	1.0098	1.0091
VIC	LCHL	1.0468	1.0448	1.0519	1.0524	1.0553
VIC	LCHS	1.0299	1.0293	1.0286	1.0334	1.0316
VIC	LDLL	1.068	1.0679	1.0726	1.0746	1.0801
VIC	LDLS	1.051	1.0524	1.0494	1.0556	1.0564
VIC	LELL	1.0752	1.0757	1.0802	1.0824	1.0879
VIC	LELS	1.0583	1.0602	1.057	1.0634	1.0641
VIC	LG02	1.0386	1.0361	1.0337	1.0316	1.0198
VIC	LG03	1.0338	1.0262	1.0149	1.0115	1.0098
VIC	LG04	1.028	1.0279	1.0293	1.0232	1.0672
VIC	LG05	0.9945	0.9965	0.9958	0.9894	0.9849
VIC	LG06	1.0294	0.9982	0.9973	0.9906	0.9789
VIC	LG07	1.0395	1.0354	1.0333	1.0368	1.0585
VIC	LG08	1.0016	1.0063	1.007	1.0145	1.0163
VIC	LG09	1.0237	1.0219	1.0199	1.022	1.0134
VIC	LG10	1.0142	1.0139	1.0089	1.0219	1.0083
VIC	LG11		0.9992	0.9992	0.9993	0.9995
VIC	LG12		0.9998	0.9998	1	0.9999
VIC	LL01	1.031	1.0383	1.039	1.0297	1.0257
VIC	LL02	1.0026	1.0009	1.0043	1.003	1.0025
VIC	LL03	1.0343	1.0343	1.0343	1.0343	
VIC	LL04	1.0664	1.0664	1.0664	1.0664	
VIC	LL05	1.0045	1.0042	1.0005	1.0006	1.0045
VIC	LL06	1.0462	1.041	1.041	1.041	

#### 4.1.4 DLF codes and values – CitiPower

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
VIC	EDSD	1.0413	1.0418	1.0412	1.04	1.0368
VIC	EHVC	1.016	1.0159	1.0153	1.0129	1.0121
VIC	ELVE	1.0474	1.0509	1.05	1.0488	1.0450
VIC	ESS1	1.0152	1.0152	1.0152	1.0152	
VIC	ESS2	1.0132	1.0132	1.0132	1.0132	
VIC	ESS3	1.014	1.014	1.014	1.014	
VIC	ESS4	1.0164	1.0166	1.0164	1.0148	1.0134
VIC	ESTA	1.0042	1.0041	1.004	1.003	1.0041
VIC	EZSB	1.0124	1.0122	1.0117	1.01	1.0097

#### 4.1.5 DLF codes and values – Endeavour Energy

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
NSW	HHV1	1.0148	1.0134	1.0156	1.0155	1.0160
NSW	HHVL	1.0148	1.017	1.0157	1.0162	1.0162
NSW	HHVT	1.0101	1.0116	1.0109	1.0116	1.0118
NSW	HHY1	1.0137	1.0135	1.0137	1.0135	1.0130
NSW	HHY2	1.0135	1.0135	1.0135	1.0135	
NSW	HHY3	1.0128	1.0136	1.0121	1.0146	1.0137
NSW	HHY4	1.0145	1.0153	1.0144	1.0144	1.0092
NSW	HHY5	1.0259	1.0259	1.0259	1.0259	
NSW	HHY7	1.0125	1.0125	1.0125	1.0107	1.0108
NSW	HHY8				1.0082	1.0086
NSW	HIC1	1.014	1.0148	1.0144	1.0134	1.0148
NSW	HLVL	1.0628	1.0687	1.0682	1.068	1.0691
NSW	HLVT	1.0416	1.0477	1.0476	1.0493	1.0502
NSW	HNC1	0.9998	1.0005	1.0001	1.0018	0.9994
NSW	HNVL	1.0022	1.0026	1.0025	1.0025	1.0025
NSW	HSTL	1.009	1.0107	1.0104	1.0114	1.0116
NSW	HSTS	1.0057	1.0062	1.0065	1.0069	1.0072
NSW	HTF1	1.0036	1.0031	1.0028	1.0029	1.0032
NSW	HTF2	1.0073	1.0073	1.0066	1.0072	1.0076
NSW	HTF3	1.0031	1.0024	1.0038	1.0042	1.0044
NSW	HTV1	1.0033	1.0035	1.0032	1.0036	1.0036
NSW	HTV2	1.0028	1.0026	1.0023	1.0036	1.0036
NSW	HTV3				1	1.0000
NSW	HTV4	1.0078	1.0071	1.0065	1.0181	1.0183
NSW	HTV6	1.0007	1.0012	1.0012	1.001	1.0013
NSW	HTV7	1.0011	1.0012	1.0013	1.0011	1.0007
NSW	HTV8	1.0013	1.0027	1.002	1.0096	1.0109
NSW	HTX1	1.019	1.0136	1.015	1.013	1.0149

NSW	HTX2	0.9837	1.0655	1.0512	1.0619	0.9937
NSW	HTX3	1.0065	1.0257	1.0343	1.0285	1.0236
NSW	HTX4	1.01	1.0294	1.0376	1.025	1.0122
NSW	HTX5	1.0169	1.0055	1.0108	1.0071	1.0110
NSW	HTX6	1.0106	1.0103	1.0101	1.0107	1.0102
NSW	HTX7	1.0045	1.0045	1.0045	1.0062	1.0068
NSW	HTX8	1.0077	1.0074	1.0071	1.0072	1.0077
NSW	HTX9	1.0046	1.0041	1.004	1.004	1.0040
NSW	HTXA	1.0086	1.0083	1.0083	1.0086	1.0082
NSW	HTXB	1.0099	1.0049	1.0073	1.004	1.0062
NSW	HTY1	1.012	1.012	1.012	1.012	
NSW	HTY2	1.0039	1.0039	1.0039	1.0039	
NSW	HTY3	1.0073	1.0067	1.0059	1.0064	1.0062
NSW	HTY4	1.0288	1.0266	1.0261	1.0279	1.0312
NSW	HTY5	1.0408	1.0497	1.0529	1.039	1.0364
NSW	HTY6	1.0051	1.0051	1.0051	1.0051	
NSW	HTY7	1.0134	1.0087	1.011	1.0079	1.0116
NSW	HTY9	1.0154	1.0032	1.0078	1.004	1.0076
NSW	HTYA	1.0174	1.0149	1.0144	1.017	1.0167
NSW	HTYB	1.006	1.0054	1.005	1.0055	1.0055
NSW	HTYC	1.0048	1.0044	1.004	1.004	1.0044
NSW	HTYD	1.0033	1.0033	1.0033	1.0033	
NSW	HTYE	1.006	1.0062	1.0059	1.0055	1.0116

#### 4.1.6 DLF codes and values – Energex

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
QLD	F1CH	1.0231	1.0196	1.0202	1.0220	1.0196
QLD	F1CL	1.0422	1.0382	1.0434	1.0444	1.0432
QLD	F1ZH	1.0154	1.0123	1.0130	1.0143	1.0129
QLD	F3CL	1.0109	1.0084	1.0089	1.0089	1.0089
QLD	FACI	1.0822	1.0956	1.0788	1.0866	1.1008
QLD	FALK	1.0108	1.0094	1.0088	1.0081	1.0074
QLD	FAPB	1.0135	1.0134	1.0127	1.0124	1.0123
QLD	FAPL	1.0138	1.0136	1.0141	1.0173	1.0130
QLD	FAPM	1.0112	1.0107	1.0114	1.0113	1.0122
QLD	FBAC	1.0107	1.0114	1.0095	1.0107	1.0090
QLD	FBCC	1.0126	1.0101	1.0097	1.0101	1.0097
QLD	FBEP	1.0231	1.0196	1.0202	1.0220	1.0196
QLD	FBOC	1.0422	1.0382	1.0434	1.0444	1.0432
QLD	FBRR	1.00841	1.04952	1.04952	1.04952	
QLD	FCAL	1.0096	1.0088	1.0124	1.0084	1.0097
QLD	FCLT	1.0053	1.0051	1.0052	1.0056	1.0063
QLD	FCRL	1.0258	1.0153	1.0221	1.0507	1.0412

QLD	FCST	1.0034	1.0033	1.0025	1.0035	1.0036
QLD	FEAN	1.0072	1.0069	1.0055	1.0056	1.0069
QLD	FEAS	1.0075	1.0073	1.0060	1.0057	1.0063
QLD	FEIB	1.0162	1.0133	1.0144	1.0203	1.0285
QLD	FENG	1.00959	1.00959	1.00959	1.00959	
QLD	FGBI	1.0048	1.0041	1.0039	1.0036	1.0032
QLD	FGHP	1.0080	1.0081	1.0069	1.0097	1.0091
QLD	FHDL	1.0054	1.0017	1.0012	1.0015	1.0063
QLD	FHDU	1.0442	1.0136	1.0130	1.0126	1.0136
QLD	FHPR	1.15949	1.15949	1.15949	1.15949	
QLD	FHYS	1.0501	1.0505	1.0492	1.0557	1.0656
QLD	FICT	1.0097	1.0125	1.0078	1.0065	1.0086
QLD	FIST	1.00598	1.00598	1.00598	1.00598	
QLD	FJPC	1.00549	1.00549	1.00549	1.00549	
QLD	FLCL	1.0559	1.0520	1.0587	1.0611	1.0591
QLD	FLEA	1.01954	1.01954	1.01954	1.01954	
QLD	FLEM	1.04057	1.04057	1.04057	1.04057	
QLD	FLGP	1.0123	1.0111	1.0130	1.0102	1.0106
QLD	FLMD	1.0138	1.0106	1.0072	1.0091	1.0085
QLD	FLWH	1.0064	1.0061	1.0062	1.0062	1.0064
QLD	FLWT	1.0009	1.0007	1.0006	1.0008	1.0007
QLD	FMRP	1.0593	1.0576	1.0650	1.0602	1.0638
QLD	FNBW	1.1212	1.1376	1.1314	1.1272	1.1378
QLD	FNPD	1.0261	1.0216	1.0222	1.0184	1.0266
QLD	FNST	1.00349	1.00349	1.00349	1.00349	
QLD	FPAH	1.0177	1.0105	1.0093	1.0114	1.0172
QLD	FPCF	1.0134	1.0131	1.0138	1.0138	1.0138
QLD	FQB	1.0017	1.0024	1.0023	1.0014	1.0079
QLD	FQBH	1.0003	1.0003	1.0003	1.0003	1.0003
QLD	FQBW	1.0105	1.0015	1.0014	1.0016	1.0020
QLD	FQC	1.0000	1.0000	1.0000	1.0001	1.0001
QLD	FQCB	1.0097	1.0102	1.0083	1.0100	1.0052
QLD	FQCH	1.0066	1.0030	1.0052	1.0069	1.0075
QLD	FQCL	1.0419	1.0476	1.0457	1.0362	1.0448
QLD	FQG	1.0162	1.0132	1.0177	1.0169	1.0134
QLD	FQL	1.0007	1.0007	1.0012	1.0007	1.0008
QLD	FQML			1.0000	1.0000	1.0000
QLD	FQNG		1.0056	1.0053	1.0060	1.0055
QLD	FQP	1.0100	1.0074	1.0059	1.0060	1.0061
QLD	FQR	1.0004	1.0005	1.0005	1.0004	1.0005
QLD	FQRS	1.0003	1.0003	1.0003	1.0002	1.0001
QLD	FQRW	1.0052	1.0058	1.0056	1.0056	1.0060
QLD	FQT	1.0070	1.0048	1.0093	1.0079	1.0066
QLD	FQUE	1.0073	1.0080	1.0121	1.0134	1.0079
QLD	FQW	1.0008	1.0017	1.0088	1.0125	1.0113
QLD	FRAF	1.0181	1.0172	1.0183	1.0212	1.0203



QLD	FRBH	1.0090	1.0062	1.0066	1.0076	1.0081
QLD	FRPT	1.0025	1.0007	1.0027	1.0009	1.0019
QLD	FSBB	1.0319	1.0377	1.0461	1.0377	1.0473
QLD	FSC	1.0070	1.0063	1.0065	1.0061	1.0062
QLD	FSFT	1.0116	1.0103	1.0114	1.0098	1.0100
QLD	FSHG	1.1581	1.1621	1.1702	1.1359	1.1359
QLD	FSSS	1.00463	1.0039	1.00314	1.00381	
QLD	FSTC	1.0112	1.0108	1.0126	1.0102	1.0115
QLD	FSUH	1.0136	1.0101	1.0110	1.0110	1.0110
QLD	FSWP	1.0073	1.0088	1.0088	1.0078	1.0075
QLD	FTD	1.0323	1.0356	1.0175	1.0168	1.0160
QLD	FTTB	1.0083	1.0091	1.0108	1.0083	1.0097
QLD	FUQ1	1.0611	1.0512	1.0463	1.0547	1.0812
QLD	FUQ2	1.0051	1.0049	1.0051	1.0051	1.0052
QLD	FUQC	1.0917	1.0590	1.0949	1.0801	1.0801
QLD	FVP	1.0323	1.0356	1.0175	1.0168	1.0160
QLD	FVSF	1.0083	1.0091	1.0108	1.0083	1.0097
QLD	FWGC	1.0611	1.0512	1.0463	1.0547	1.0812
QLD	FWHG	1.0051	1.0049	1.0051	1.0051	1.0052
QLD	FWSC	1.01049	1.01049	1.01049	1.01049	

#### 4.1.7 DLF codes and values – Ergon

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
QLD	GA01	0.952	0.959	0.951	0.947	0.9560
QLD	GA02	0.82	0.82	1.01	1.008	0.9630
QLD	GA03	0.94	0.94	0.944	0.904	0.9090
QLD	GA04	0.993	1.005	0.994	0.983	0.9880
QLD	GA05	0.991	0.989	0.987	0.983	0.9840
QLD	GA06	0.963	0.963	0.969	0.925	0.9330
QLD	GA07	1.001	1.001	1.001	1.001	1.0010
QLD	GA09	0.987	0.987	0.987	0.987	0.9920
QLD	GA10	0.987	0.987	0.987	0.987	0.9930
QLD	GA11	0.945	0.945	0.965	0.967	0.9580
QLD	GA12				0.972	0.9720
QLD	GBSB	1	1	1	1	1.0000
QLD	GEHB	1.016	1.011	1.016	1.018	1.0160
QLD	GEHL	1.036	1.031	1.036	1.036	1.0330
QLD	GELB	1.071	1.075	1.073	1.068	1.0610
QLD	GELL	1.075	1.093	1.077	1.083	1.0940
QLD	GESB	1.006	1.005	1.004	1.005	1.0050
QLD	GESL	1.012	1.008	1.011	1.015	1.0150
QLD	GS02	1.009	1.004	1.006	1.008	1.0060
QLD	GS05	1.005	1.005	1.005	1.005	

QLD	GS06	1.003	1.005	1.006	1.006	1.0050
QLD	GS12	1.014	0.981	1	0.995	1.0050
QLD	GS13	1	1	1.01	1.007	1.0040
QLD	GS14	1.004	1.006	1.007	1.005	1.0060
QLD	GS18	1	1.001	1.003	1.004	1.0110
QLD	GS19	1.069	1.046	1.047	1.078	1.0370
QLD	GS21	1.001	1.002	1.003	1.001	1.0010
QLD	GS22	1	1.004	1.006	1.005	1.0040
QLD	GS23	1.025	1.025	1.025	1.025	
QLD	GS24	1.008	1.008	1.008	1.008	
QLD	GS26	0.999	0.999	0.992	0.993	1.0020
QLD	GS29	0.95	0.987	0.995	0.992	0.9860
QLD	GS30	0.95	0.987	0.995	0.992	0.9860
QLD	GS33	1.003	1.003	1.003	1.003	
QLD	GS34	1	1	1	1	
QLD	GS40	1.095	1.086	1.084	1.079	1.0730
QLD	GS41	1.001	1.001	1.001	1.001	
QLD	GS44	1.006	1.006	1.006	1.006	
QLD	GS49	0.985	0.882	0.89	0.94	0.9300
QLD	GS50	1.017	1.017	1.017	1.017	
QLD	GS51	1	0.999	1.007	1.007	1.0040
QLD	GS55	0.987	0.981	0.985	0.984	0.9850
QLD	GS56	0.981	0.986	1	0.974	0.9740
QLD	GS60	1.034	1.034	1.034	1.034	
QLD	GS61	1.001	1.001	1.001	1.001	
QLD	GS62	1.013	1.008	1.016	1.013	1.0110
QLD	GS63	1.019	1.019	1.019	1.019	
QLD	GS64	1.008	1.008	1.007	1.006	1.0090
QLD	GS65	1.005	1.008	1.003	1.003	1.0040
QLD	GS66	1.011	1.011	1.011	1.011	
QLD	GS67	0.984	0.992	0.997	0.978	0.9820
QLD	GS69	1.001	1.002	1.007	1.006	1.0060
QLD	GS70	1	1	1.004	1.004	1.0000
QLD	GS71	0.998	1	1	0.996	1.0020
QLD	GS73	1.001	1.001	1.001	1.001	
QLD	GS74	0.998	1.009	1.001	1.002	1.0040
QLD	GS76	0.939	0.958	0.959	0.964	0.9780
QLD	GS77	1.009	1.004	1.007	1.001	1.0010
QLD	GS78	0.978	0.978	0.978	0.978	
QLD	GS79	0.974	0.966	0.978	0.975	
QLD	GS80	0.998	1.002	1	0.998	0.9990
QLD	GS81	0.991	0.991	0.996	0.995	0.9960
QLD	GS82	1.009	1.008	1.012	1.01	1.0080
QLD	GS83	1.001	1.002	1.009	1.002	1.0040
QLD	GS84	1.001	0.998	1	1	1.0000
QLD	GS85	1.096	1.082	1.072	1.081	1.0740

QLD	GS86	1.013	1.006	1.007	1.002	1.0020
QLD	GS87	1.007	1.004	1.005	1.006	1.0050
QLD	GS88	1.017	1.008	1.008	1.002	1.0030
QLD	GS89	1	0.999	1.001	1	1.0000
QLD	GS90	1.001	1.006	1.008	1.004	1.0030
QLD	GS91	0.876	0.902	0.926	0.927	0.9360
QLD	GS92	1.005	0.995	1	0.999	0.9980
QLD	GS93	0.988	0.981	0.985	0.968	0.9750
QLD	GS95	1	1.001	0.999	0.999	0.9990
QLD	GS96	0.89	0.89	0.887	0.868	0.9110
QLD	GS97	0.991	1.007	1	0.994	1.0000
QLD	GS98	0.954	0.956	0.955	0.915	0.9590
QLD	GS99	0.964	0.964	0.963	0.972	0.9710
QLD	GWHB	1.063	1.044	1.06	1.064	1.0710
QLD	GWHL	1.095	1.078	1.113	1.106	1.1080
QLD	GWLB	1.144	1.118	1.173	1.156	1.1380
QLD	GWLL	1.161	1.233	1.24	1.224	1.2230
QLD	GWSB	1.037	1.029	1.024	1.021	1.0270
QLD	GWSL	1.062	1.04	1.051	1.056	1.0710

#### 4.1.8 DLF codes and values – Essential Energy

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
NSW	BH0A	1.032	1.0301	1.0309	1.029	1.0253
NSW	BH5A	1.0191	1.0185	1.0182	1.0159	1.0135
NSW	BLOA	1.0691	1.0664	1.0637	1.0609	1.0588
NSW	BL5A	1.0554	1.0544	1.0506	1.0485	1.0455
NSW	BS02	0.9381	0.9375	0.9296	0.9334	0.9358
NSW	BS03	0.9991	0.9963	0.997	0.9986	0.9957
NSW	BS0A	1.0099	1.011	1.0119	1.0104	1.0101
NSW	BS32	1.1057	1.0989	1.0859	1.0567	1.0534
NSW	BS33	1.0634	1.0563	1.0481	1.02	1.0295
NSW	BS34	1.1027	1.1027	1.1027	1.1027	
NSW	BS35	1.0121	1.0135	1.0141	1.013	1.0138
NSW	BS37	1	1	1	1	
NSW	BS38	1.0192	1.0085	1.0102	1.0118	1.0096
NSW	BS39	1.0444	1.0339	1.0253	1.0251	1.0147
NSW	BS40	1.061	1.0555	1.0495	1.0239	1.0345
NSW	BS41	1.1039	1.0848	1.0651	1.0651	1.0651
NSW	BS43	0.9882	0.9949	0.9953	0.9933	0.9934
NSW	BS44	0.9942	0.9969	0.9956	0.9993	0.9904
NSW	BS45	1.0514	1.0443	1.0335	1.0264	1.0157
NSW	BS46	1.0578	1.0256	1.0391	1.0318	1.0318
NSW	BS47	0.9526	0.9526	0.9526	0.9526	
NSW	BS48	0.9905	0.9852	0.975	0.9781	0.9762

NSW	BS50	0.9788	0.9831	0.972	0.9751	0.9731
NSW	BS51	1.01	1.0046	1.0063	1.0063	1.0063
NSW	BS52	1.0449	1.045	1.0413	1.0232	1.0232
NSW	BS53	1.0099	1.01	1.0087	1.0075	1.0061
NSW	BS54	0.982	0.982	0.9705	0.9772	0.9769
NSW	BS55	0.9913	0.9917	0.9838	0.9832	0.9830
NSW	BS56	1.0121	1.0135	1.0141	1.013	1.0138
NSW	BS57	0.9805	0.9591	0.9419	0.9217	0.9328
NSW	BS58	0.9751	0.985	0.9835	0.9815	0.9853
NSW	BS60	1.0123	1.0153	1.0121	1.0112	1.0112
NSW	BS61	1.0033	1.0008	0.9982	0.9841	0.9841
NSW	BS62	1.0013	0.9956	0.9909	0.9828	0.9868
NSW	BS63	0.996	0.9938	0.9983	0.9983	0.9979
NSW	BS64	0.9781	0.9597	0.9462	0.9294	0.9366
NSW	BS65		0.98	0.9803	0.9768	0.9809
NSW	BS66		0.9931	0.9908	0.9853	0.9793
NSW	BS67			1.0126	1.0181	1.0177
NSW	BS68			1.0262	1.0289	1.0304
NSW	BS69		0.9812	0.9812	0.9801	0.9784
NSW	BS70			0.9169	0.9263	0.9107
NSW	BS71			0.9904	0.9878	0.9792
NSW	BS72				1.0517	1.0537
NSW	BS73				0.9544	0.9403
NSW	BS74				0.9291	0.9243
NSW	BS75					1.0036

#### 4.1.9 DLF odes and values – Jemena

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
VIC	CAFP	1.0026	1.0026	1.0026	1.0026	
VIC	CAGP	1.0118	1.0097	1.0108	1.0095	1.0111
VIC	CAHH	1.0147	1.012	1.013	1.0116	1.0140
VIC	CAPA	1.0033	1.0024	1.0025	1.002	1.0017
VIC	CFMC	1.0107	1.0107	1.0107	1.0107	
VIC	CHBL	1.0187	1.0158	1.0169	1.0139	1.0169
VIC	CHBS	1.0092	1.0077	1.0087	1.0071	1.0088
VIC	CHCA	1.011	1.011	1.011	1.011	
VIC	CHCL	1.0299	1.0249	1.0253	1.0206	1.0254
VIC	CHCS	1.0205	1.0168	1.0172	1.0138	1.0172
VIC	CLDL	1.0451	1.0425	1.0455	1.0397	1.0466
VIC	CLDS	1.0357	1.0344	1.0373	1.033	1.0385
VIC	CLEL	1.0513	1.0476	1.0512	1.0446	1.0528
VIC	CLES	1.0418	1.0394	1.043	1.0379	1.0447
VIC	CSAL	1.0138	1.0118	1.0124	1.0102	1.0127

VIC	CSAS	1.0043	1.0037	1.0042	1.0034	1.0046
VIC	CSOG	0.9891	0.9917	0.9872	0.9881	0.9800
VIC	CSPL	1.01	1.0081	1.0088	1.0079	1.0094
VIC	CSPT	1.0131	1.0131	1.0131	1.0131	
VIC	CVPC	1.0081	1.0068	1.0086	1.0079	1.0107

#### 4.1.10 DLF Codes and values – Powercor

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
VIC	KAB	1.0162	1.0162	1.0162	1.0162	
VIC	KAD	1.0155	1.0167	1.0115	1.0091	1.0094
VIC	KAF	1.0068	1.0069	1.0068	1.0069	1.0070
VIC	KAF1	1.0005	1.0005	1.0005	1.0006	1.0005
VIC	KAL	1.0353	1.0388	1.0373	1.0378	1.0366
VIC	KAO				1.0022	1.0020
VIC	KAO1					1.0009
VIC	KAS	1.0039	1.0035	1.0035	1.0033	1.0030
VIC	KAT		1.0109	1.0109	1.0113	1.0109
VIC	KBC	1.0334	1.0444	1.0311	1.0375	
VIC	KBF	1.0651	1.0651	1.0651	1.0651	
VIC	KBL	1.0409	1.0442	1.0426	1.0428	1.0413
VIC	KBN	1.0086	1.0083	1.0082	1.0081	
VIC	KBP	0.9774	0.9846	0.9825	0.9753	
VIC	KBS	1.0095	1.0089	1.0088	1.0083	1.0077
VIC	KCB	1.0133	0.9624	0.9183	0.9018	0.9063
VIC	KCF	1.0428	1.0788	1.0323	1.0146	1.0157
VIC	KCH	0.9638	0.992	0.9689	0.9654	0.9578
VIC	KCL	1.0657	1.0683	1.0662	1.066	1.0635
VIC	KCO	0.9811	0.9811	0.9811	0.9811	0.9811
VIC	KCS	1.0343	1.033	1.0324	1.0315	1.0299
VIC	KDA	1.0015	1.0015	1.0015	1.0015	
VIC	KDA1	1.0089	1.0118	1.0118	1.012	1.0051
VIC	KDA2	1.0017	1.0017	1.0017	1.0017	
VIC	KDL	1.0912	1.093	1.09	1.0896	1.0857
VIC	KDS	1.0598	1.0577	1.0562	1.0551	1.0521
VIC	KEL	1.0996	1.1006	1.0975	1.0972	1.0932
VIC	KES	1.0682	1.0653	1.0637	1.0627	1.0596
VIC	KGD	1.001	1.001	1.001	1.001	
VIC	KGE	1.0091	1.0091	1.0091	1.0091	
VIC	KGJ	1.002	1.0022	1.0021	1.0022	1.0025
VIC	KGK	1.0042	1.0042	1.0042	1.0042	
VIC	KGS	0.9951	0.9901	0.9859	0.9796	0.9782
VIC	KKS	0.9886	0.9852	0.9797	0.9731	1.0296
VIC	KKW	0.9179	0.9155	0.9171	0.9316	0.9112

VIC	KLD	1.0074	1.0074	1.0074	1.0074	
VIC	KMG	0.958	1.001	0.9823	0.982	0.9822
VIC	KML	0.9042	0.9087	0.9077	0.9102	0.9077
VIC	KNS	0.9927	0.9875	0.9871	0.9852	0.9723
VIC	KOH	0.8906	0.8919	0.8907	0.8933	0.8906
VIC	KRD	1.0074	1.0071	1.0096	1.0094	
VIC	KSB	1.0567	1.0555	1.0524	1.0493	1.0635
VIC	KSE	1.0472	1.0469	1.0484	1.0572	1.0578
VIC	KSG	1.0746	1.0746	1.0746	1.0746	1.0505
VIC	KTE	1.0459	1.0459	1.0459	1.0459	0.9984
VIC	KWS	0.9986	0.9986	0.9985	0.9982	0.9868
VIC	KYD	0.9845	0.9845	0.9845	0.9845	0.9998
VIC	KYP	0.9818	0.9818	0.9818	0.9818	0.9491
VIC	KYS	1.0046	1.0536	0.9842	0.9627	1.0157
VIC	KYW	1.0428	1.0788	1.0323	1.0146	1.0635

#### 4.1.11 DLF Codes and values – SA Power Networks

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
SA	BP01				0.996	0.9960
SA	NAB1	1.01	1.01	1.01	1.01	1.0100
SA	NAC1	1.02	1.02	1.02	1.02	
SA	NAC2	1.008	1.008	1.008	1.008	1.0080
SA	NAS1	0.989	0.989	0.989	0.989	0.9890
SA	NAS2	0.989	0.989	0.989	0.989	0.9890
SA	NB09		0.993	0.993	0.993	0.9930
SA	NBA1	1.001	1.001	1.001	1.001	1.0010
SA	NBO1		0.993	0.993	0.993	0.9930
SA	NCDW	0.972	0.972	0.972	0.972	0.9720
SA	NCL1	1.005	1.002	1.002	1.004	1.0040
SA	NDS1	1.016	1.008	1.008	1.008	
SA	NDS2	1.016	1.008	1.008	1.008	
SA	NDS4		1.01	1.01	1.01	
SA	NDS5			1.011	1.011	1.0110
SA	NDS8			1.011	1.011	1.0110
SA	NDS9		1.01	1.01	1.01	1.0100
SA	NGM1	1.009	1.009	1.009	1.009	
SA	NGM2	1.007	1.007	1.007	1.007	
SA	NGT1	1.007	1.007	1.007	1.007	1.0070
SA	NHA1			0.973	0.973	0.9730
SA	NHA9			0.973	0.973	0.9730
SA	NHN1	1.003	1.003	1.003	1.002	1.0020
SA	NHN2	1.003	1.003	1.003	1.003	
SA	NHV1	1.048	1.051	1.0503	1.0449	1.0454

SA	NIF1	1.01	1.01	1.01	1.01	1.0100
SA	NKC4	1.01	1.01	1.01	1.01	1.0100
SA	NLV1	1.08	1.084	1.0985	1.0903	1.0897
SA	NLV2	1.101	1.107	1.117	1.107	1.1109
SA	NOS1	1	1.001	1.001	1.001	1.0010
SA	NOS2	1.001	1	1	1	1.0000
SA	NP01				0.996	0.9960
SA	NPS1	1	1	1	1	1.0000
SA	NPS3	1.007	1.007	1.007	1.007	1.0070
SA	NRA1	1.009	1.01	1.01	1.01	1.0100
SA	NRA2	1.012	1.012	1.012	1.012	
SA	NRT1	1.002	1.004	1.005	1.005	1.0050
SA	NSHW	0.995	0.995	0.995	0.995	0.9950
SA	NSP1	1.003	1.004	1.004	1.004	1.0040
SA	NSP2	1.003	1.004	1.004	1.004	1.0040
SA	NST1			1.0163	1.0149	1.0128
SA	NTGN	1	1	1	1	
SA	NTGS	1	1.003	1.003	1.003	1.0030
SA	NZS1	1.022	1.023	1.0265	1.0243	1.0247
SA	XOX1	1.056	1.056	1.056	1.056	

#### 4.1.12 DLF Codes and Values – TasNetworks

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
TAS	PACH	1	1	1	1	1.0000
TAS	PADS				1.0397	1.0311
TAS	PAHV				1.0136	1.0142
TAS	PALV				1.0579	1.0502
TAS	PAST				1.0059	
TAS	PATR				1	1.0000
TAS	PAZN				1.0098	
TAS	PBGM	1.0118	1.0118	1.0118	1.0118	
TAS	PBSM	1.0132	1.011	1.0132	1.0147	1.0164
TAS	PDDS	1.0487	1.0469	1.0324	1.0397	1.0311
TAS	PDHV	1.0204	1.0147	1.0135	1.0136	1.0136
TAS	PDLV	1.0609	1.0557	1.0583	1.0579	1.0502
TAS	PDST	1	1	1.0056	1.0059	
TAS	PDTC	0.9753	0.972	0.972	0.972	
TAS	PDZN	1	1	1.0084	1.0098	
TAS	PEDE	1	1	1	1	
TAS	PEDS	1.0548	1.0478	1.0324	1.0397	1.0311
TAS	PEHE	1	1	1	1	
TAS	PEHV	1.0237	1.0181	1.0135	1.0136	1.0136
TAS	PELV	1.082	1.0785	1.0583	1.0579	1.0502

TAS	PEMW	0.955	0.9588	0.9588	0.9588	
TAS	PEST	1	1	1.0056	1.0059	
TAS	PEZN	1	1	1.0084	1.0098	
TAS	PHDS	1.0266	1.0238	1.0324	1.0397	1.0311
TAS	PHGM	1	1	1	1	1.0000
TAS	PHHV	1.0124	1.0112	1.0135	1.0136	1.0136
TAS	PHLV	1.0394	1.0407	1.0583	1.0579	1.0502
TAS	PHST	1.0046	1.0034	1.0056	1.0059	
TAS	PHZN	1.0065	1.0053	1.0084	1.0098	
TAS	PNDS	1.0356	1.0329	1.0324	1.0397	
TAS	PNHV	1.0133	1.0111	1.0135	1.0136	
TAS	PNLV	1.0539	1.0543	1.0583	1.0579	
TAS	PNST	1	1	1.0056	1.0059	
TAS	PNZN	1	1	1.0084	1.0098	
TAS	PSDS	1.0401	1.0395	1.0324	1.0397	1.0311
TAS	PSHV	1.0169	1.0171	1.0135	1.0136	1.0136
TAS	PSLV	1.0557	1.0579	1.0583	1.0579	1.0502
TAS	PSPU	0.9914	0.9915	0.9915	0.9915	
TAS	PSST	1	1.0002	1.0056	1.0059	
TAS	PSZN	1.0002	1.0004	1.0084	1.0098	
TAS	PTDS	1.0251	1.0244	1.0324	1.0397	1.0311
TAS	PTHV	1.0077	1.0077	1.0135	1.0136	1.0136
TAS	PTLV	1.0428	1.0439	1.0583	1.0579	1.0502
TAS	PTST	1	1	1.0056	1.0059	
TAS	PTZN	1	1	1.0084	1.0098	
TAS	PWDS	1.0336	1.0305	1.0324	1.0397	1.0311
TAS	PWHV	1.015	1.0125	1.0135	1.0136	1.0136
TAS	PWLV	1.051	1.0482	1.0583	1.0579	1.0502
TAS	PWST	1.0017	1.0017	1.0056	1.0059	
TAS	PWZN	1.0057	1.0038	1.0084	1.0098	

#### 4.1.13 DLF codes and values – United Energy

Jurisdiction	Code	2019 - 2020	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024
VIC	MC01	1.0098	1.0095	1.0084	1.0077	1.0075
VIC	MC02	1.0175	1.0144	1.0125	1.0128	1.0116
VIC	MC03	1.0058	1.0057	1.0042	1.003	1.0046
VIC	MC04	1.0272	1.0276	1.0231	1.0223	1.0193
VIC	MC05	1.0106	1.0108	1.0095	1.0088	1.0085
VIC	MC06	1.0123	1.0125	1.0111	1.0102	1.0100
VIC	MC07	1.0208	1.0179	1.0156	1.016	1.0146
VIC	MC08	1.0188	1.0196	1.0169	1.0166	1.0145
VIC	MG01	1.0101	1.0111	1.0081	1.0093	1.0084
VIC	MHBL	1.0243	1.0243	1.024	1.0223	



VIC	MHBS	1.0099	1.0098	1.0091	1.0085	1.0086
VIC	MHCL	1.0295	1.0296	1.0298	1.0274	1.0281
VIC	MHCS	1.0151	1.0151	1.0149	1.0135	1.0143
VIC	MLDL	1.0569	1.0557	1.0533	1.0485	1.0486
VIC	MLDS	1.0426	1.0411	1.0384	1.0346	1.0349
VIC	MLEL	1.0714	1.0708	1.0673	1.0609	1.0621
VIC	MLES	1.057	1.0563	1.0525	1.0471	1.0483
VIC	MSAL	1.0184	1.0183	1.0187	1.0176	
VIC	MSAS	1.004	1.0038	1.0039	1.0038	1.0038
VIC	XGW1	0.9951	0.9901	0.9901	0.9901	

## 4.2 Accumulation Metering Migration to 5-minute Metering

This section of the UFE Trends Report provides, for each *local area*, the number of accumulation *metering installations* that were transitioned to 5-minute metering over the reporting period.

This section also provides an indication of the changes to the *accumulation metering data* and, where applicable, changes to controlled load *metering data* for the period commencing with trading week 17 April 2022 – 23 April 2022 (Start) to trading week 3 March 2024 – 9 March 2024 (End).

Charts related to this section are provided in Appendix A1.3. The first chart for each *local area* shows the stacked profile *energy* volumes under the *local area load* curve. The second chart for each *local area* shows the percentage of the *local area load* related each profile group in that *local area*.

PROFILE AREA	Apr-Jun 22	Jul-Sep 22	Oct-Dec 22	Jan-Mar 23	Apr-Jun 23	Jul-Sep 23	Oct-Dec 23	Jan-Mar 24	Total
ActewAGL	1,667	2,114	2,070	2,054	2,150	2,131	1,744	1,434	15,364
Ausgrid	10,602	11,131	13,269	16,703	17,130	15,188	15,269	12,532	111,824
AusNet Services	91	75	82	60	78	59	91	62	598
CitiPower	16	96	205	97	41	35	165	145	800
Endeavour Energy	15,144	13,272	14,699	15,939	23,726	32,837	31,764	35,495	182,876
Energex	22,640	17,256	16,692	20,894	29,411	28,736	23,955	29,897	189,481
Ergon	8,875	8,861	16,111	14,987	15,972	13,559	12,491	16,096	106,952
Essential Energy	11,609	9,586	8,789	15,068	23,389	24,666	19,725	17,712	130,544
Jemena	18	20	26	22	17	22	22	19	166
Powercor	60	174	455	183	101	469	475	356	2,273
SA Power Networks	14,480	17,458	14,564	14,448	15,417	16,246	15,232	12,944	120,789
TasNetworks	5,093	8,394	8,462	12,286	15,177	15,389	14,990	12,918	92,709
United Energy	394	487	424	349	356	53	23	8	2,094

**Figure 40** Accumulation NMI's transitioned to 5-minute metering

LOCAL AREA	Trading Week	ADME	Accumulation	Controlled Load	Accum % of ADME	CL % of ADME
ActewAGL	Start	49,362,783	15,677,388	N/A	31.76%	N/A
	End	46,032,023	12,978,509	N/A	28.19%	N/A
Ausgrid	Start	424,440,743	70,750,947	10,795,473	16.67%	2.54%
	End	472,863,974	68,964,165	6,695,700	14.58%	1.42%
AusNet Services	Start	105,999,467	31,983,982	N/A	30.17%	N/A
	End	90,723,490	-4,992,166	N/A	-5.50%	N/A
CitiPower	Start	96,933,277	-820,719	N/A	-0.85%	N/A
	End	104,017,222	-390,049	N/A	-0.37%	N/A
Endeavour Energy	Start	222,119,828	68,383,036	12,497,273	30.79%	5.63%
	End	296,184,671	67,508,649	4,991,413	22.79%	1.69%
Energex	Start	361,741,758	209,889,982	21,067,714	58.02%	5.82%
	End	403,917,359	93,447,447	12,827,984	23.14%	3.18%
Ergon	Start	207,580,719	67,732,049	N/A	32.63%	N/A
	End	225,946,331	64,235,462	N/A	28.43%	N/A
Essential Energy	Start	137,522,680	53,676,119	13,044,014	39.03%	9.48%
	End	125,329,501	49,333,319	8,461,465	39.36%	6.75%
Jemena	Start	72,009,717	1,000,199	N/A	1.39%	N/A
	End	73,556,711	870,009	N/A	1.18%	N/A
Powercor	Start	151,319,123	1,421,797	N/A	0.94%	N/A
	End	137,423,778	-59,186	N/A	-0.04%	N/A
SA Power Networks	Start	155,588,763	173,425,491	4,941,188	111.46%	3.18%
	End	140,050,772	49,725,836	2,382,819	35.51%	1.70%
TasNetworks	Start	91,754,912	25,442,773	N/A	27.73%	N/A
	End	79,425,088	11,974,450	N/A	15.08%	N/A
United Energy	Start	131,589,104	4,851,965	N/A	3.69%	N/A
	End	127,688,156	263,923	N/A	0.21%	N/A

Figure 41 Approximate accumulation and controlled load energy volumes % of ADME

### 4.3 15 and 30-minute Metering Migration to 5-minute Metering

This section of the UFE Trends Report provides, for each *local area*, the number of 15 and 30-minute *metering installations* that were transitioned to 5-minute metering over the reporting period.

This section also provides an indication of the changes to the accumulation metering data and, where applicable, changes to controlled load metering data for the period commencing with trading week 17 April 2022 – 23 April 2022 (Start) to trading week 3 March 2024 – 9 March 2024 (End).

Charts related to this section are provided in Appendix A1.3. The first chart for each *local area* shows the stacked profile energy volumes under the *local area load curve*. The second chart for each *local area* shows the percentage of the *local area load* related each profile group in that *local area*.

PROFILE AREA	Apr-Jun 22	Jul-Sep 22	Oct-Dec 22	Jan-Mar 23	Apr-Jun 23	Jul-Sep 23	Oct-Dec 23	Jan-Mar 24	Total
ActewAGL	12,860	936	31,961	544	708	410	84	125	47,628
Ausgrid	157,194	34,183	138,327	7,200	32,890	7,125	6,860	6,022	389,801
AusNet Services	7,192	60,710	2,936	1,550	1,297	859	837	728	76,109
CitiPower	226	14,018	4,032	754	714	673	603	612	21,632
Endeavour Energy	99,253	37,155	128,948	2,683	12,052	2,132	1,740	1,915	285,878
Energex	137,066	58,489	159,473	2,953	20,128	753	445	410	379,717
Ergon	170,169	10,980	2,594	839	929	702	407	946	187,566
Essential Energy	41,628	32,259	140,717	2,480	15,135	2,631	1,894	1,611	238,355
Jemena	14,264	23,110	1,227	537	354	321	319	280	40,412
Powercor	266	84,674	12,501	1,756	1,795	1,783	1,525	1,642	105,942
SA Power Networks	89,514	35,173	114,731	2,451	4,620	1,369	721	486	249,065
TasNetworks	25,138	55,505	29,380	3,301	1,724	804	256	255	116,363
United Energy	230	47,797	28,951	837	839	1,124	867	786	81,431

Figure 42 15 and 30-minute NMI's transitioned to 5-minute metering

LOCAL AREA	Trading Week	ADME	Trading Interval	Non-Trad Int	TI % of ADME	Non-TI % of ADME
ActewAGL	Start	49,362,783	14,074,264	14,018,144	28.51%	28.40%
	End	46,032,023	25,118,549	2,805,082	54.57%	6.09%
Ausgrid	Start	424,440,743	170,740,363	164,950,990	40.23%	38.86%
	End	472,863,974	301,545,119	87,830,033	63.77%	18.57%
AusNet Services	Start	105,999,467	21,224,082	85,189,869	20.02%	80.37%
	End	90,723,490	38,876,601	57,631,986	42.85%	63.52%
CitiPower	Start	96,933,277	43,716,529	52,223,634	45.10%	53.88%
	End	104,017,222	71,165,878	36,989,604	68.42%	35.56%
Endeavour Energy	Start	222,119,828	81,606,973	61,417,725	36.74%	27.65%
	End	296,184,671	219,714,110	12,167,436	74.18%	4.11%
Energex	Start	361,741,758	166,593,448	76,500,185	46.05%	21.15%
	End	403,917,359	302,409,522	21,479,849	74.87%	5.32%
Ergon	Start	207,580,719	101,188,325	37,511,942	48.75%	18.07%
	End	225,946,331	137,057,879	13,026,786	60.66%	5.77%
Essential Energy	Start	137,522,680	21,892,883	45,957,368	15.92%	33.42%
	End	125,329,501	65,751,029	9,394,492	52.46%	7.50%
Jemena	Start	72,009,717	37,421,526	39,752,197	51.97%	55.20%
	End	73,556,711	55,117,866	26,558,536	74.93%	36.11%
Powercor	Start	151,319,123	44,466,007	107,034,962	29.39%	70.73%
	End	137,423,778	80,659,050	68,279,535	58.69%	49.69%
SA Power Networks	Start	155,588,763	71,570,709	32,926,655	46.00%	21.16%
	End	140,050,772	118,821,647	11,237,758	84.84%	8.02%
TasNetworks	Start	91,754,912	38,107,753	25,251,640	41.53%	27.52%
	End	79,425,088	68,947,944	395,310	86.81%	0.50%
United Energy	Start	131,589,104	44,175,335	82,620,127	33.57%	62.79%
	End	127,688,156	78,412,092	49,412,994	61.41%	38.70%

Figure 43 Approximate TI and Non-TI energy volumes % of ADME



## 4.4 Unmetered Loads Migration to Metered Arrangements

No type 7 or NCONUML metering installations were migrated to *metered* arrangements during the reporting period.

## 4.5 NCONUML Alternative Calculation Methodologies

No alternative calculation methodologies were introduced for NCONUML *metering installations* during the reporting period.

## 4.6 Review of Profiling Methodologies

This section of the UFE Trends Report provides, for each *local area*, a chart of the volume of profiled *metering data* over the reporting period related to the following profiling methods:

- Net System Load Profile (NSLP),
- Controlled Load Profile (CLP), and
- 15 and 30-minute *metering data* profiled to 5-minute

The *energy* volumes related to each profiling method are expressed as a percentage of the *local area load*.

Charts related to this section are provided in Appendix A1.3. The first chart for each *local area* shows the stacked profile *energy* volumes under the *local area load* curve. The second chart for each *local area* shows the percentage of the *local area load* related each profile group in that *local area*.

An interim solution, the “weights methodology”, was implemented to prevent energy volume spikes occurring following the application of the 5MLP in the *settlements* processes. Consultation on the development of a 5MLP longer-term profiling methodology to replace the “weights methodology” was undertaken and the modified 5MLP profiling methodology is to become effective from 1 October 2023. Longer-term options related to NSLP will be the subject of further consultation.

## 4.7 Review of UFE Values by Settlement Data Versions

This section of the UFE Trends Report provides, for each *local area*, a chart of UFE values for each settlement data version, i.e. Prelim, Final, Rev 1 and Rev 2. The UFE values are aggregated for each day over the reporting period.

Generally, Prelim and Final UFE values follow each other closely and Rev 1 and Rev 2 UFE values follow each other closely. Victorian *local areas*, generally show Prelim/Final and Rev 1/Rev 2 UFE values following each other, but non-Victorian *local areas* generally show significant differences between Prelim/Final UFE values and Rev 1/Rev 2 UFE values.

Charts related to this section are provided in Appendix A1.2.



## 4.8 Review of Unmetered Cross Boundary Energy Volumes

No unmetered cross boundary energy volumes were identified during the reporting period.



## 5 Recommendations – UFE visibility improvements

AEMO is required to make recommendations to improve visibility of unaccounted for *energy* in each *local area*.

With UFE being aggregated to the *local area* level a key function of the reporting framework will be to identify when and how more granular information should be gathered to identify UFE.

Analysis of *local areas* to determine whether more granular geographic UFE information is likely to be valuable will be an on-going undertaking by AEMO to provide additional UFE visibility. Time factors (e.g. season, and day) that produce patterns of UFE that are occurring are likely to be important in identifying causes and solutions to reduce UFE. Seasonal variation in UFE values can be seen in the UFE Components charts in section 2.1.

The existence of virtual TNIs in some *local areas* prevents analysis of UFE components at a TNI level for that *local area*. As there are only two *local areas* that do not have virtual TNIs, AEMO considers that there is little value, at this stage, in undertaking UFE analysis at a TNI level.

## 6 Recommendations – UFE reduction actions

AEMO is required to recommend actions to reduce the amounts of unaccounted for *energy* in each *local area*, including without limitation any actions AEMO recommends ought to be taken by *Market Participants*, *Network Service Providers*, the AER and AEMO.

While the implementation of global settlements has improved the information provided regarding UFE and the incentives on retailers to minimise UFE, the scope to migrate unmetered loads to metered arrangements will be realised through the “Unlocking CER benefits through flexible trading” initiative that is currently under consultation. This initiative includes the introduction of alternative metering arrangements for loads that have historically been unmetered.

Having reviewed the information presented in the **UFE values by settlement data versions** charts, Appendix A1.2, AEMO considers that significant improvement in UFE values will come from the further deployment of remotely read interval metering. This will bring into closer alignment the Prelim and Final UFE values with the Rev 1 and Rev 2 UFE values, as demonstrated in the Victorian *local areas*.

This recommendation is aligned with and will be facilitated through the AEMC’s “Accelerating smart meter deployment” initiative that is currently under consultation.

As there are no recommended actions that are related to activities that are linked to pricing regulatory cycles, AEMO did not facilitate a discussion forum prior to the release of this UFE Trends Report.



# A1. UFE analysis supporting information

The charts provided in this Appendix provide additional information to support UFE analysis in each *local area*. These charts are:

- UFE for a *local area*
- UFE for a *local area* expressed as a percentage of *local area* ADME
- UFE values for a *local area* by settlement data version, i.e. Prelim, Final, Rev 1 and Rev 2
- Profiles for each *local area*

**UFE for a local area** charts the aggregate of UFE values for each *day* over the reporting period. The UFE values are determined by the UFE calculation that is detailed in section 1.3.1.

**UFE as a percentage of ADME** charts the aggregate of UFE values as a percentage of the aggregate of ADME values for each *day* over the reporting period. This shows the variability of UFE with respect to the aggregate of *energy flows* for each *connection point* in a *local area*.

**UFE values by settlement data version** (Prelim, Final, Rev 1, Rev 2) charts the aggregate of each UFE component value (UFE, TME, DDME, ADME) for each *day* over the reporting period.

**Profiles for each local area** chart the volume of profiled *metering data* over the reporting period related to:

- Net System Load Profile (NSLP)
- Controlled Load Profile (CLP)
- 15 and 30-minute *metering data* profiled to 5-minute *metering data*.

## A1.1 UFE and UFE % of ADME for local areas

### A1.1.1 ActewAGL

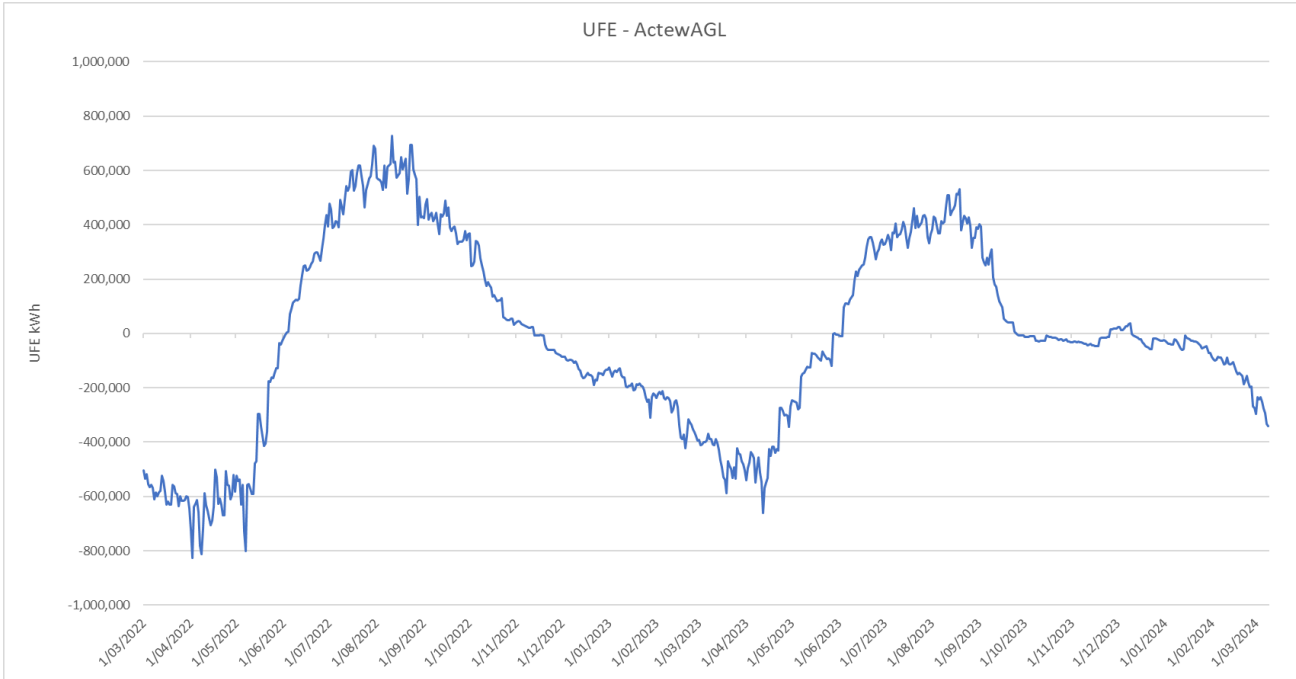


Figure 44 UFE – ActewAGL

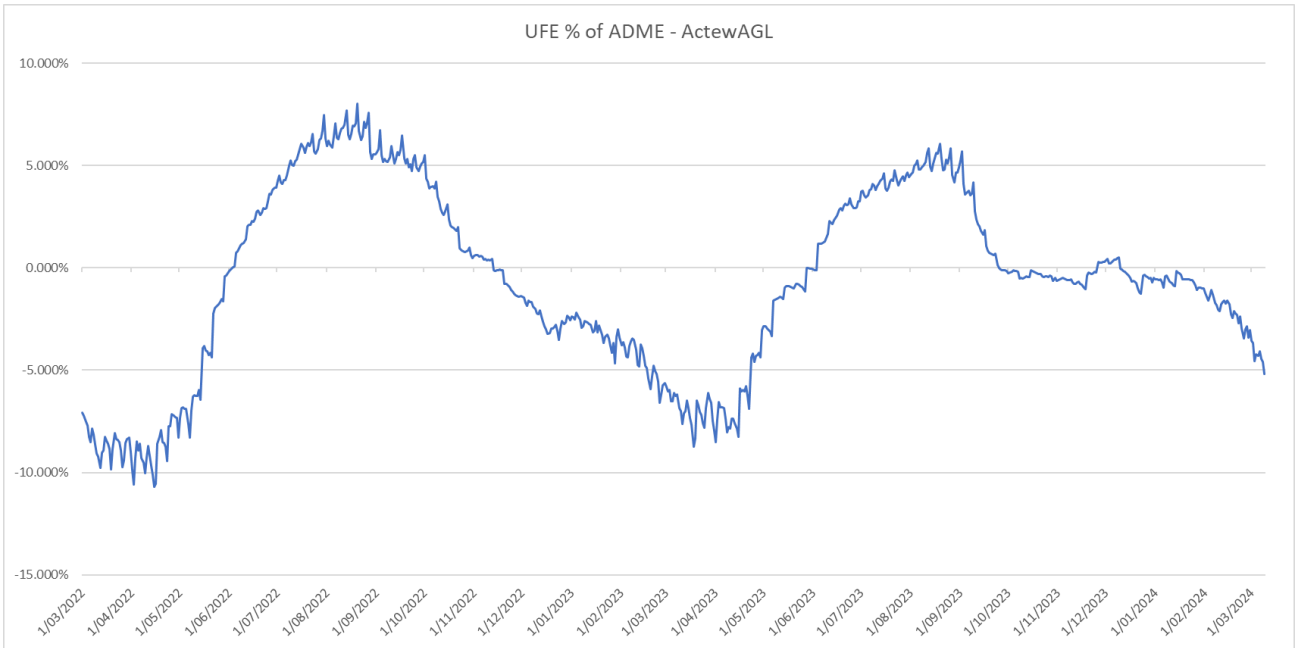


Figure 45 UFE % of ADME – ActewAGL



## A1.1.2 Ausgrid

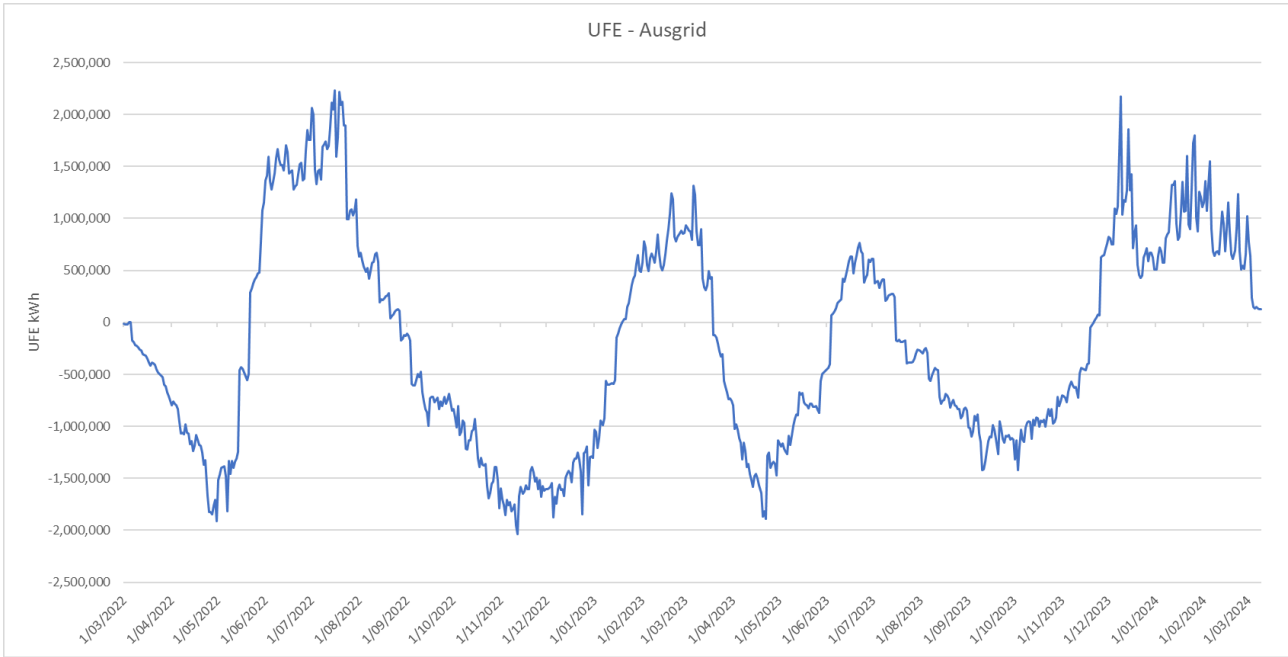


Figure 46 UFE – Ausgrid

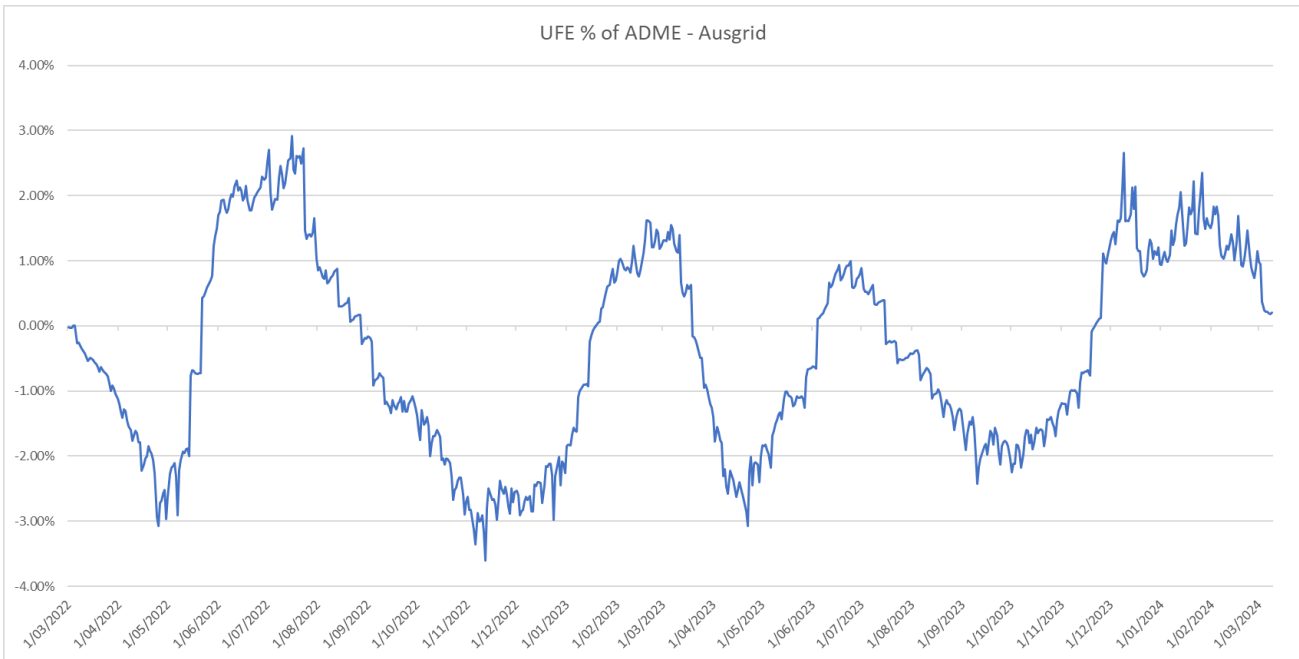


Figure 47 UFE % of ADME Ausgrid

### A1.1.3 AusNet Services

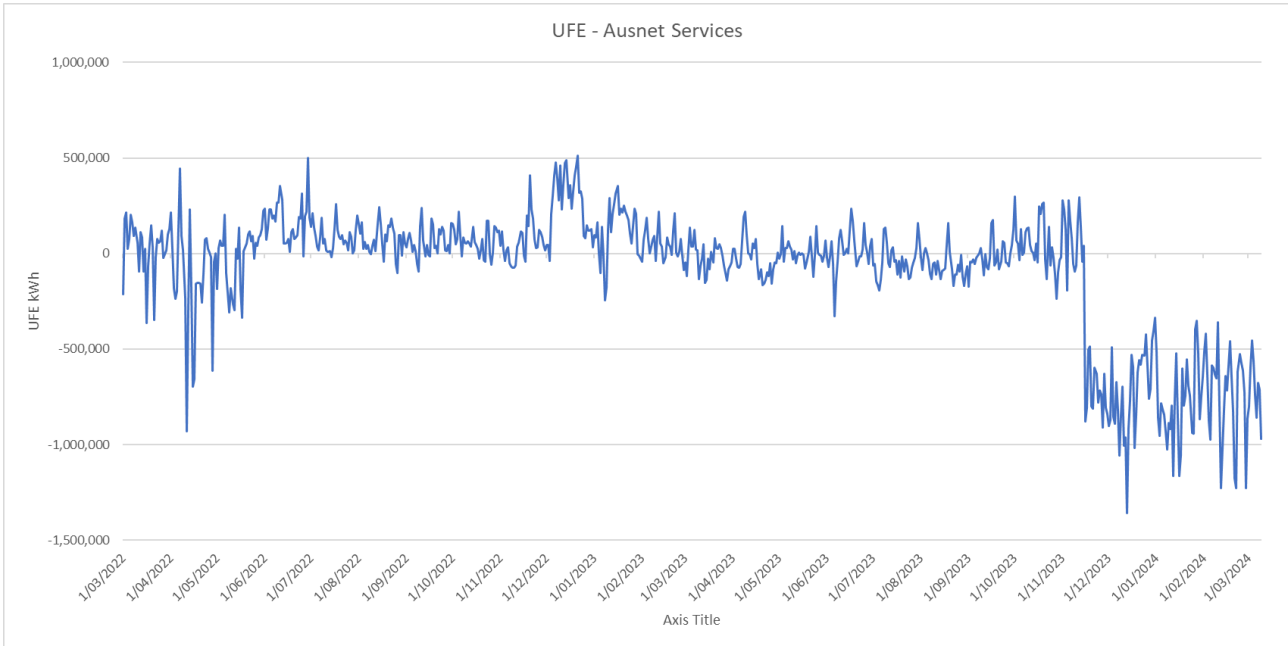


Figure 48 UFE – AusNet Services

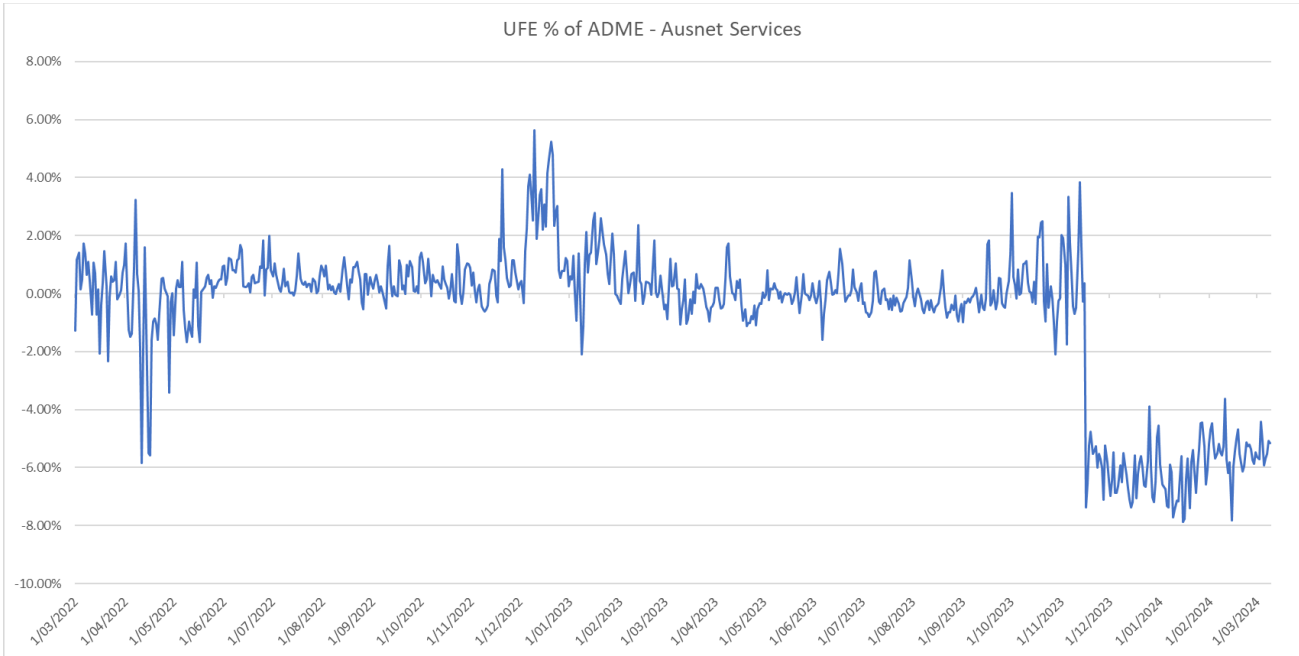


Figure 49 UFE % of ADME – AusNet Services

## A1.1.4 CitiPower

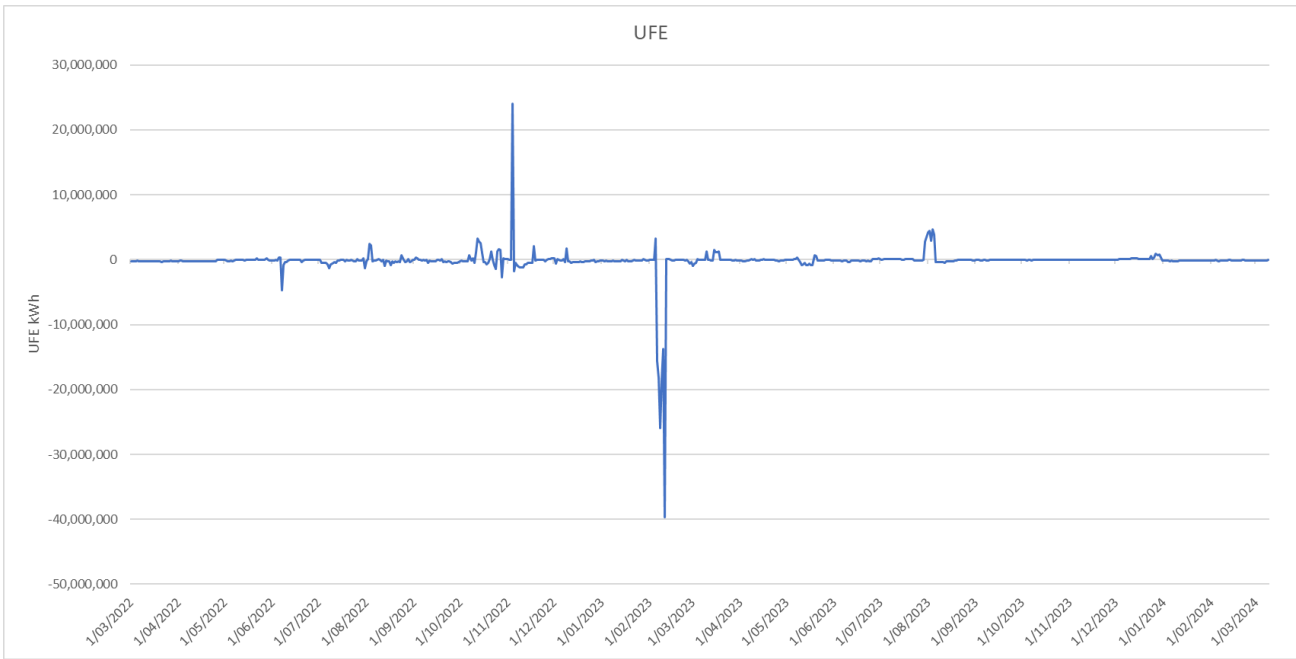


Figure 50 UFE – CitiPower

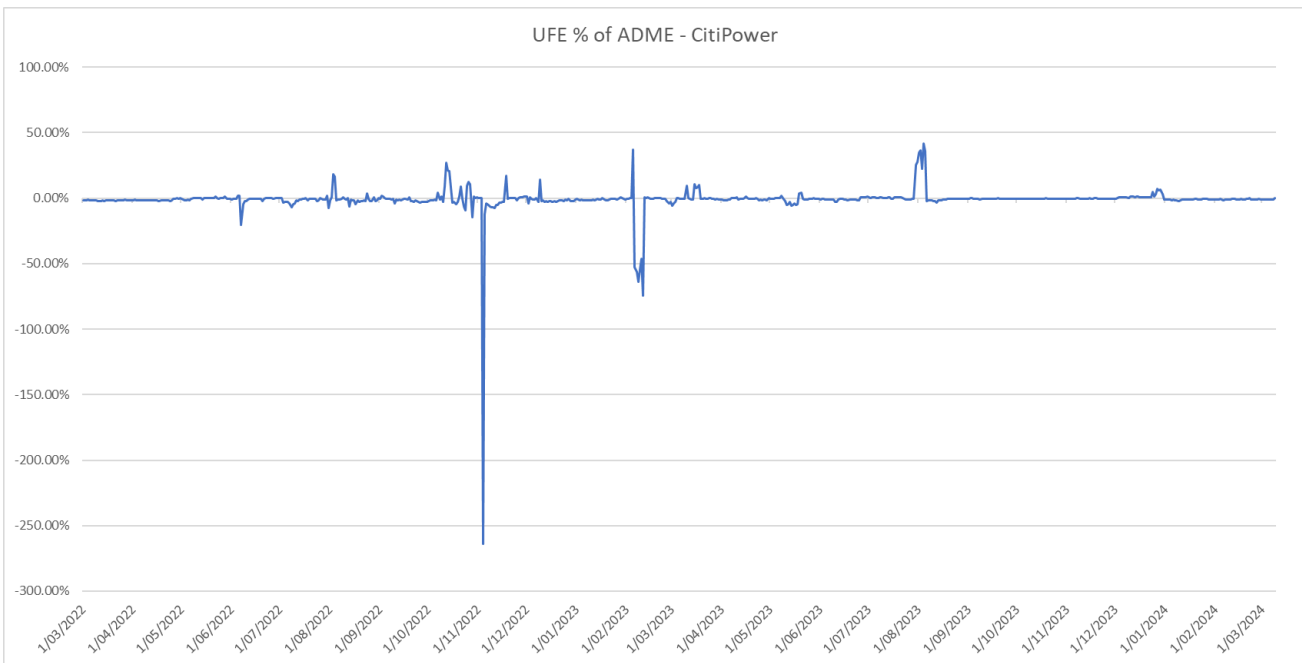


Figure 51 UFE % of ADME – CitiPower

## A1.1.5 Endeavour Energy

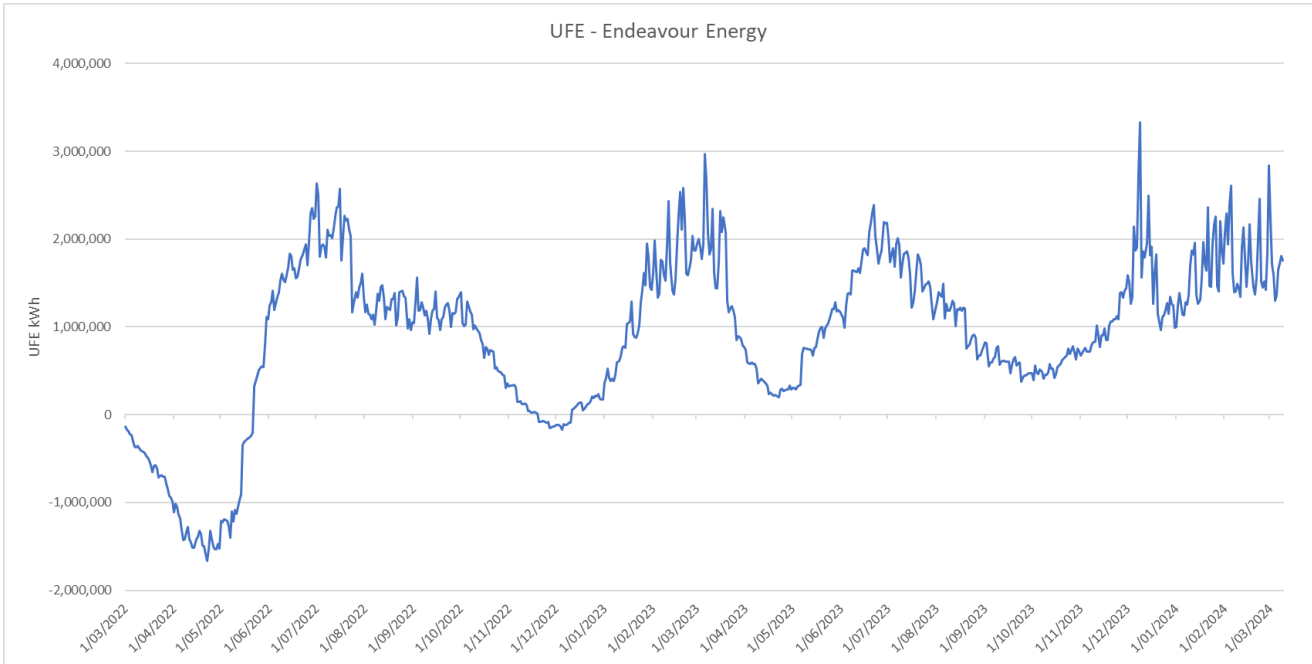


Figure 52 UFE – Endeavour Energy

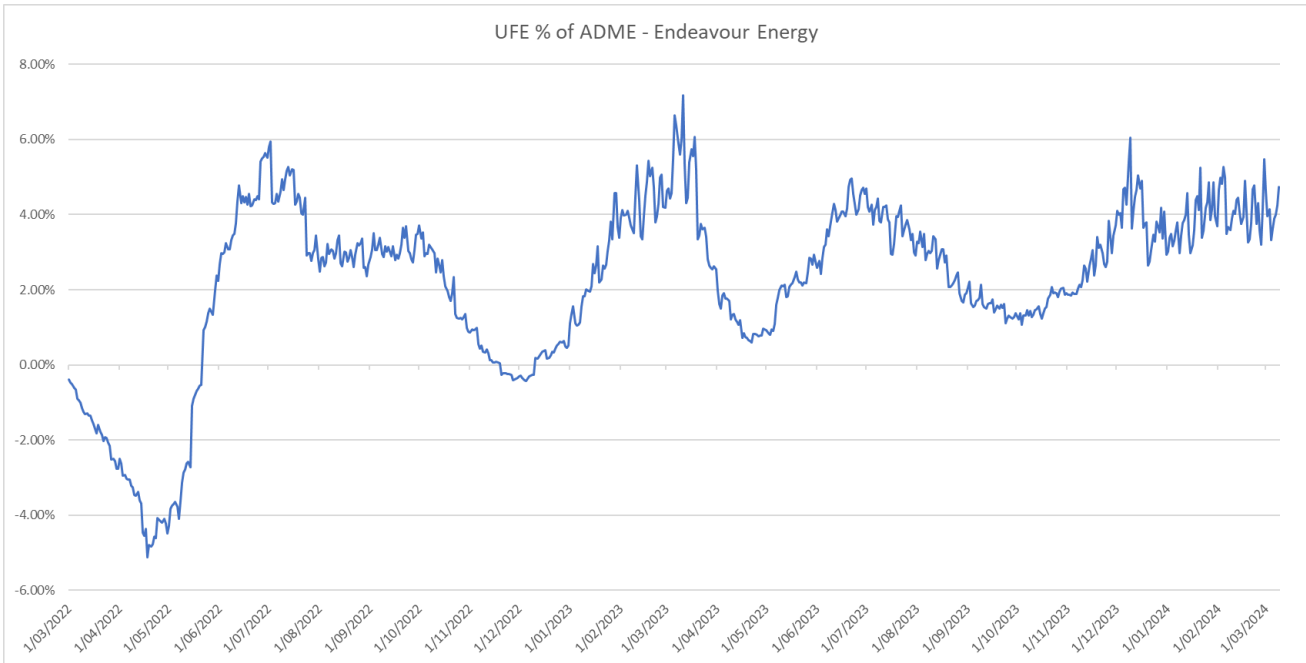


Figure 53 UFE % of ADME – Endeavour Energy

## A1.1.6 Energen

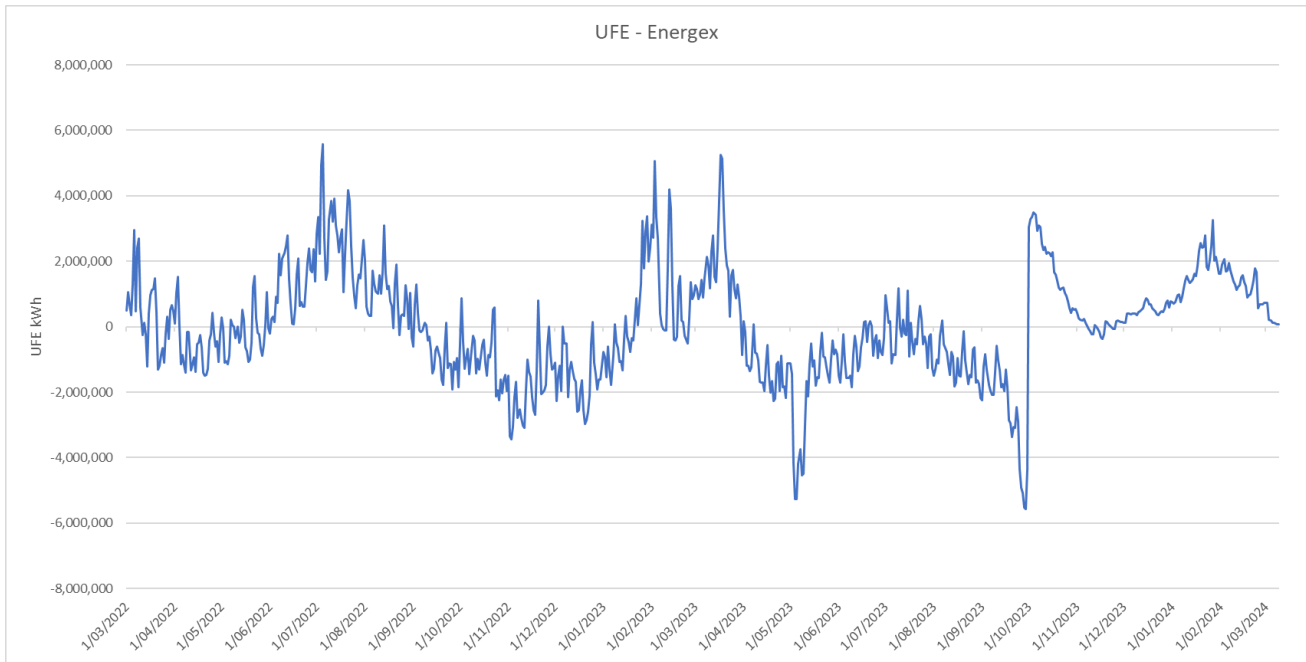


Figure 54 UFE – Energen

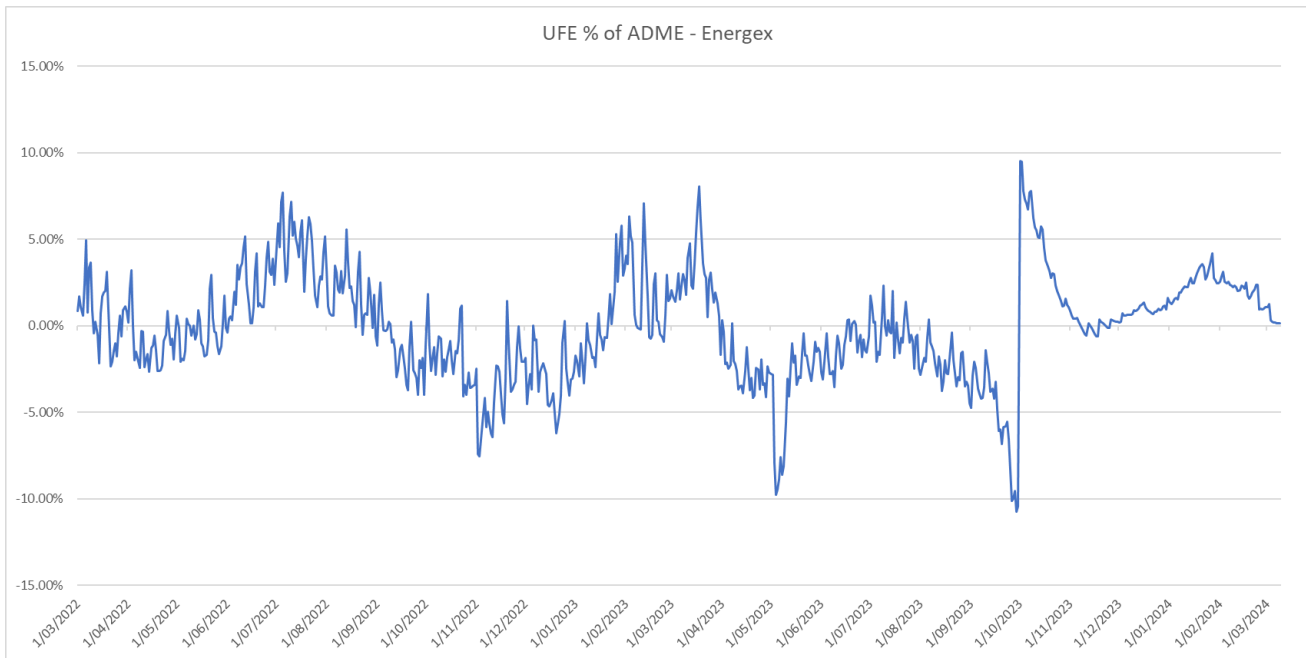


Figure 55 UFE % of ADME – Energen

## A1.1.7 Ergon

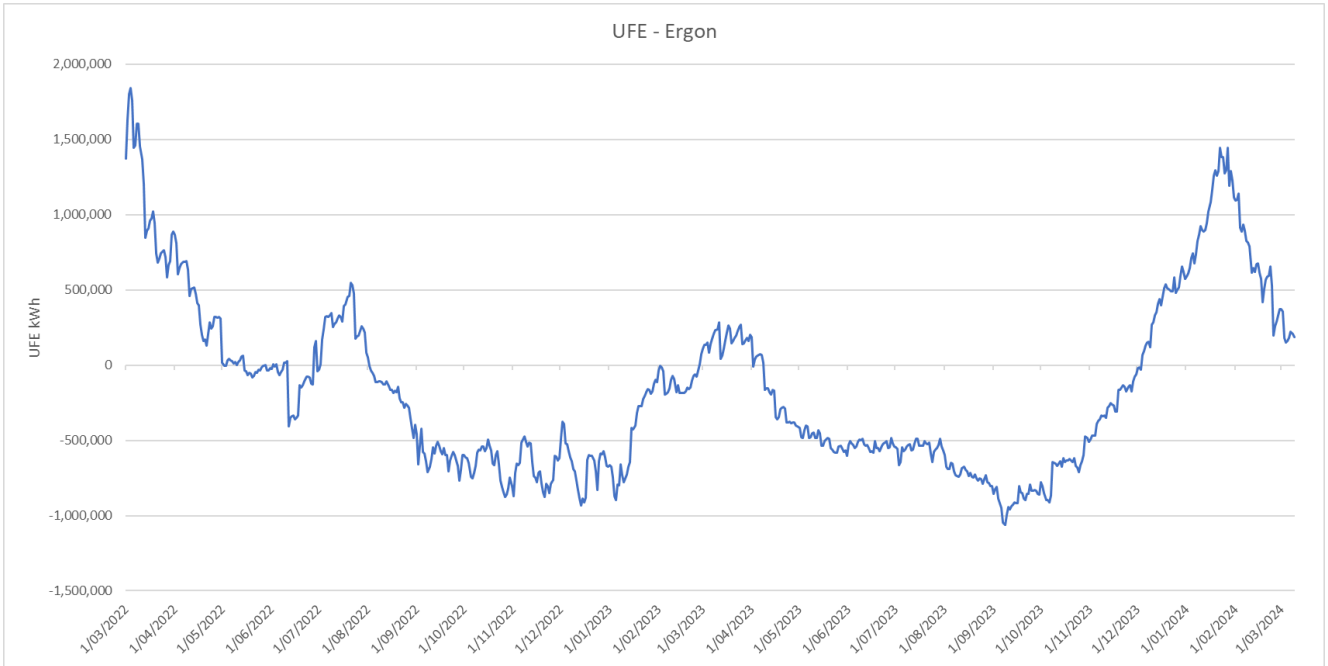


Figure 56 UFE – Ergon

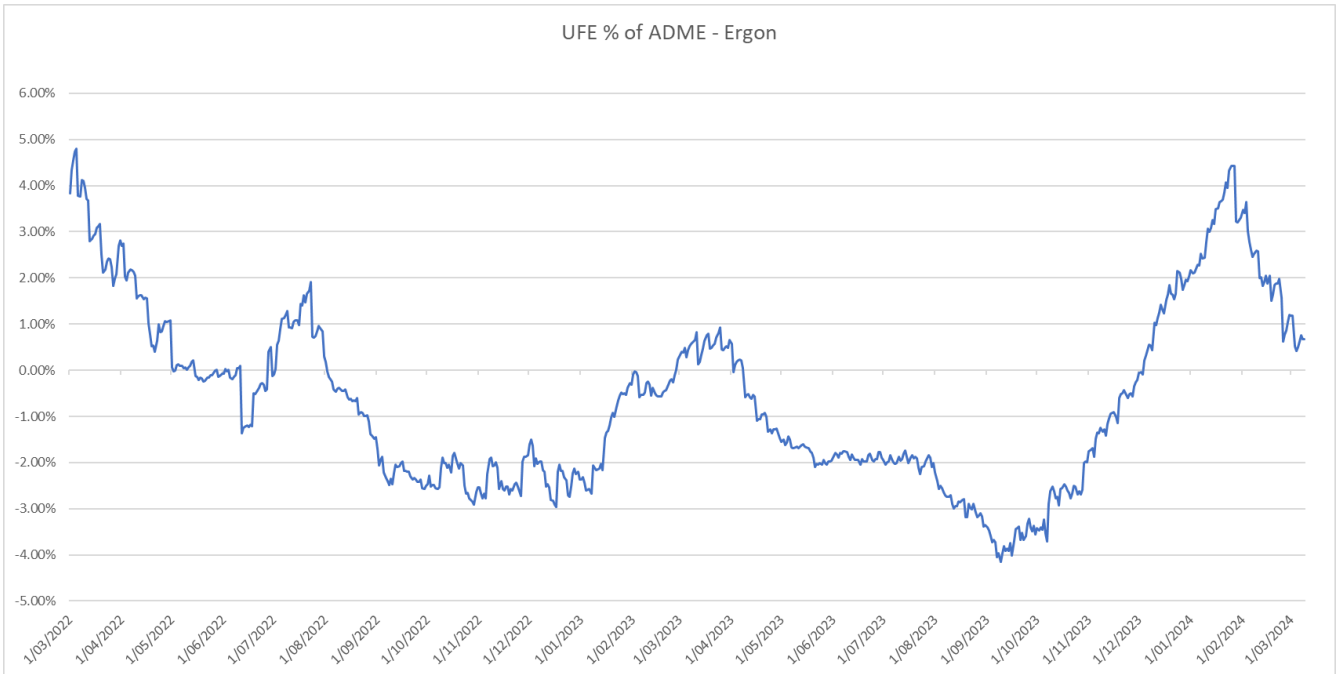


Figure 57 UFE % of ADME – Ergon

## A1.1.8 Essential Energy

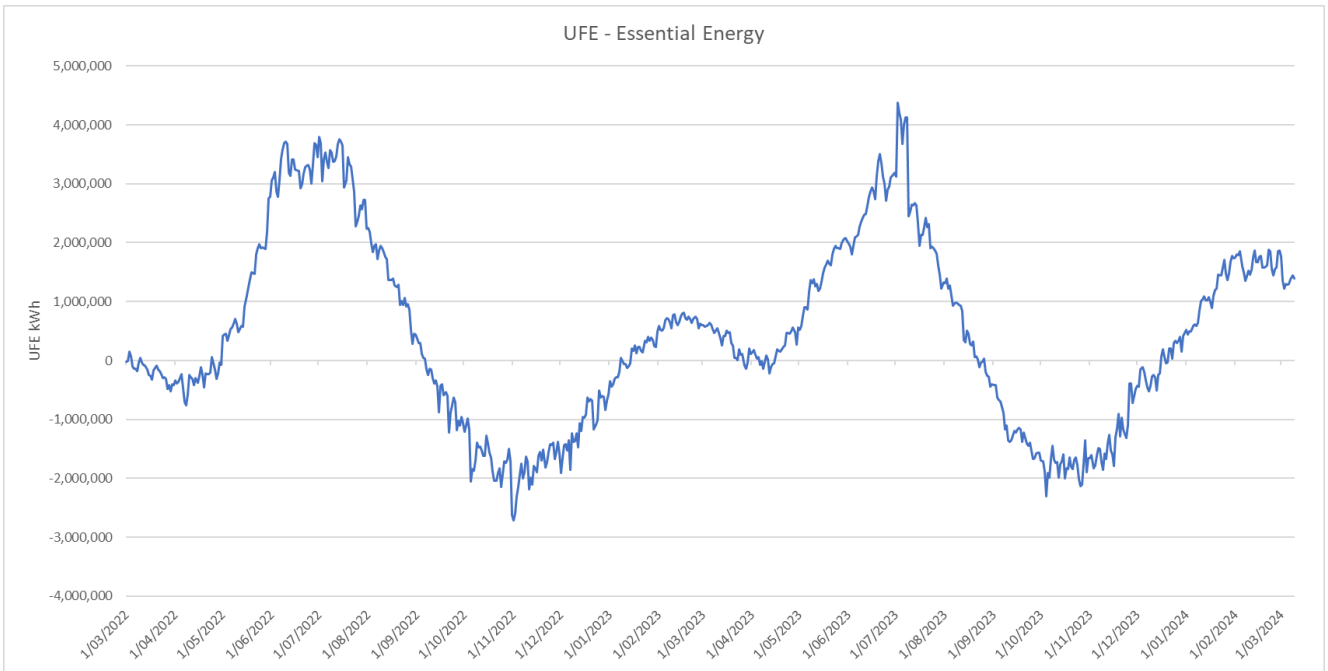


Figure 58 UFE – Essential Energy

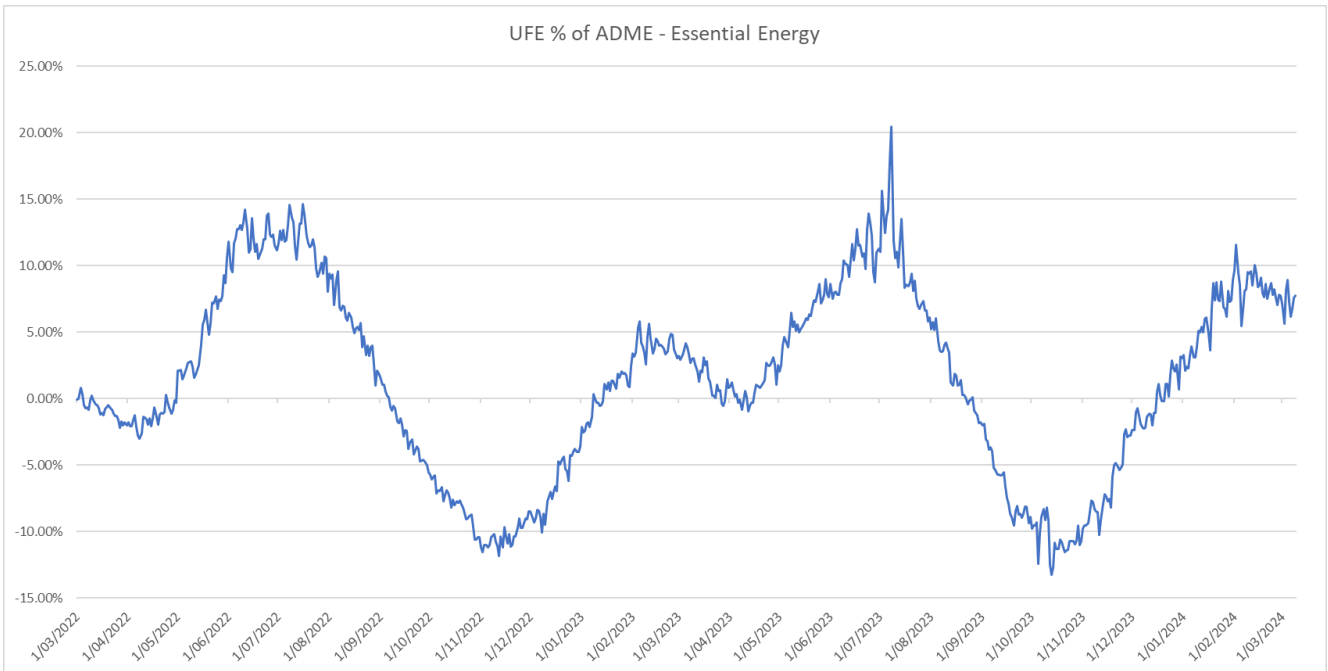


Figure 59 UFE % of ADME – Essential Energy

## A1.1.9 Jemena

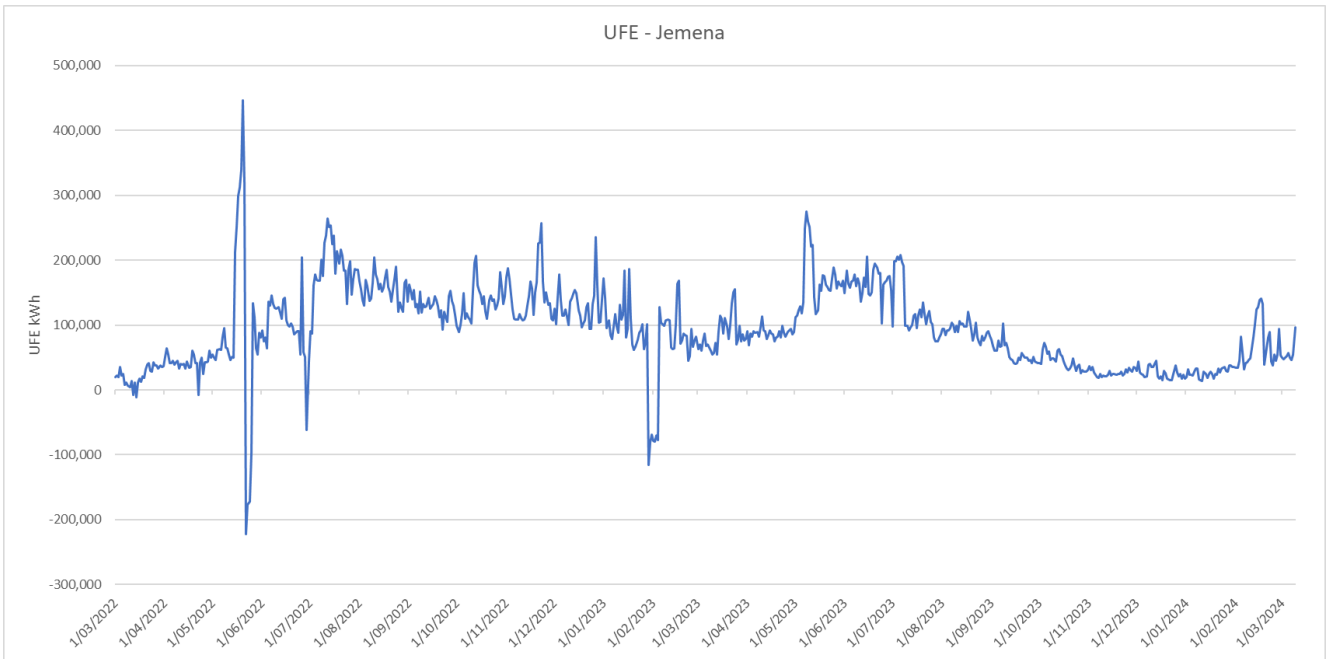


Figure 60 UFE – Jemena

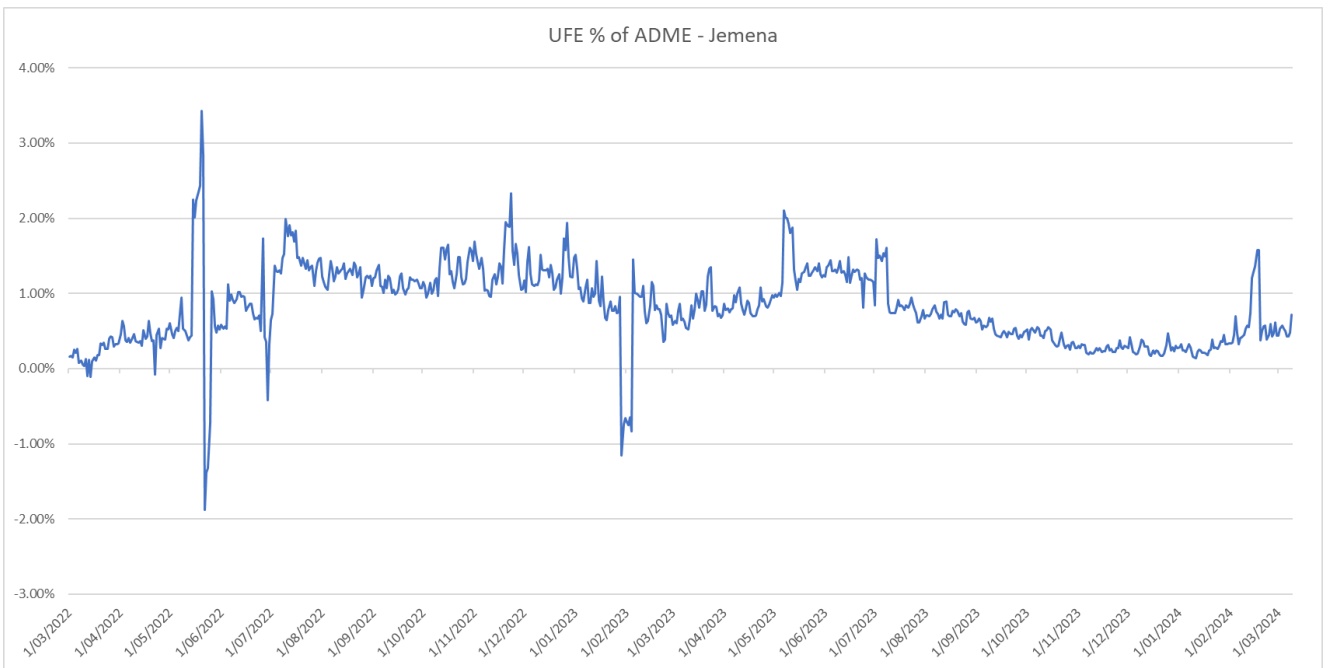


Figure 61 UFE % of ADME – Jemena



## A1.1.10 Powercor

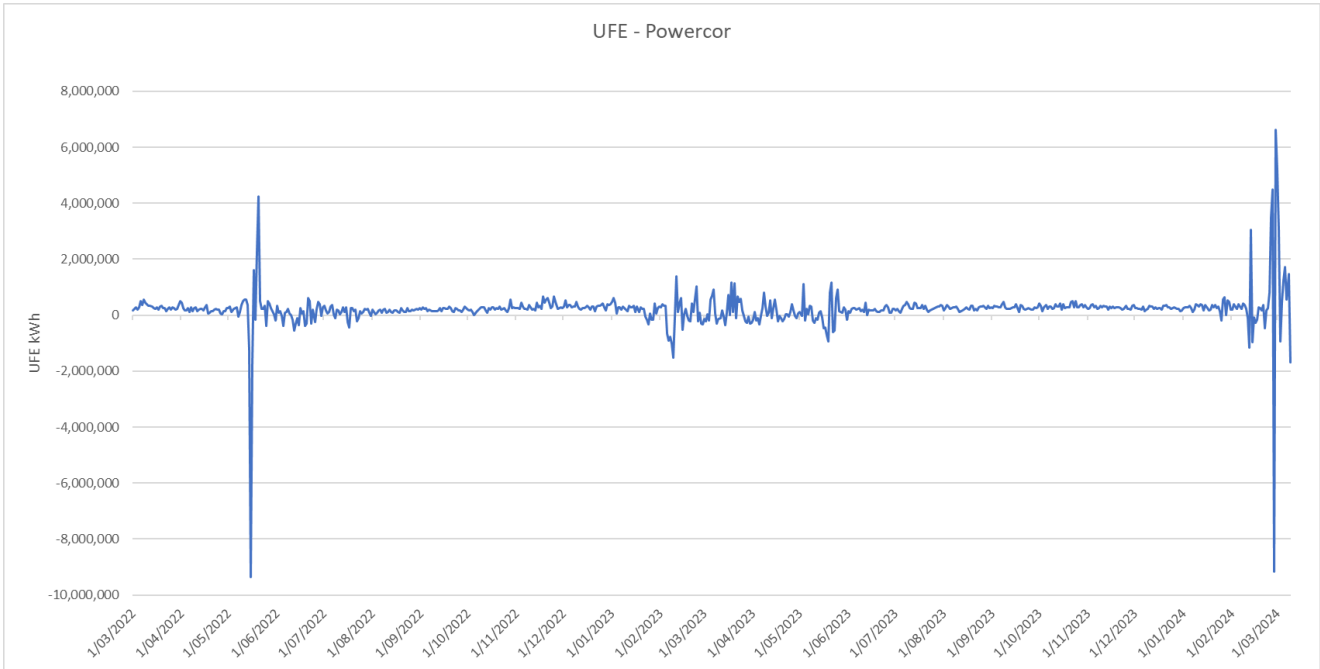


Figure 62 UFE – Powercor

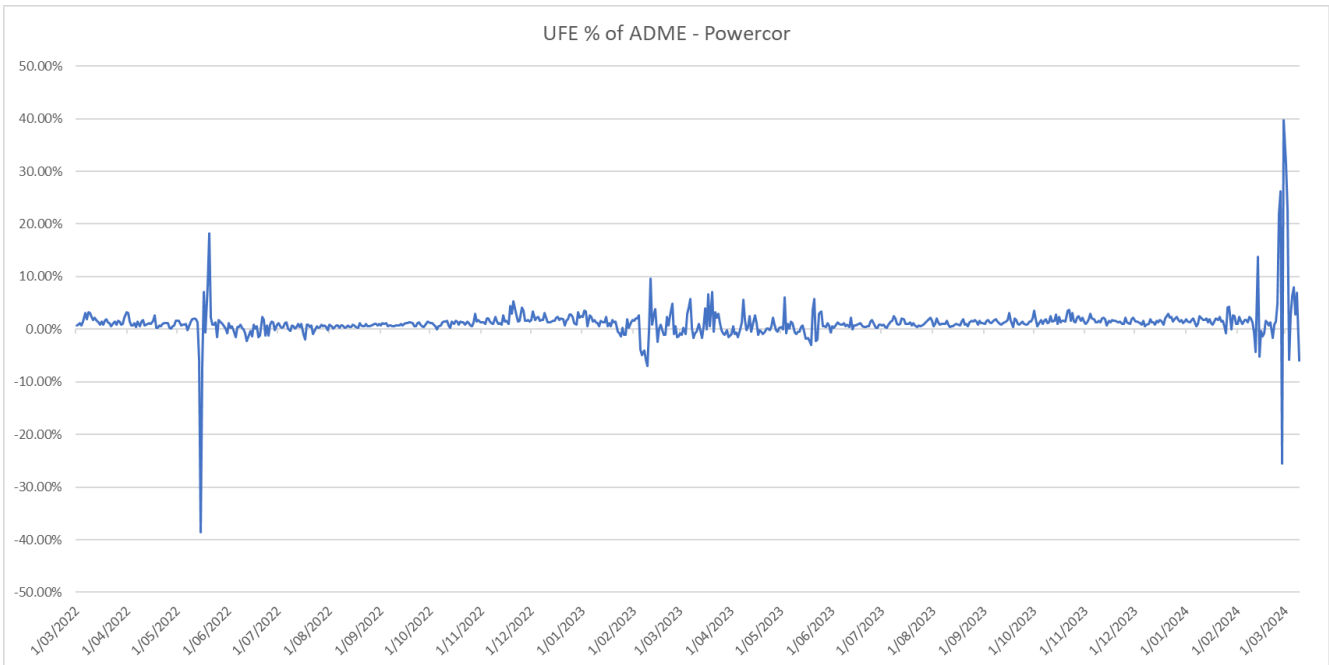


Figure 63 UFE % of ADME – Powercor

### A1.1.11 SA Power Networks

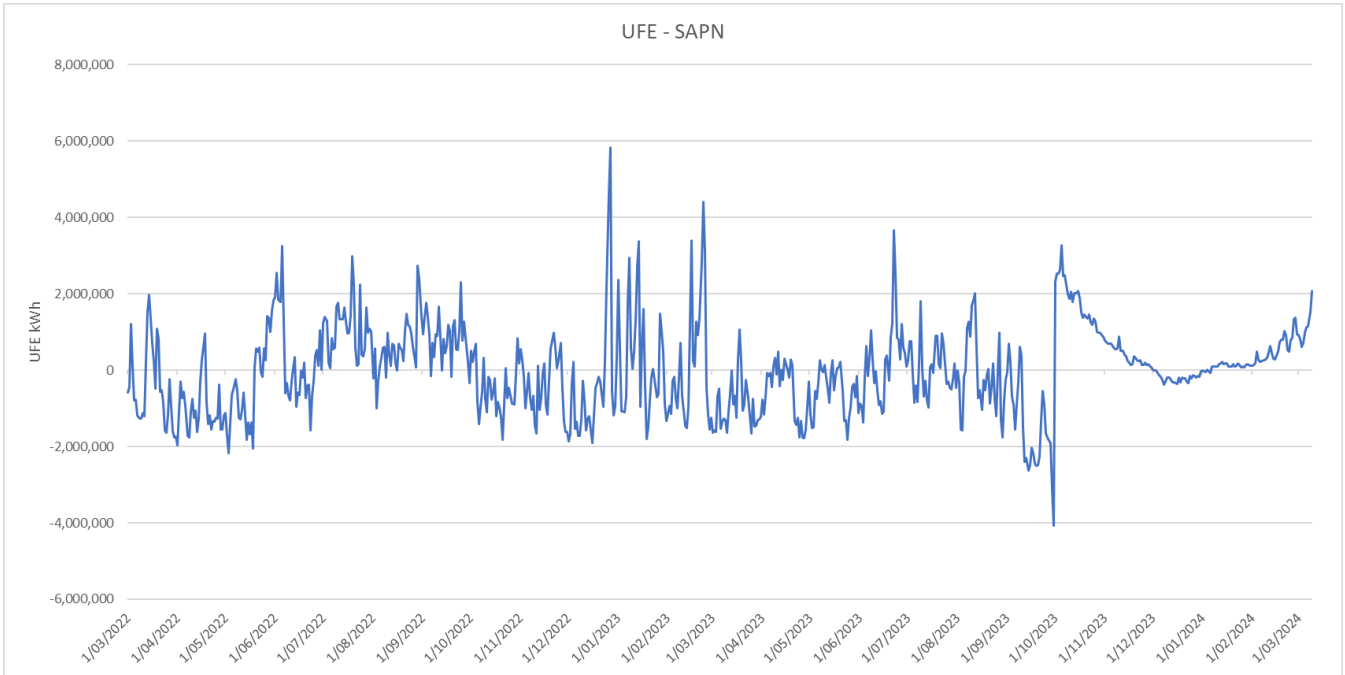


Figure 64 UFE – SA Power Networks

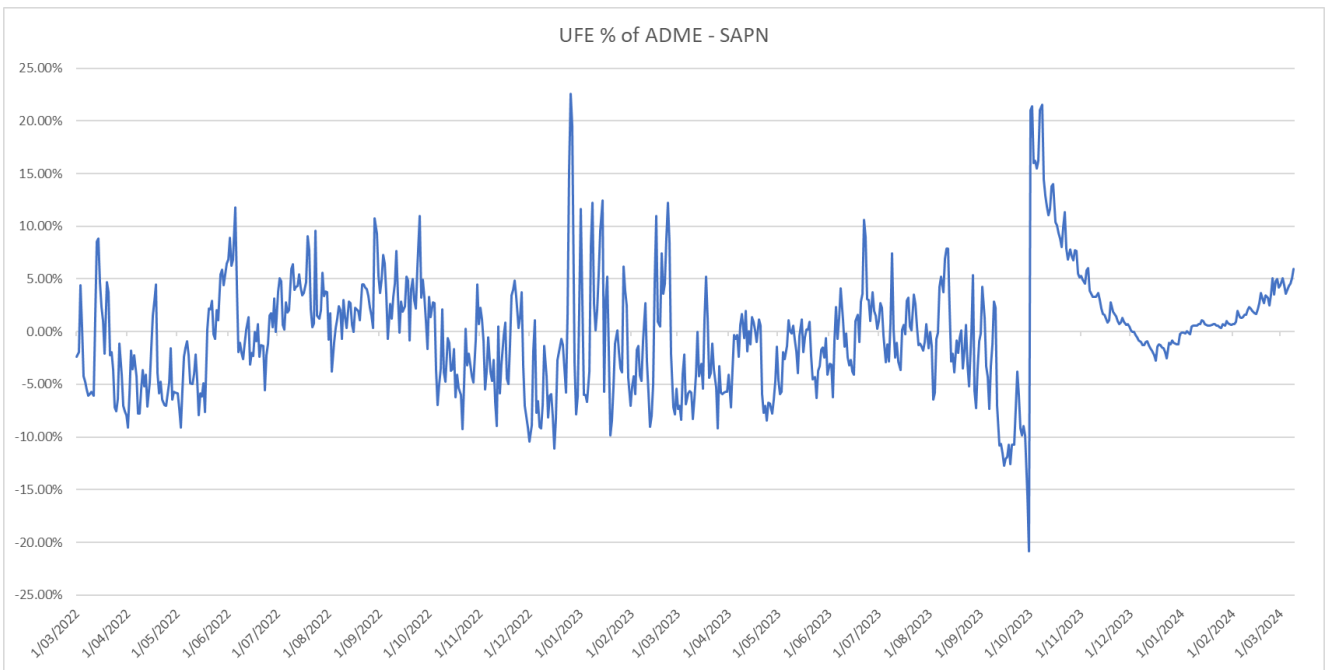


Figure 65 UFE % of ADME – SA Power Networks

## A1.1.12 TasNetworks

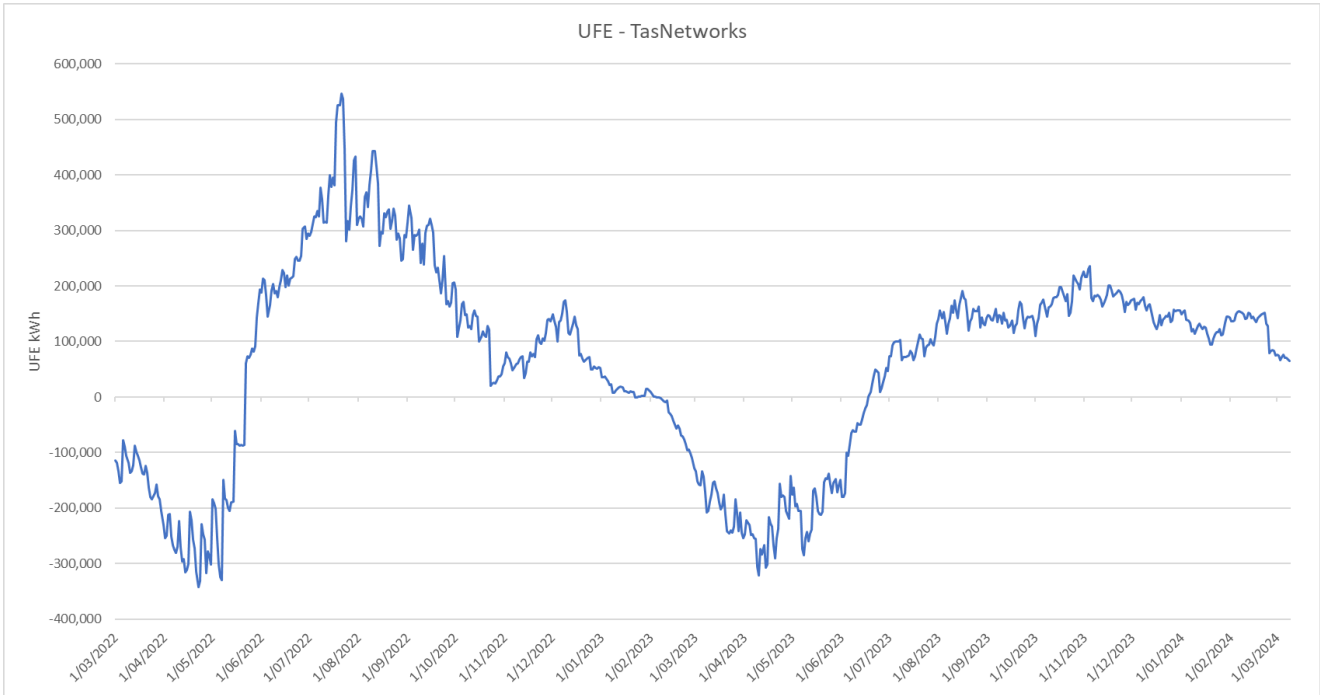


Figure 66 UFE – TasNetworks

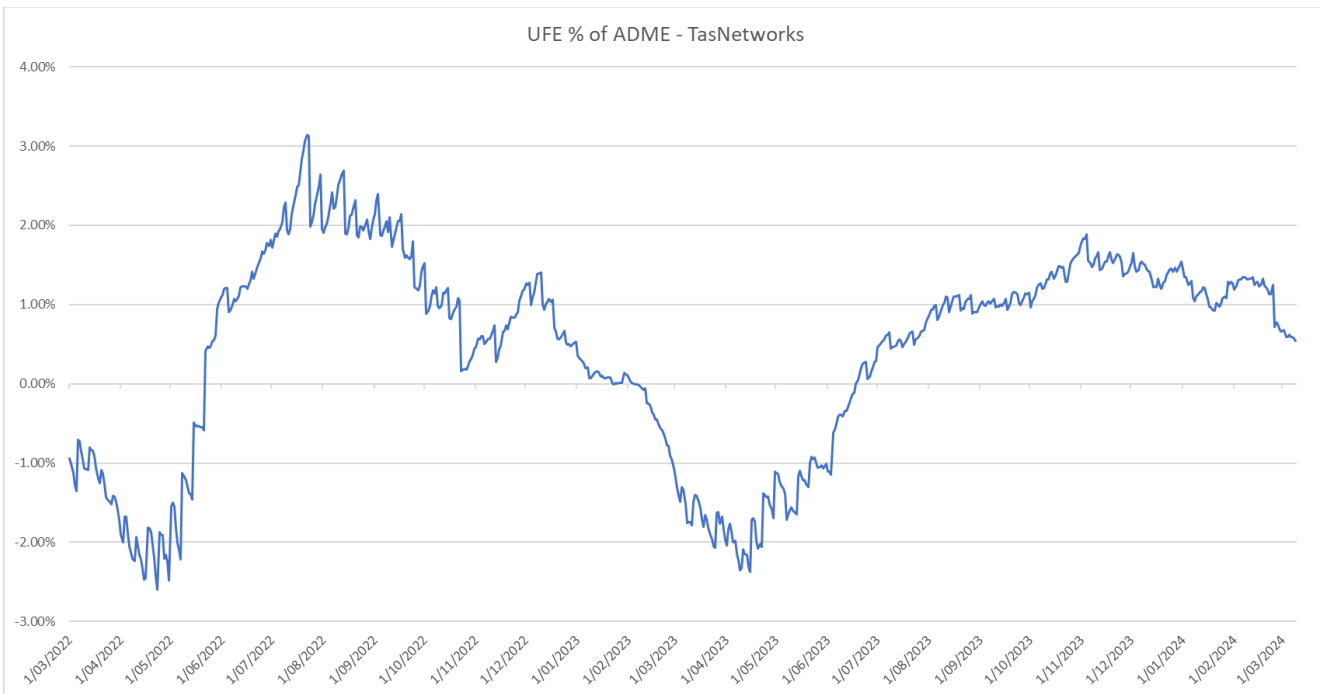


Figure 67 UFE % of ADME – TasNetworks

### A1.1.13 United Energy

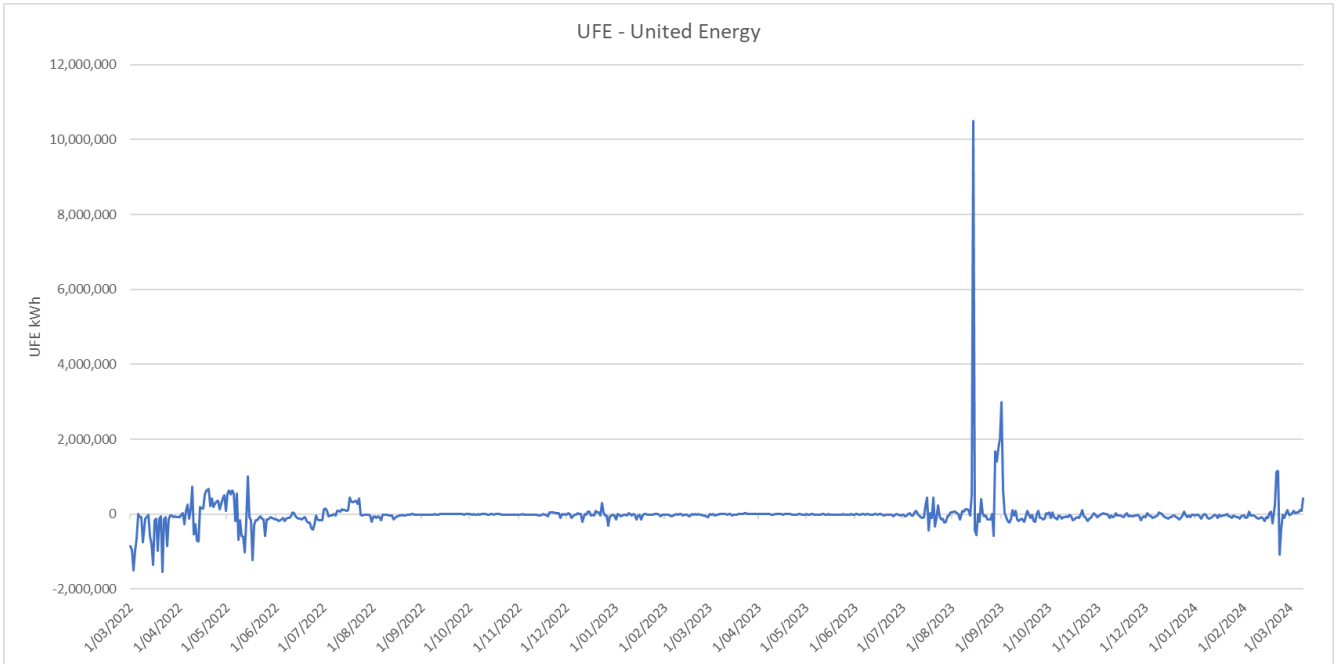


Figure 68 UFE – United Energy

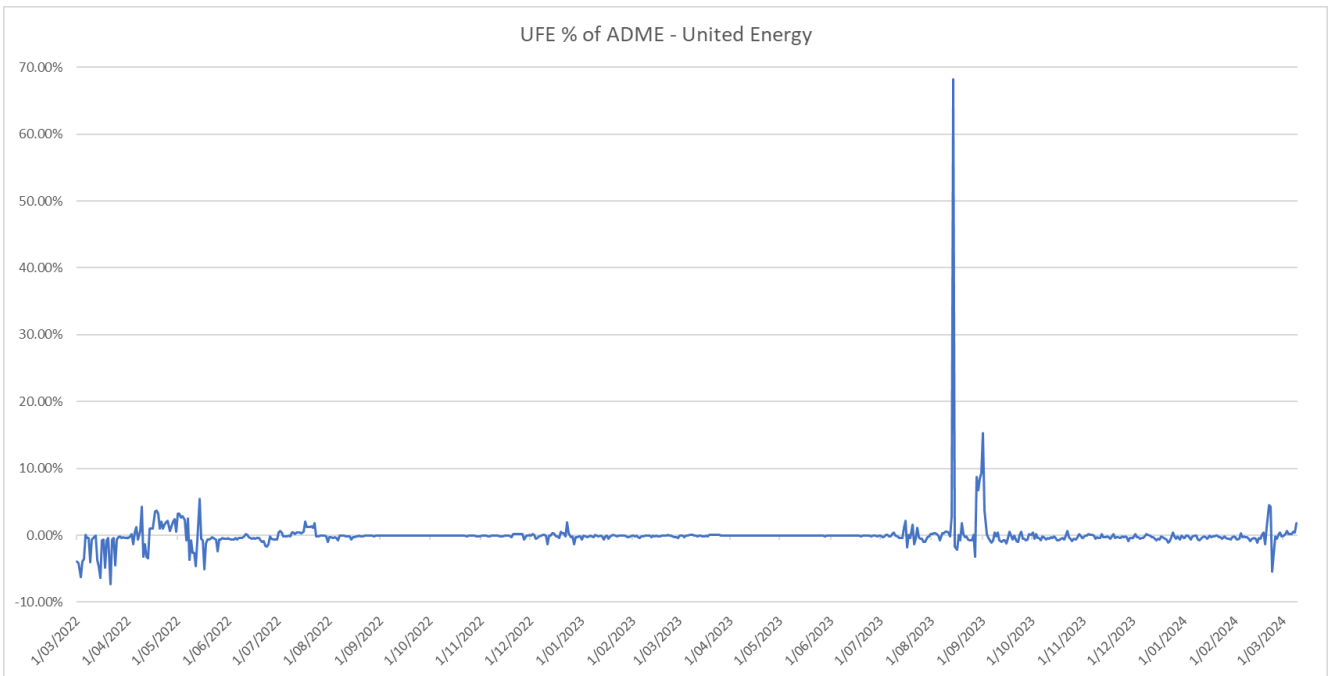


Figure 69 UFE % of ADME – United Energy



## A1.2 UFE components by settlement data type

The charts in this section of the UFE Trends Report provide additional information to support UFE analysis in each *local area*. These charts are based on weekly values for:

- UFE components for the *local area* by settlement data version, i.e. Prelim, Final, Rev 1 and Rev 2.

UFE **components by settlement data version** (Prelim, Final, Rev1, Rev2) charts the aggregate of each UFE component value (UFE, TME, DDME, ADME) for each *day* over the reporting period.

Generally, Prelim and Final UFE values follow each other closely and Rev 1 and Rev 2 UFE values follow each other closely. Victorian *local areas*, generally show Prelim/Final and Rev 1/Rev 2 UFE values following each other, but non-Victorian *local areas* generally show significant differences between Prelim/Final UFE values and Rev 1/Rev 2 UFE values.

The line charts show settlement data versions as follows:

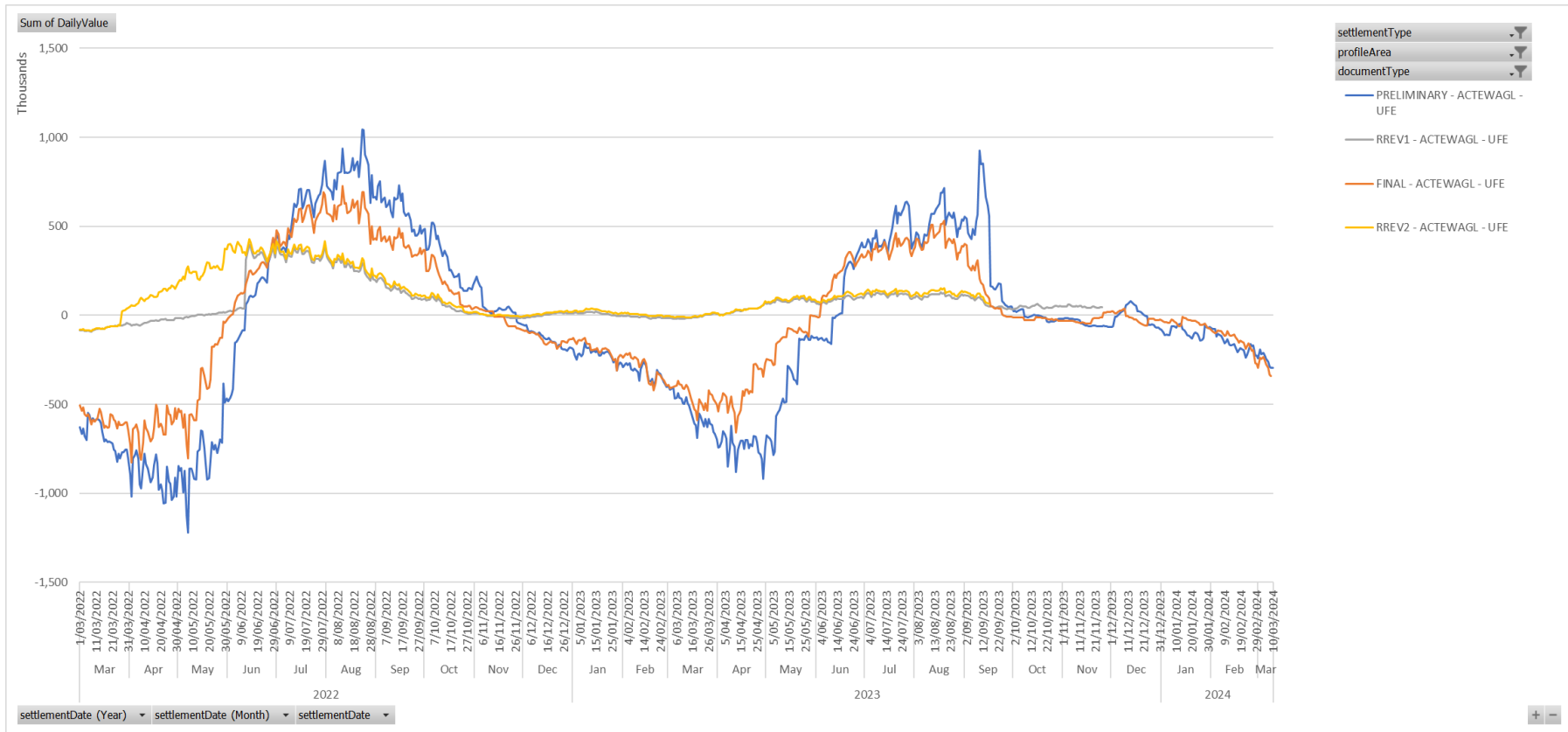
Blue line represents PRELIM UFE values

Gray line represents REV 1 UFE values

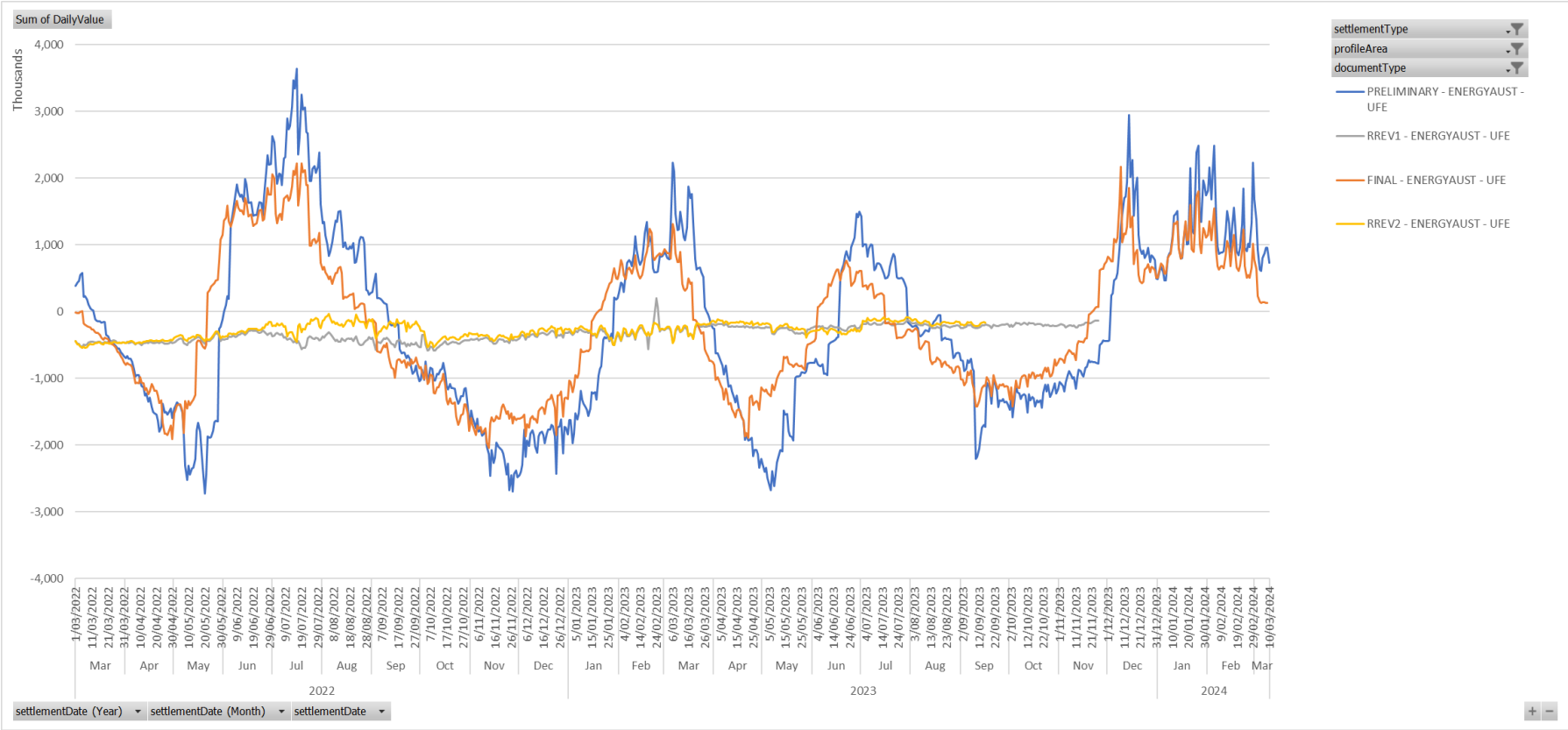
Orange line represents FINAL UFE values

Yellow line represents REV 2 UFE values

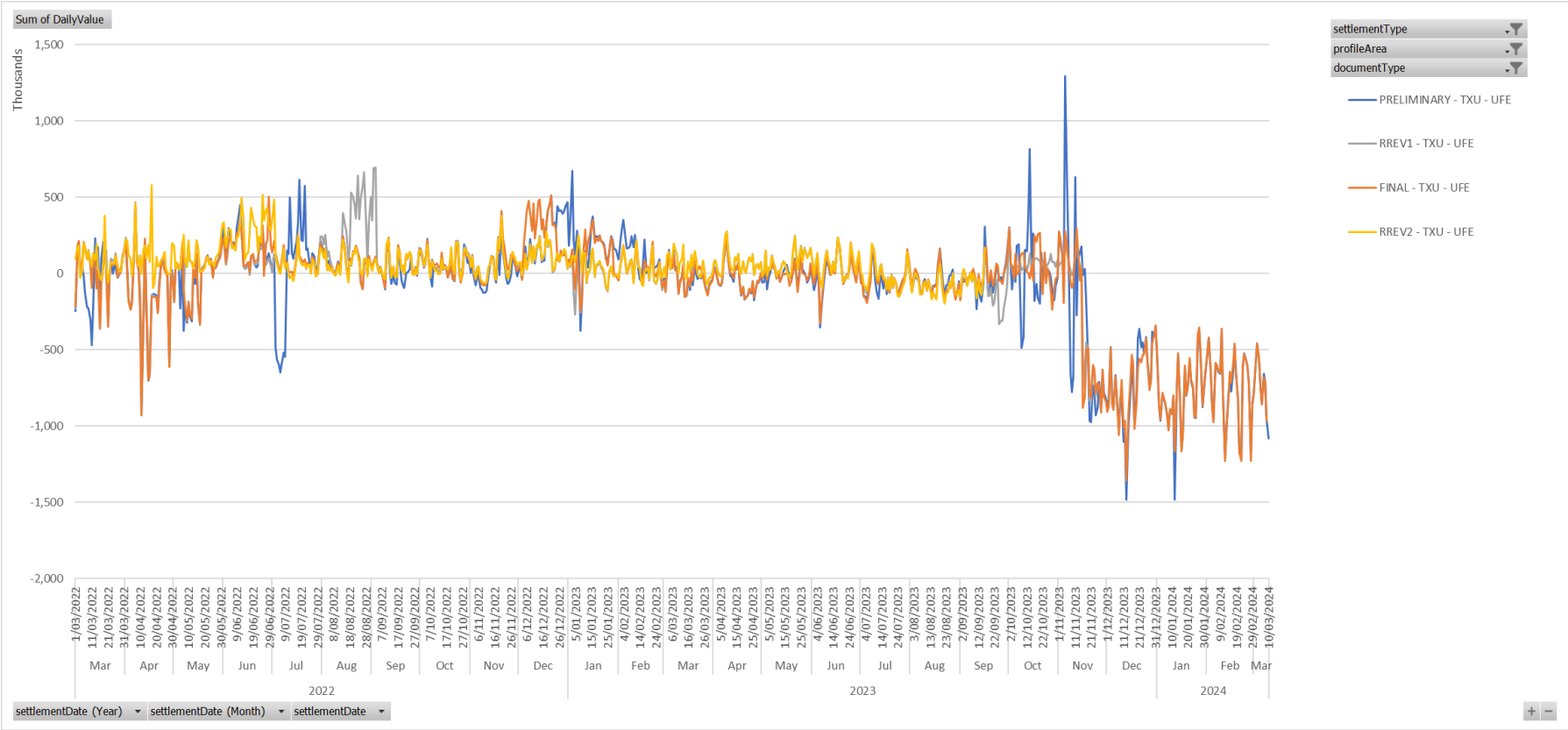
## A1.2.1 ActewAGL



# A1.2.2 Ausgrid

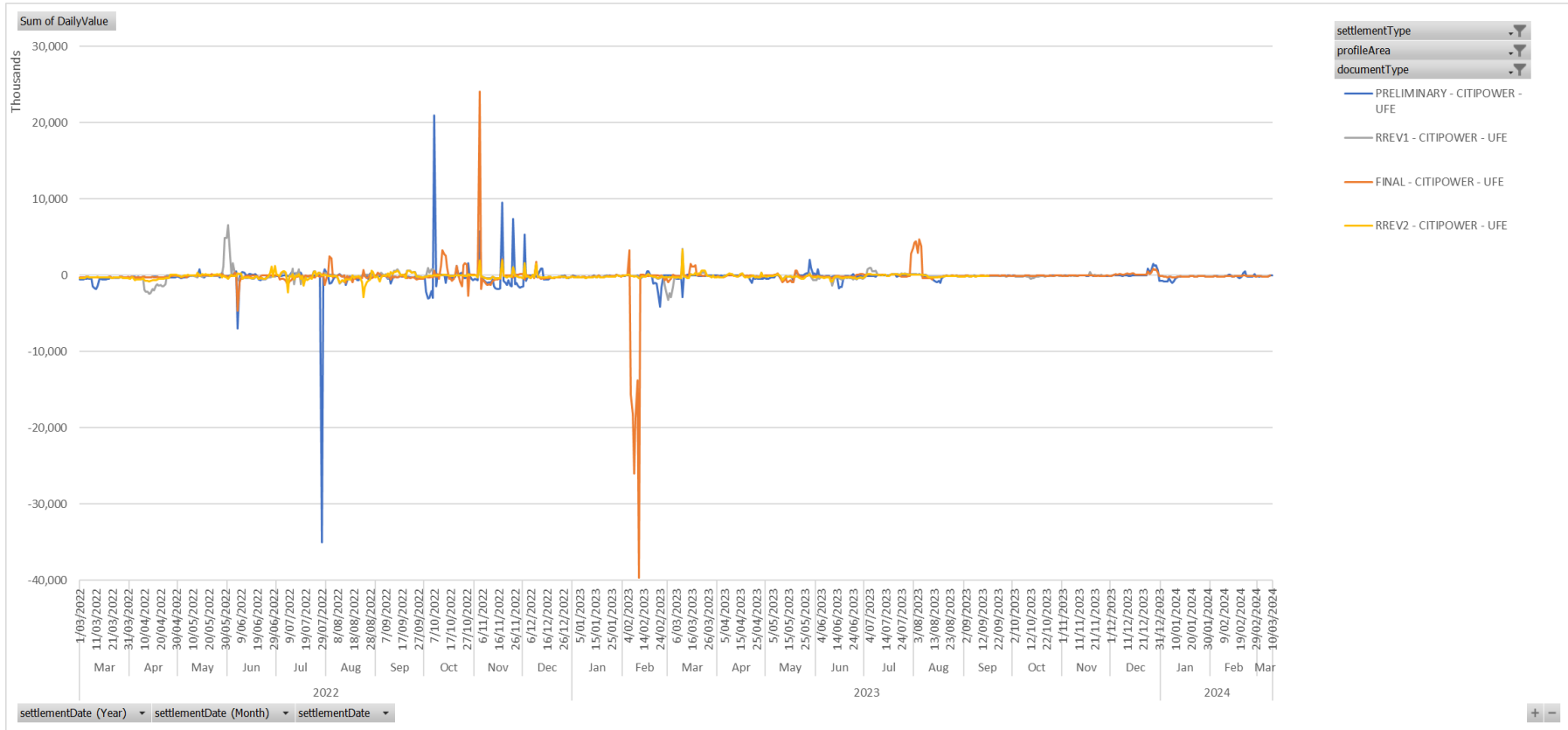


### A1.2.3 AusNet Services

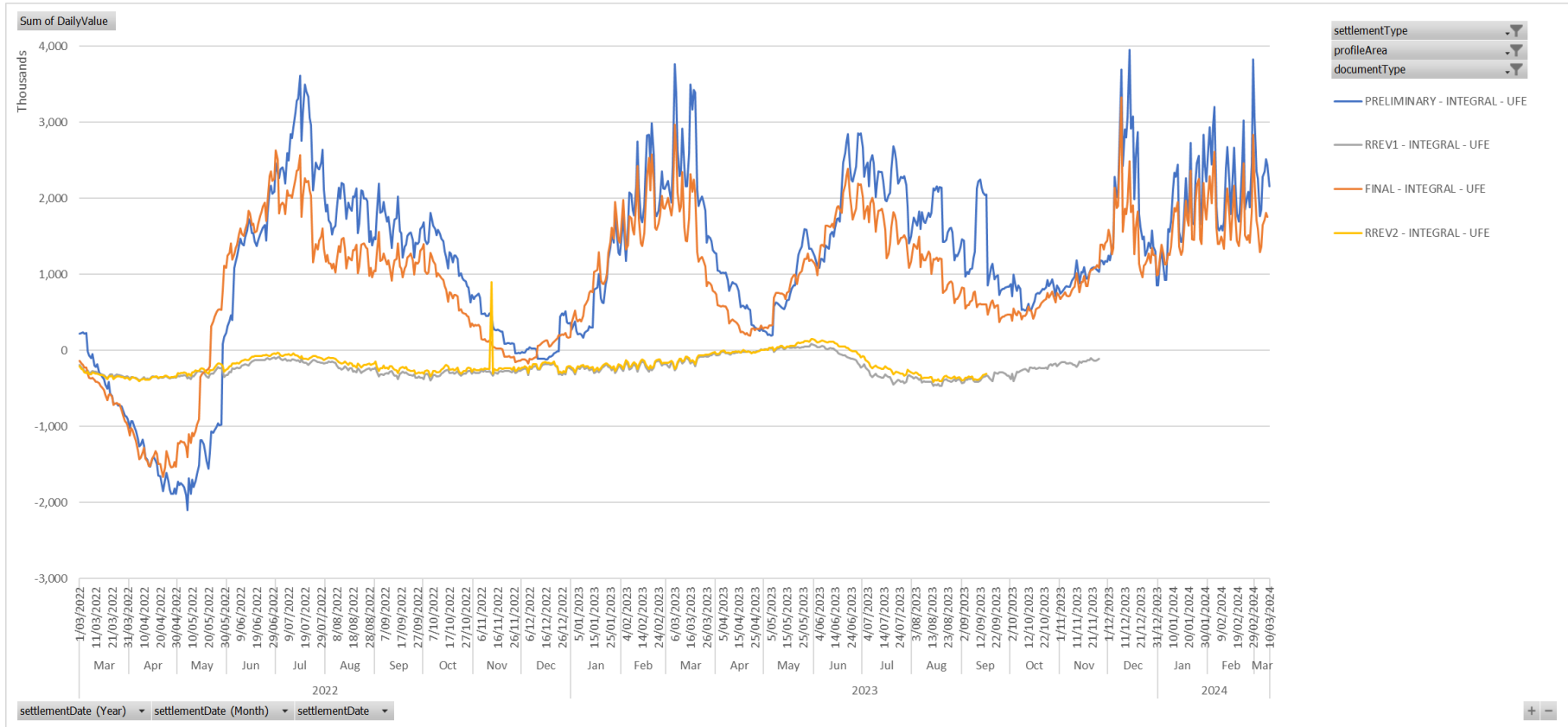




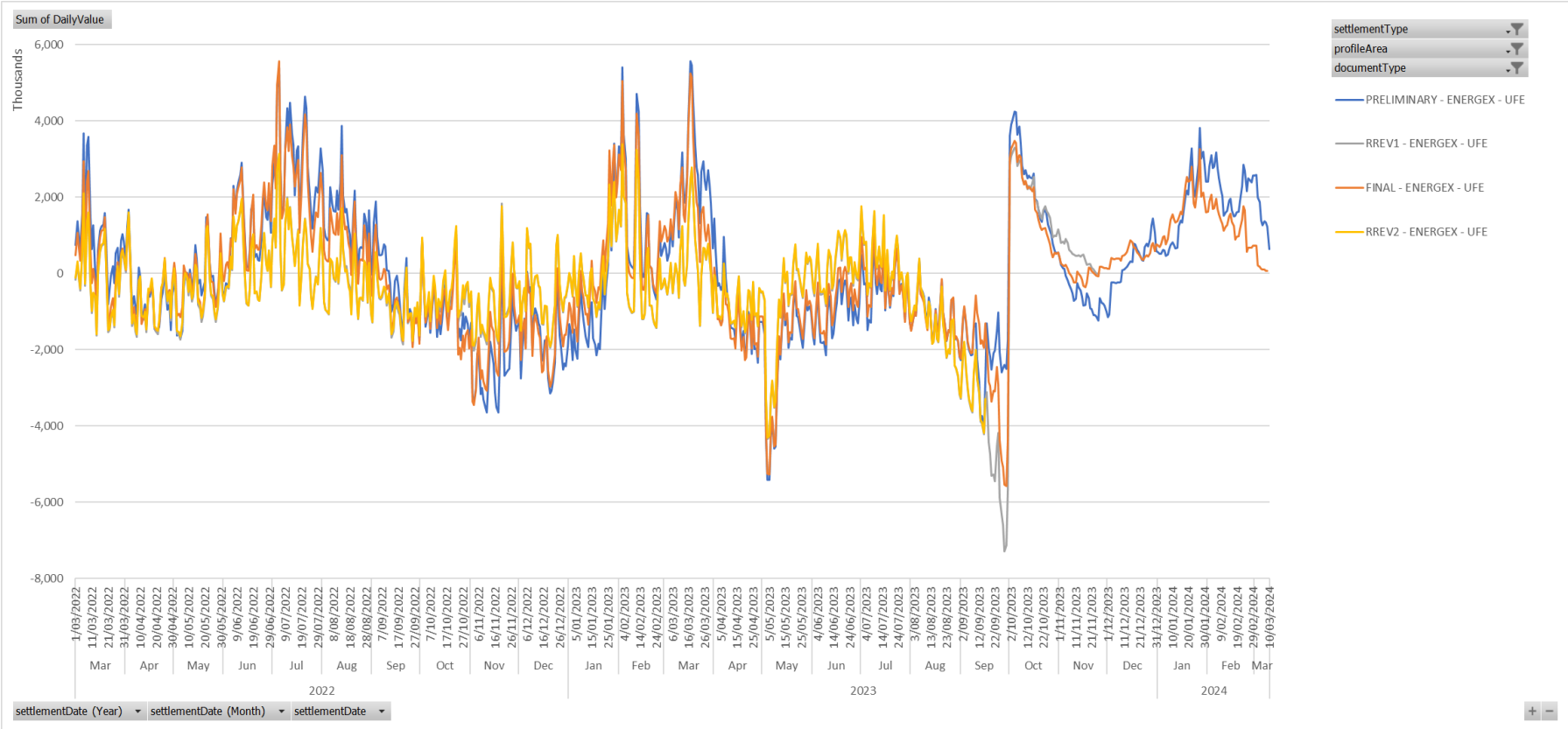
## A1.2.4 CitiPower



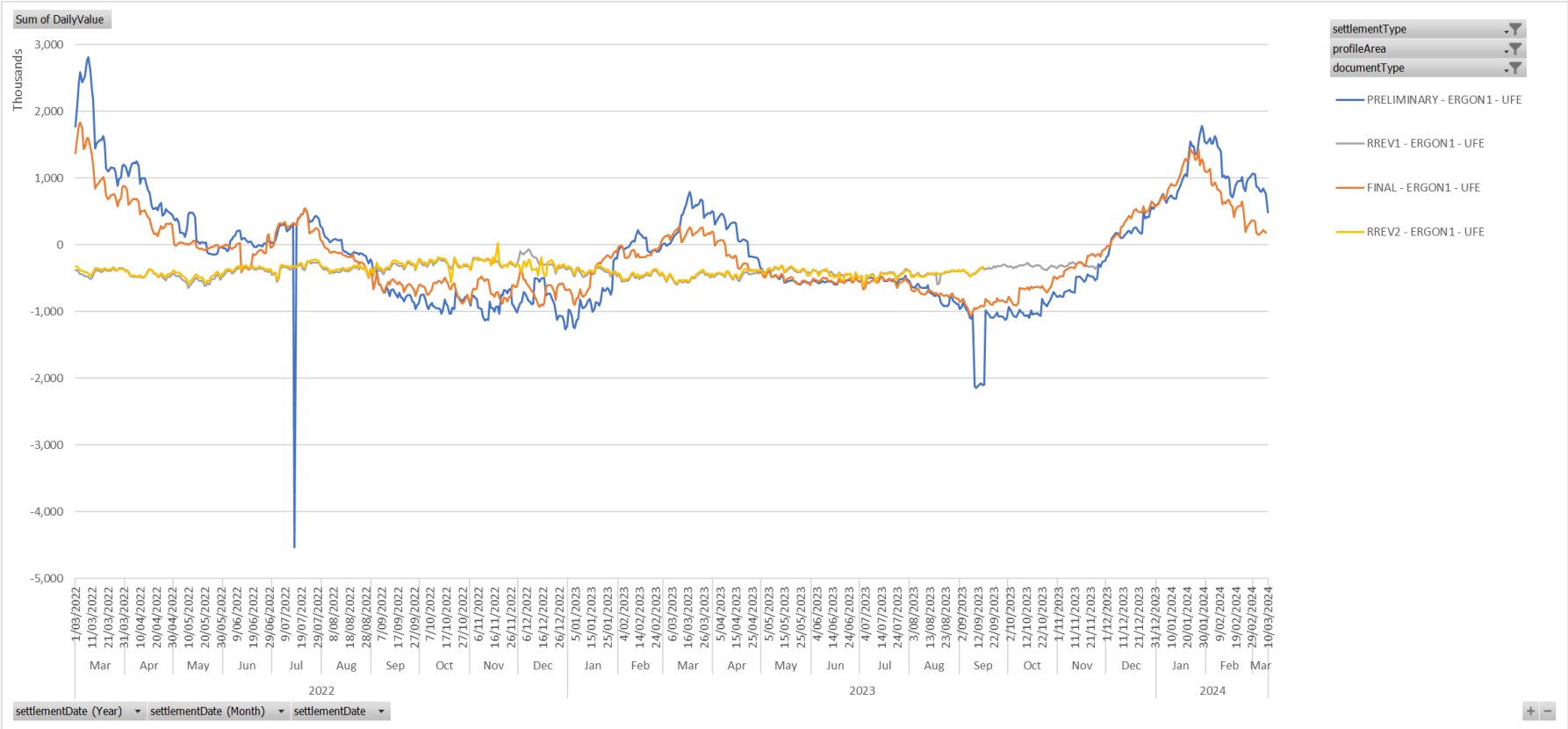
## A1.2.5 Endeavour Energy



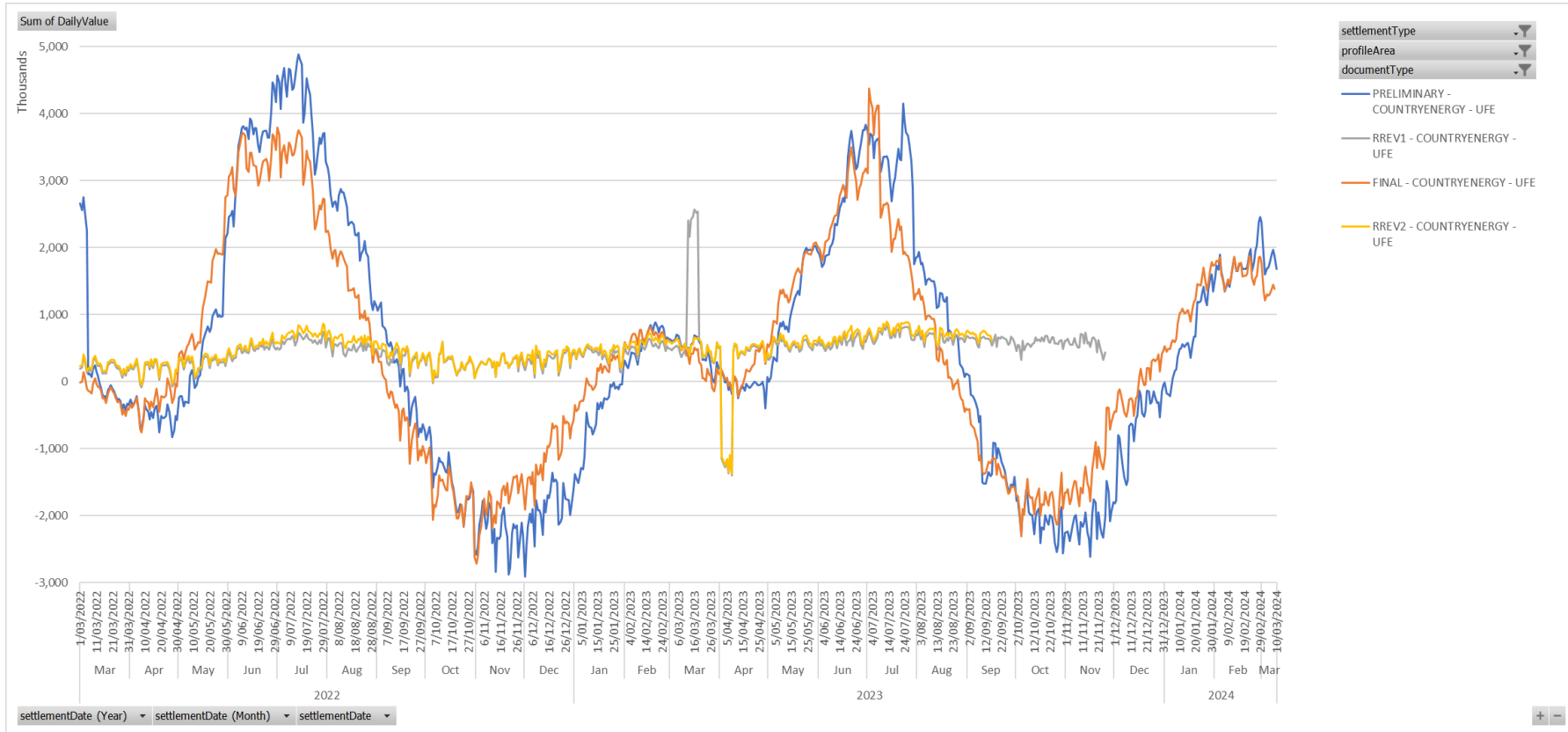
# A1.2.6 Energen



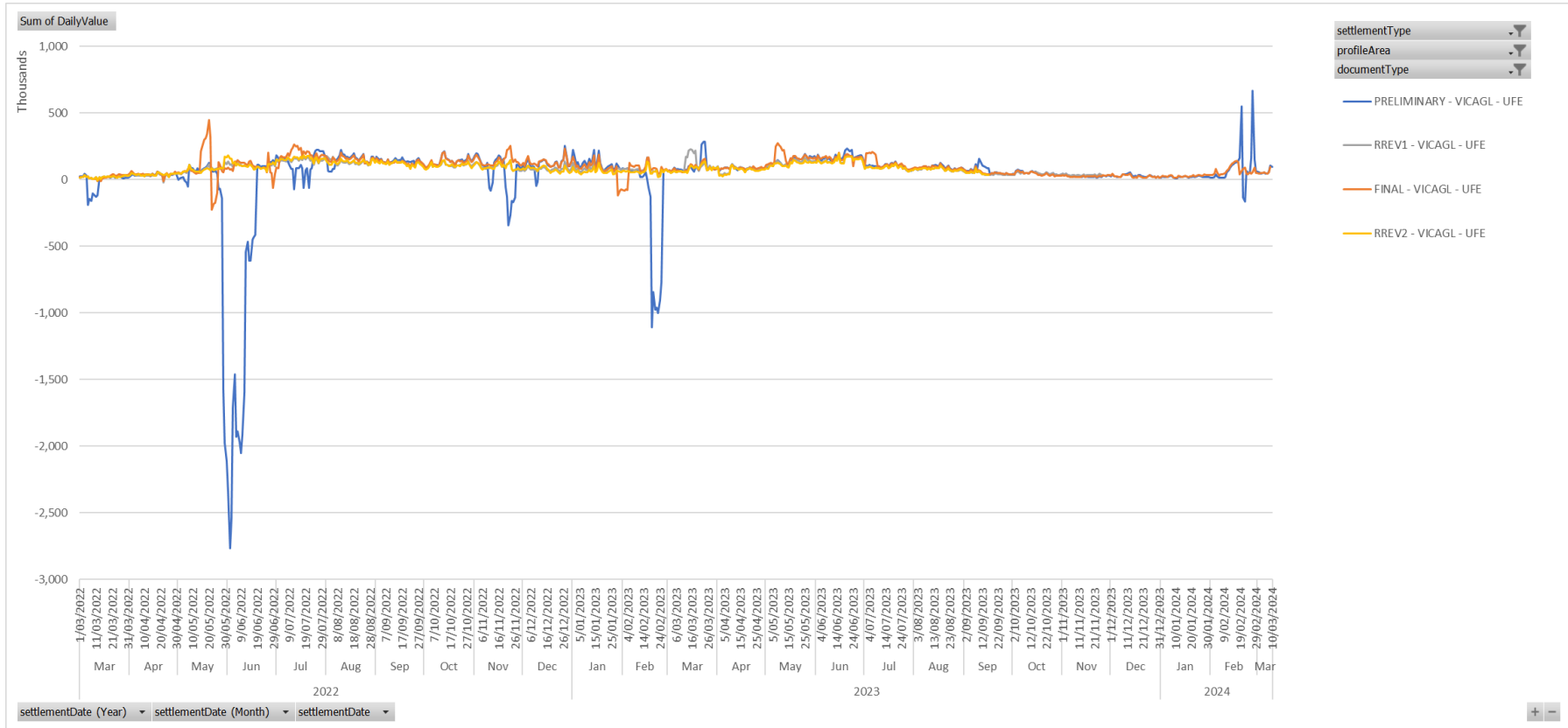
# A1.2.7 Ergon



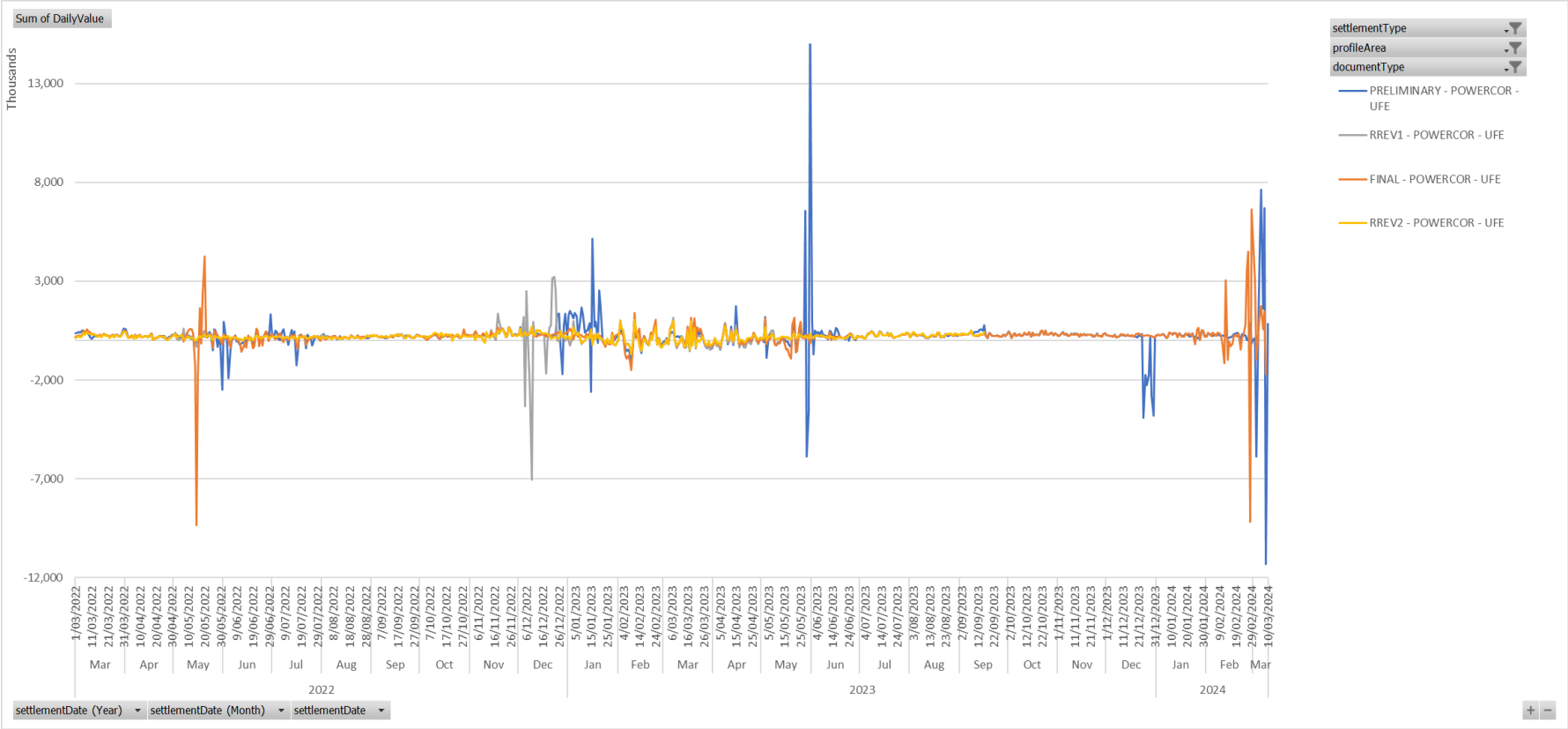
## A1.2.8 Essential Energy



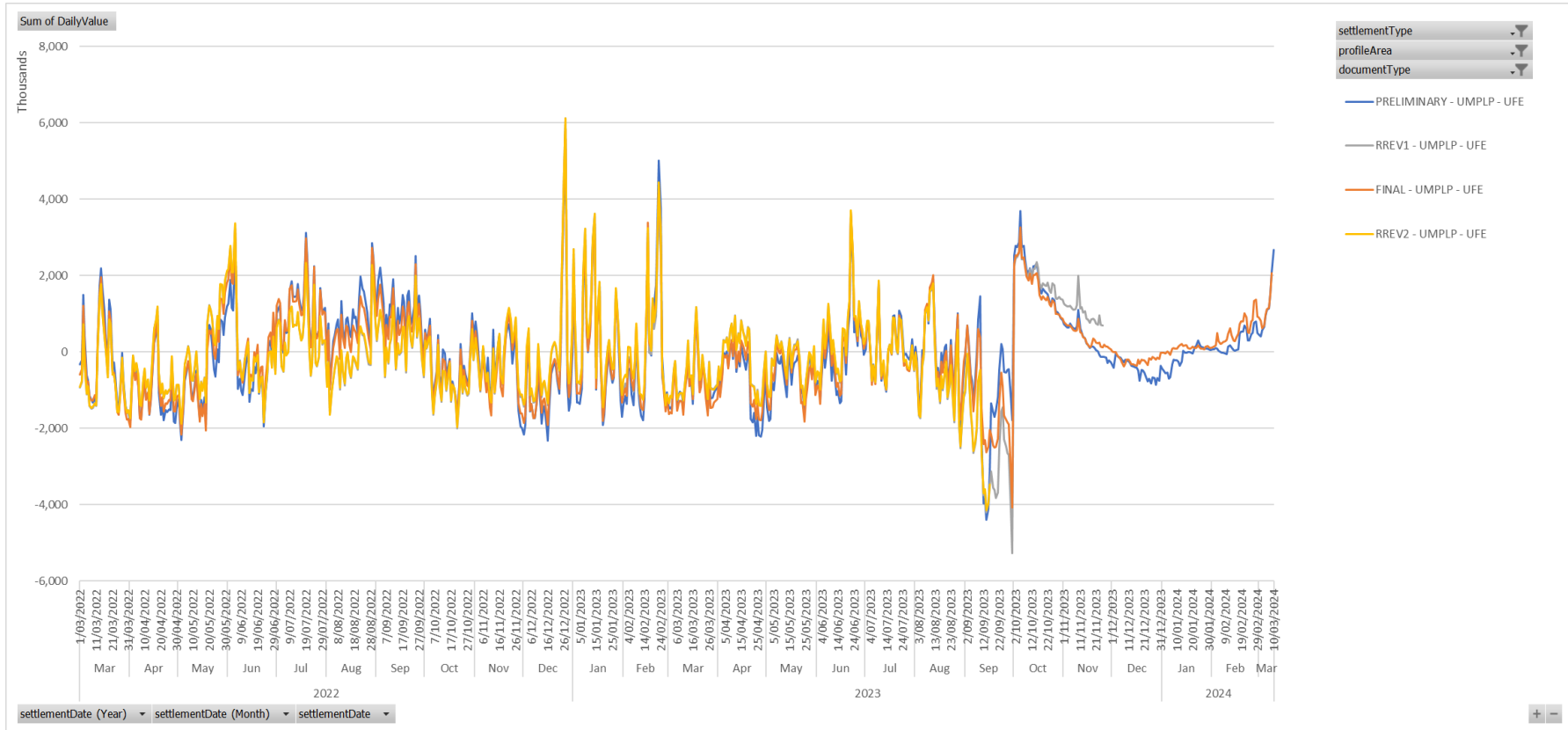
## A1.2.9 Jemena



### A1.2.10 Powercor

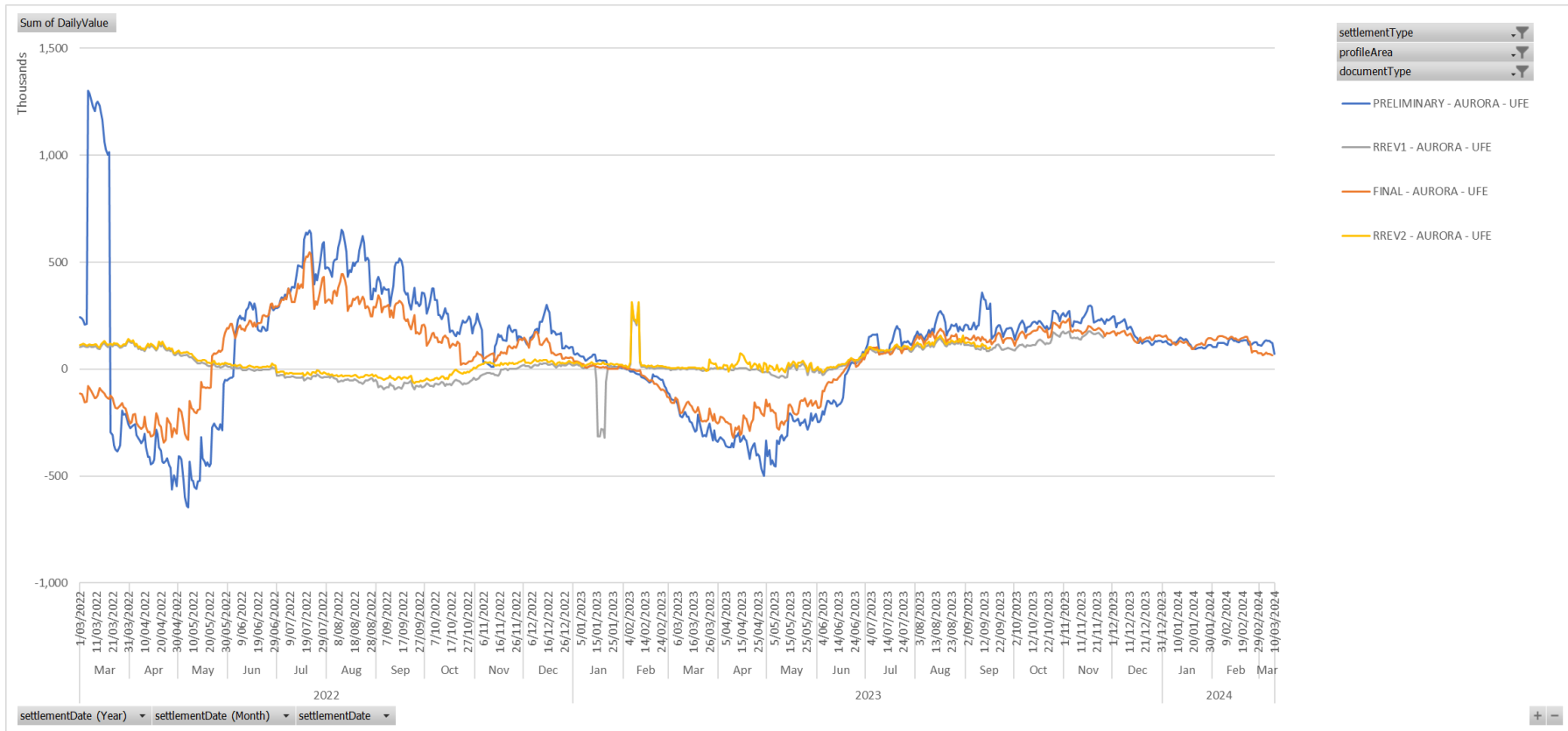


## A1.2.11 SA Power Networks

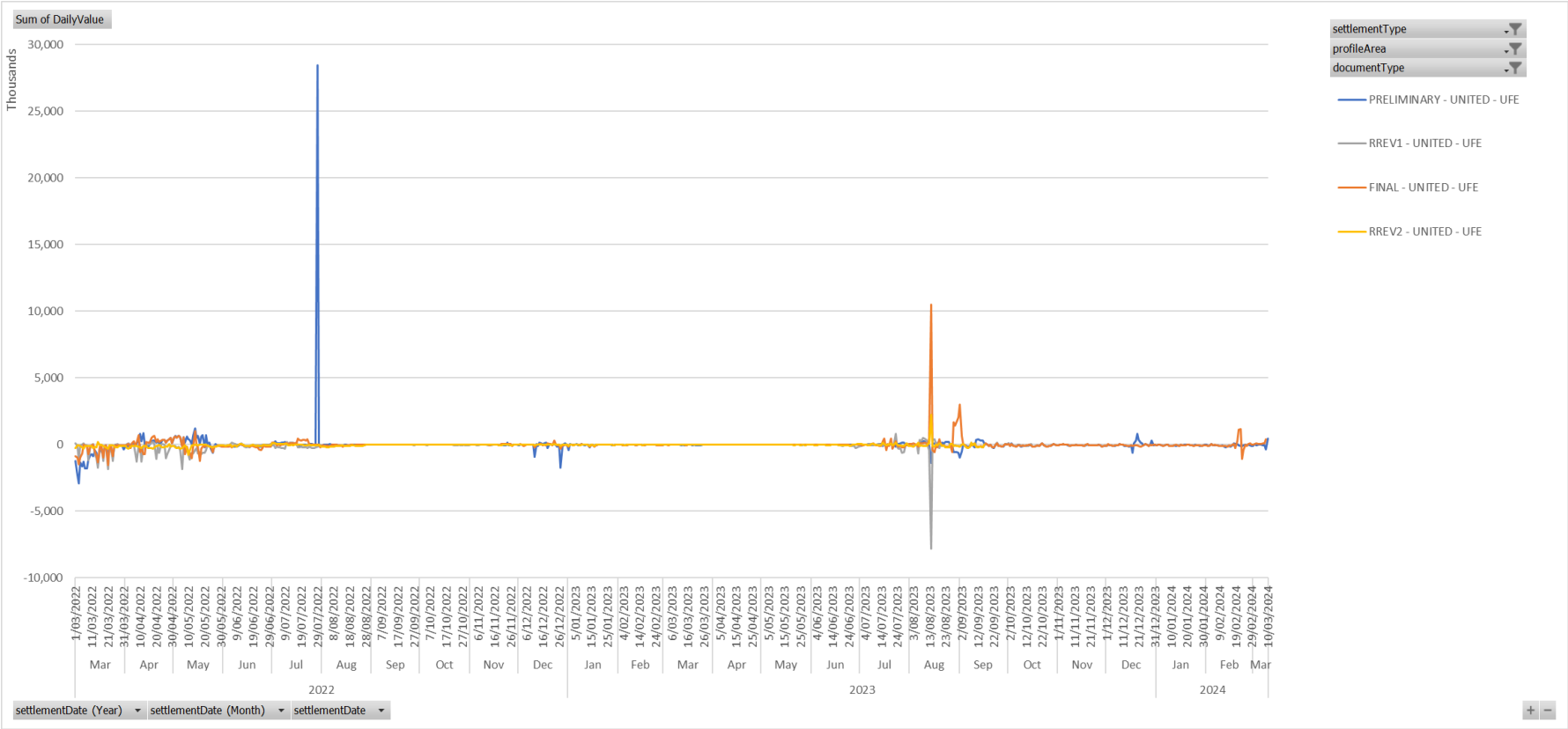




## A1.2.12 TasNetworks



### A1.2.13 United Energy





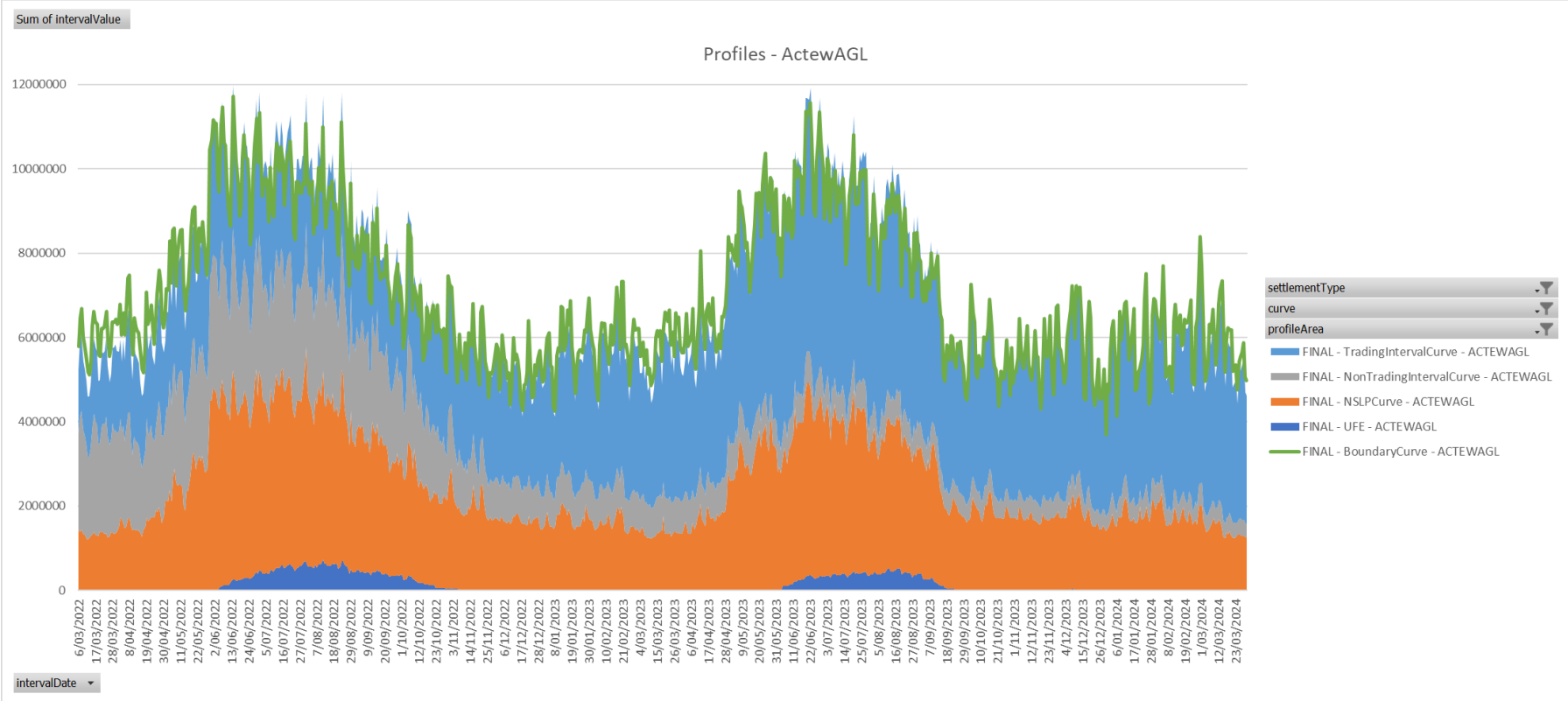
## A1.3 Profiles for each local area

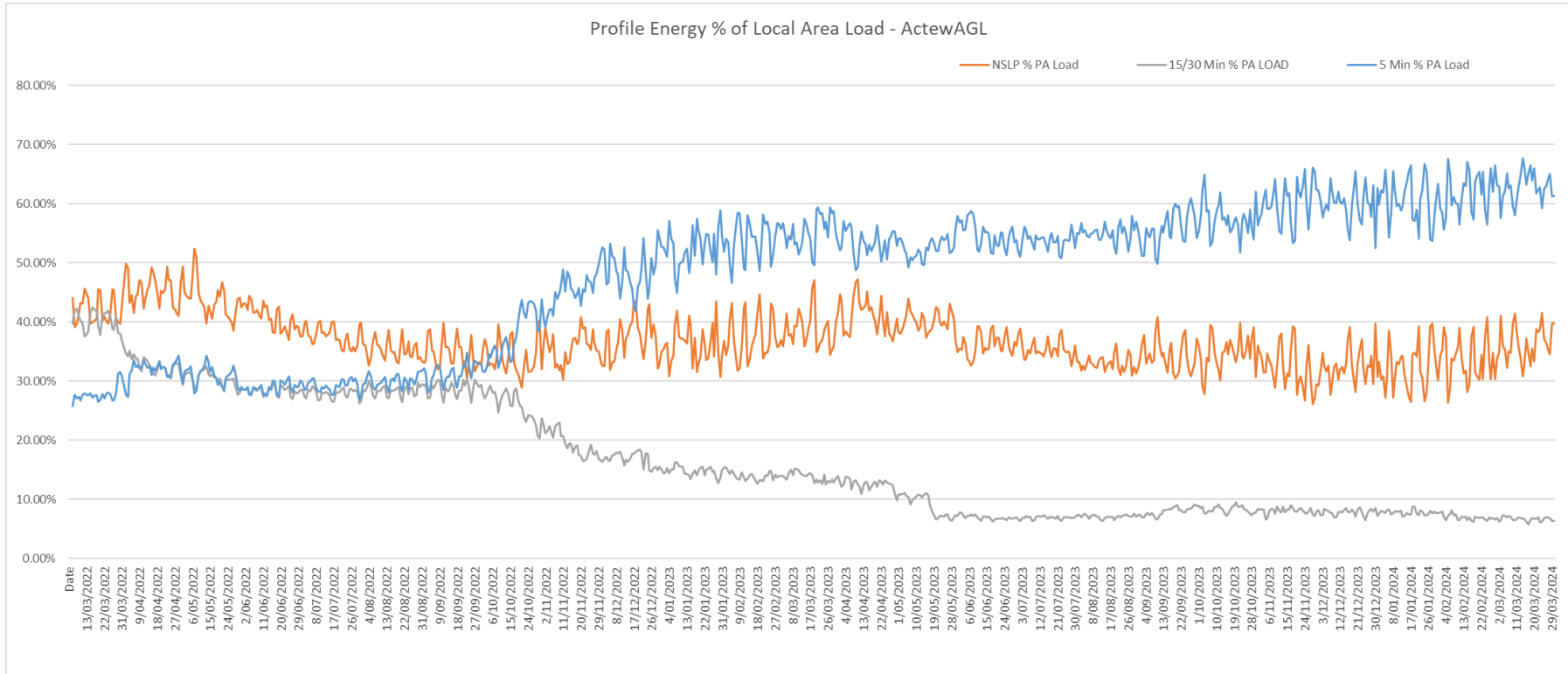
Charts in this section show the volume of profiled *metering data* over the reporting period related to the following profiling methods:

- Net System Load Profile (NSLP),
- Controlled Load Profile (CLP), and
- 15 and 30-minute *metering data* profiled to 5-minute
- The *energy* volumes related to each profiling method are expressed as a percentage of the *local area load*.

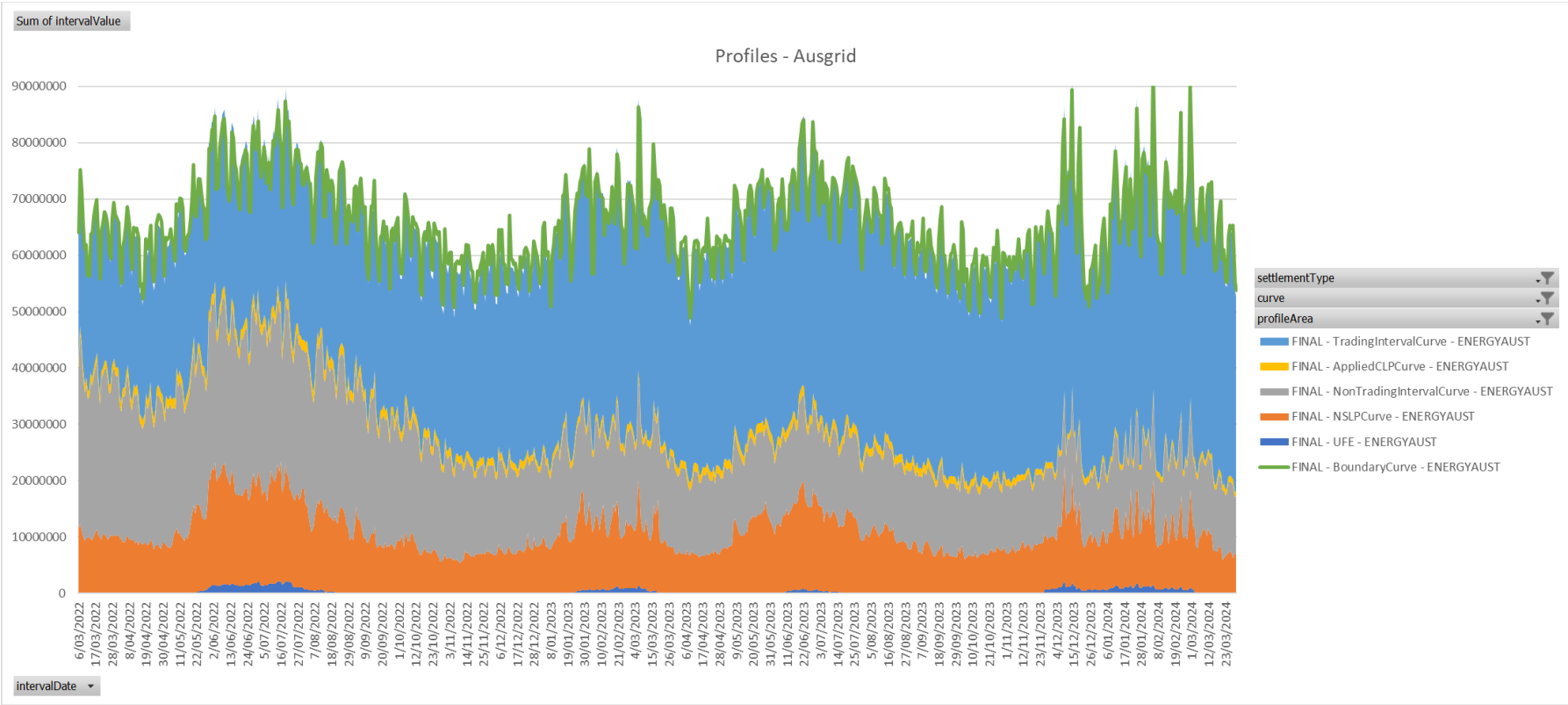
The first chart for each *local area* shows the stacked profile energy volumes under the *local area load* curve. The second chart for each *local area* shows the percentage of the *local area load* related each profile group in that *local area*.

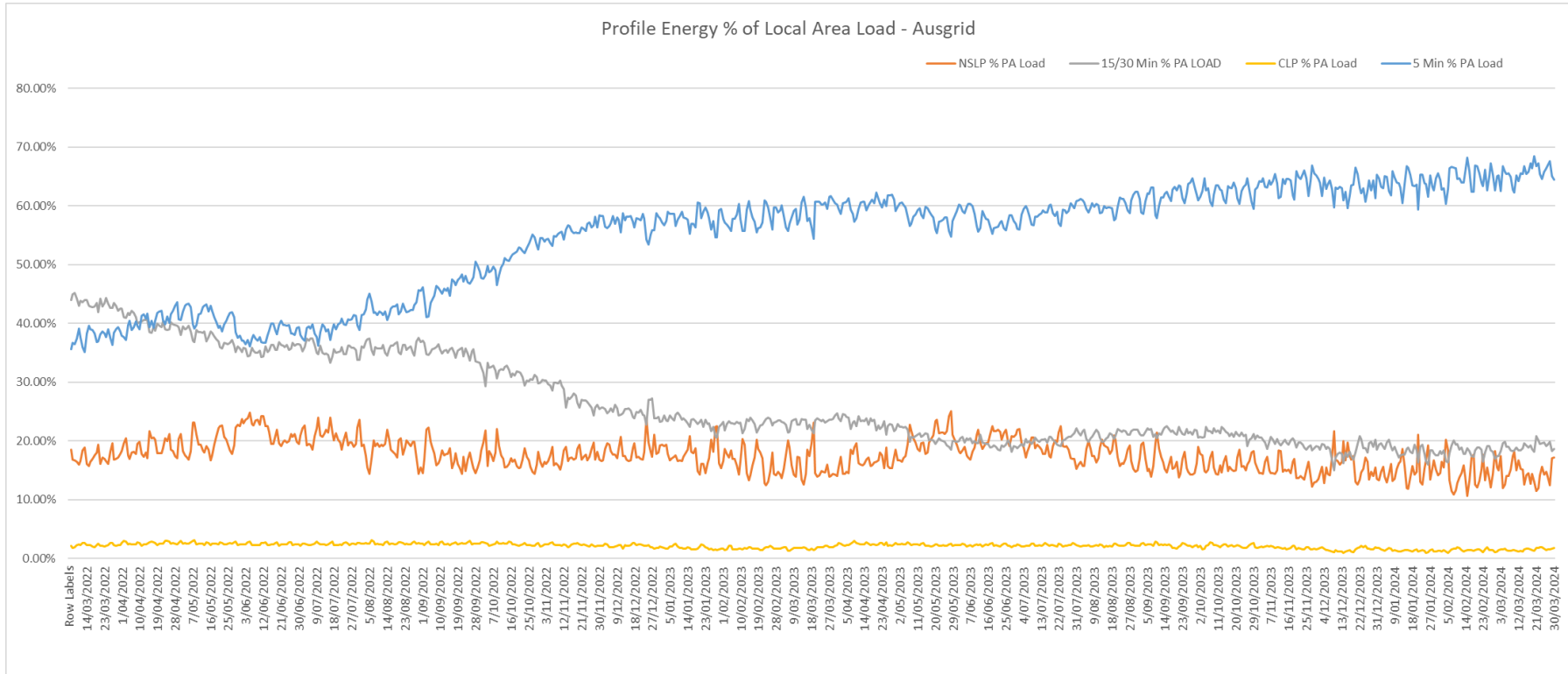
### A1.3.1 ActewAGL



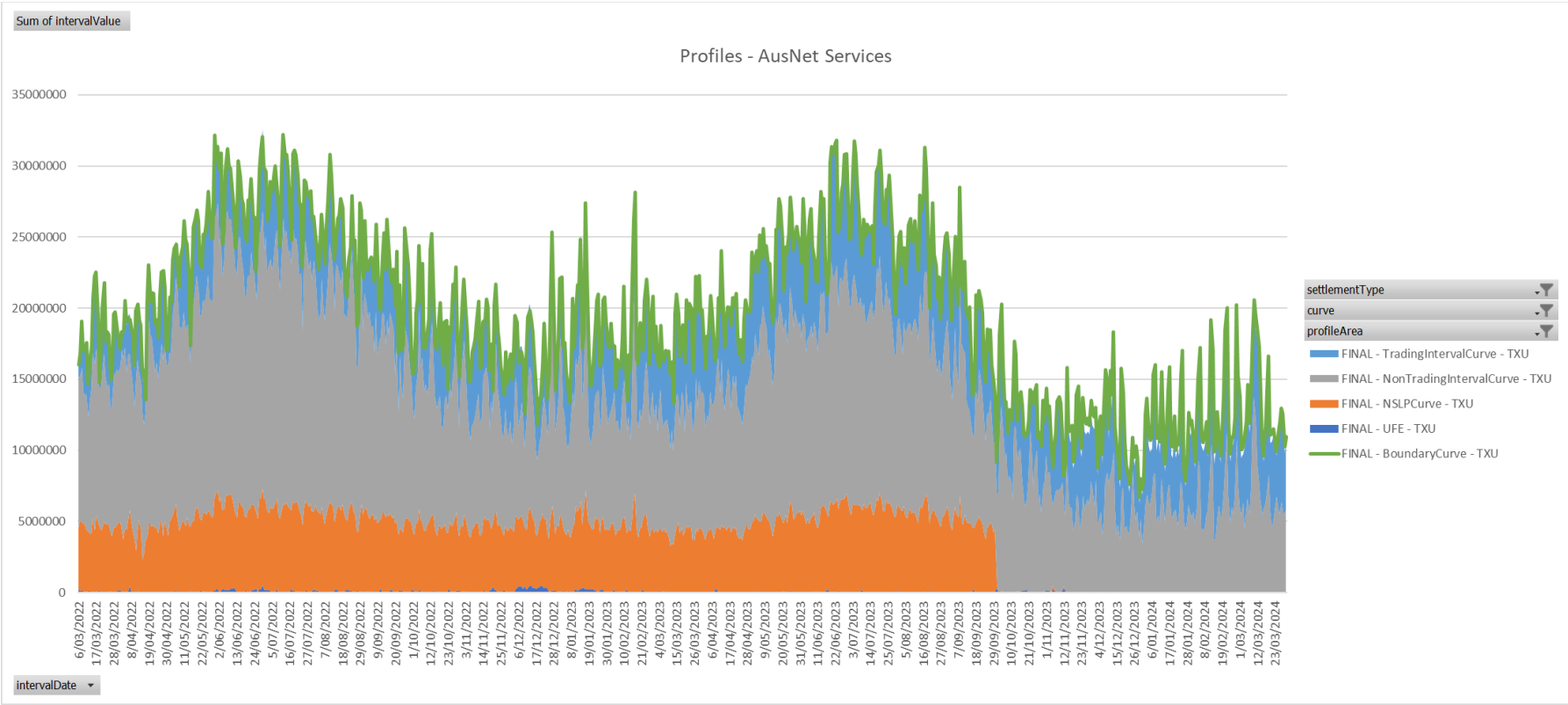


### A1.3.2 Ausgrid



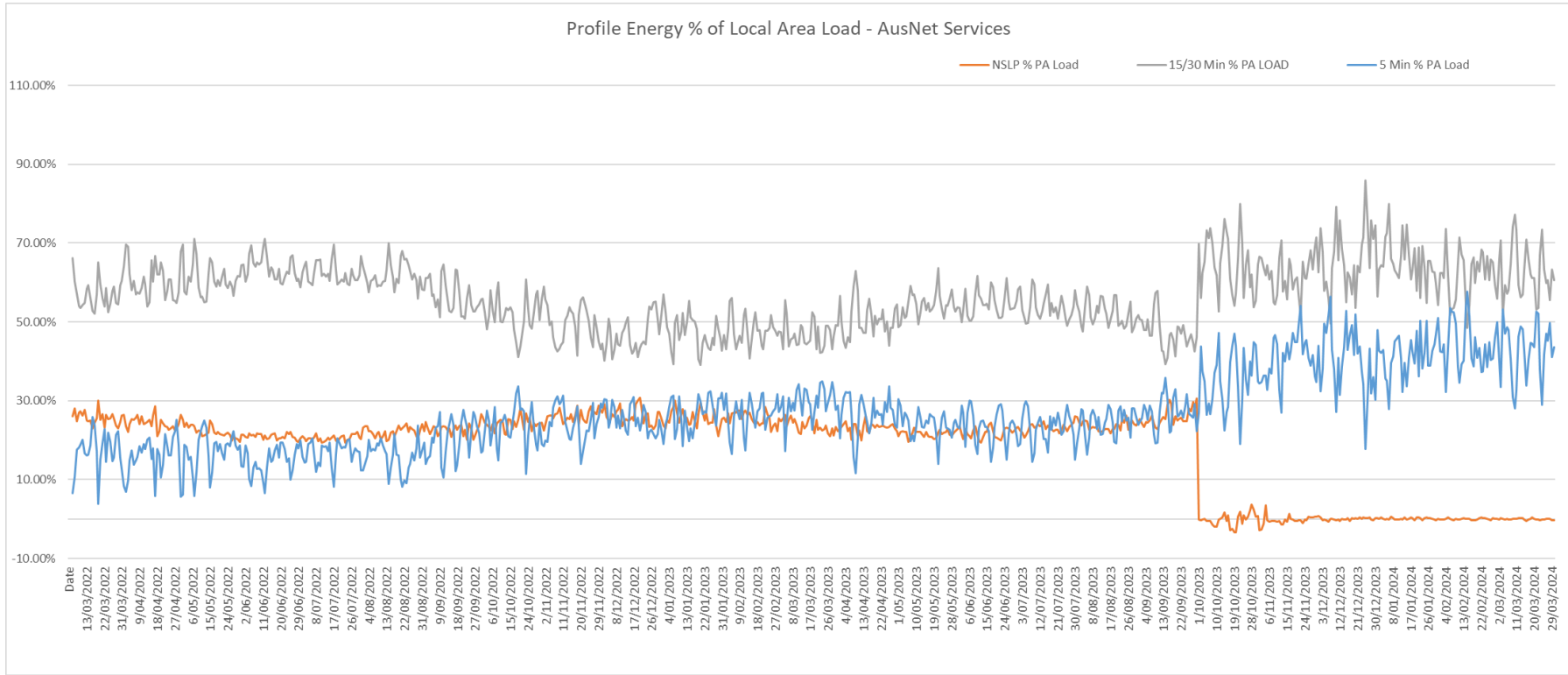


### A1.3.3 AusNet Services

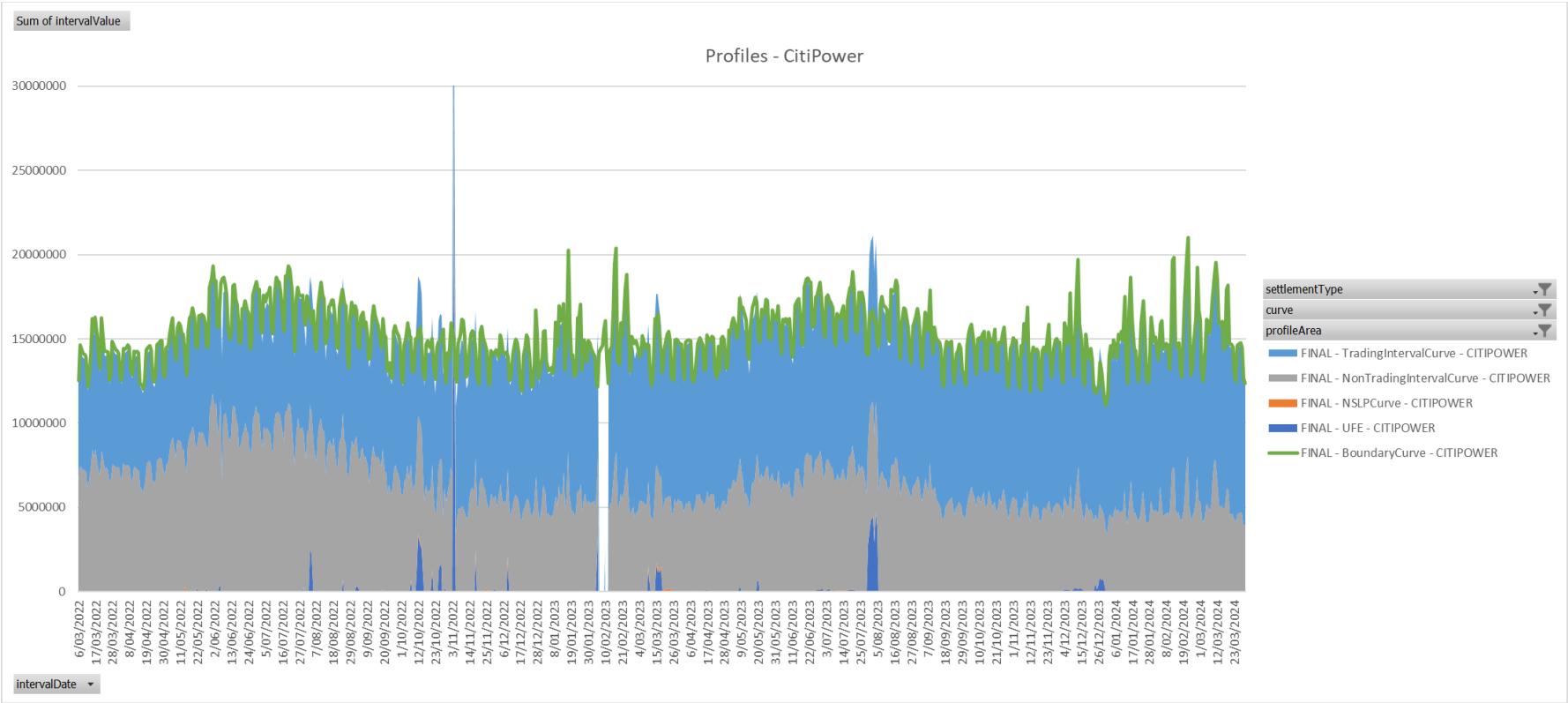


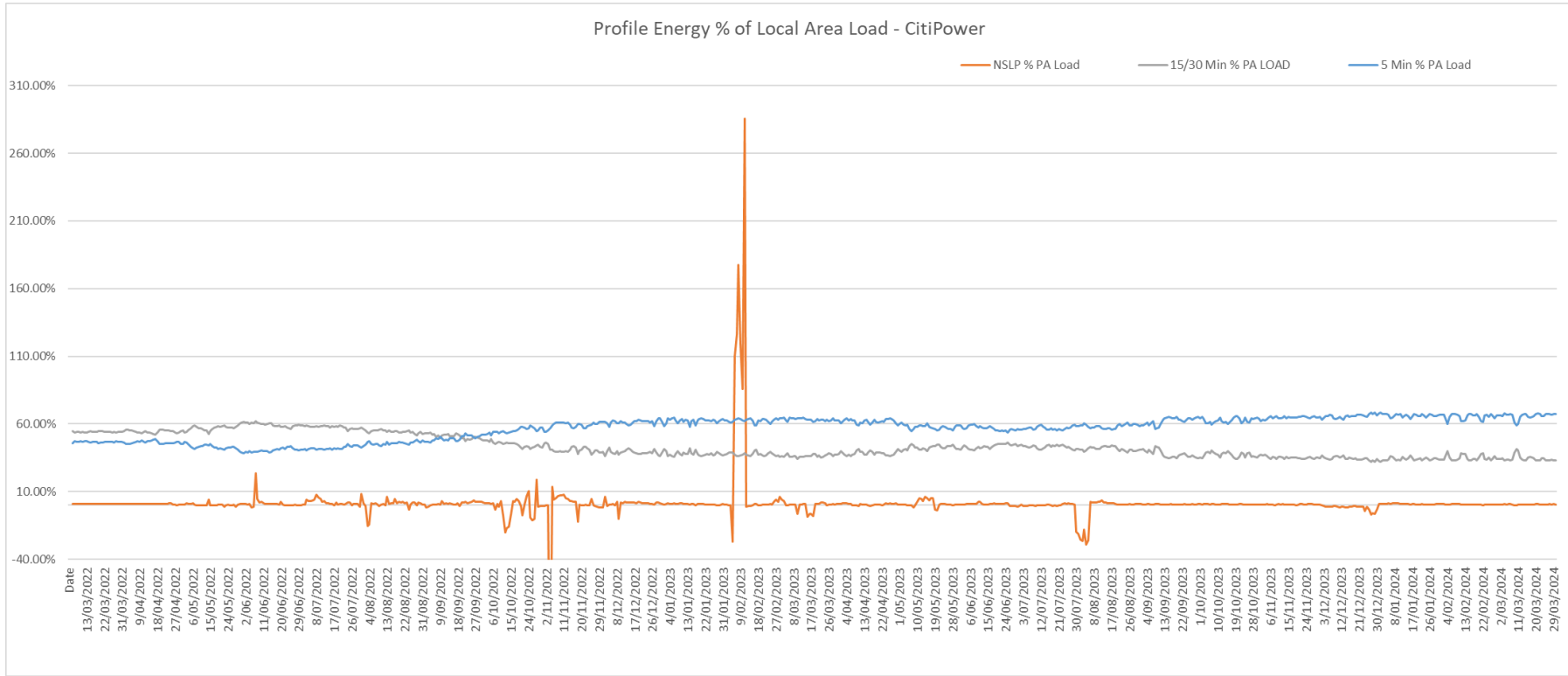
Weights have been applied to Final version settlement data from January 2022 to 30 September 2023.



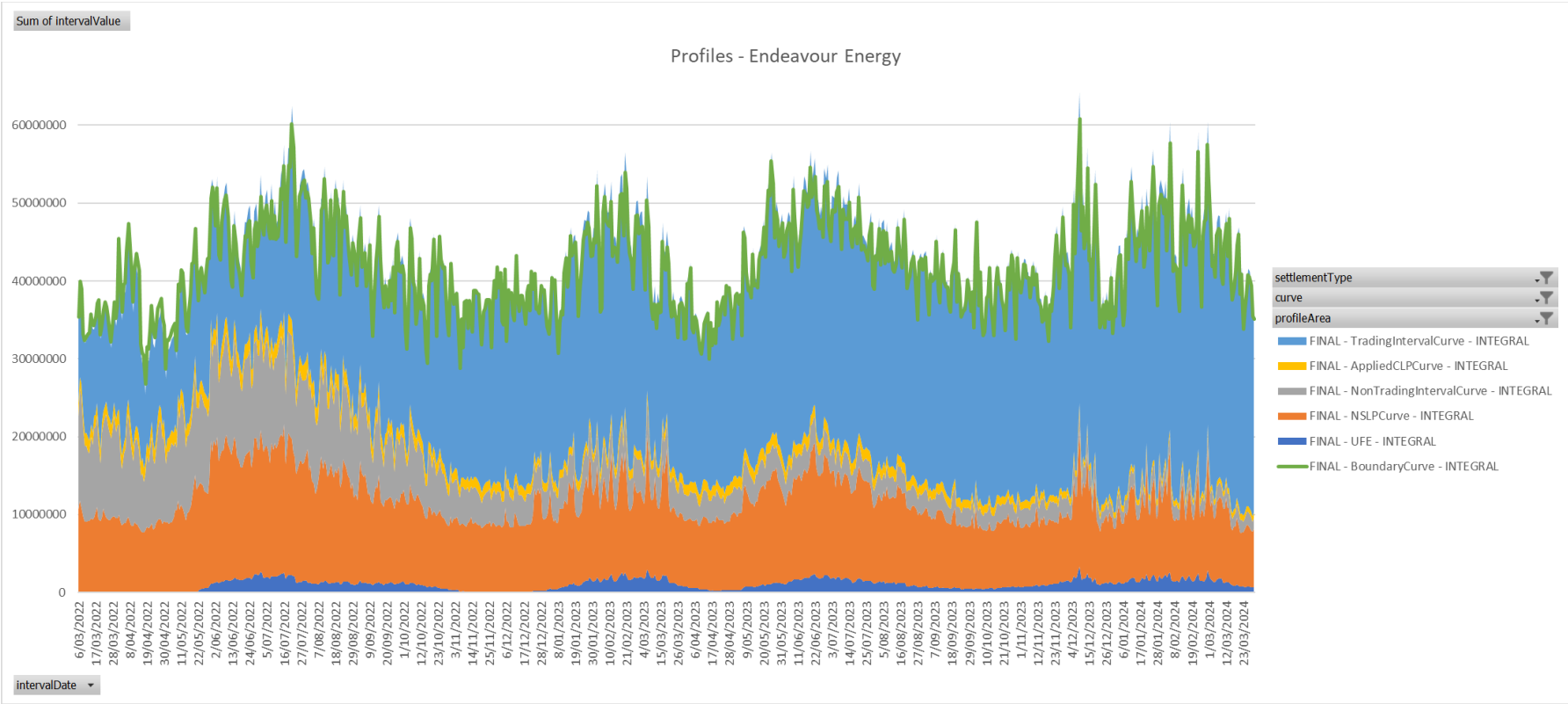


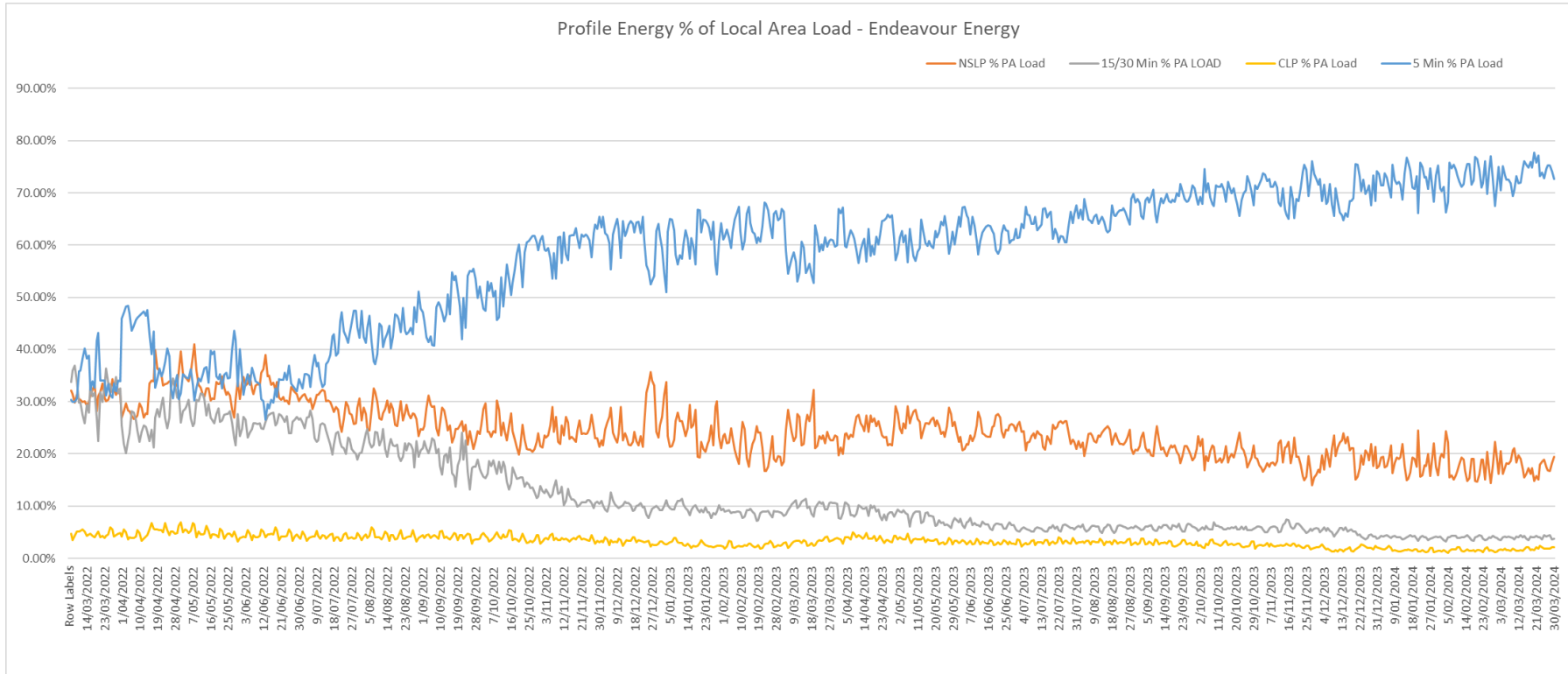
### A1.3.4 CitiPower



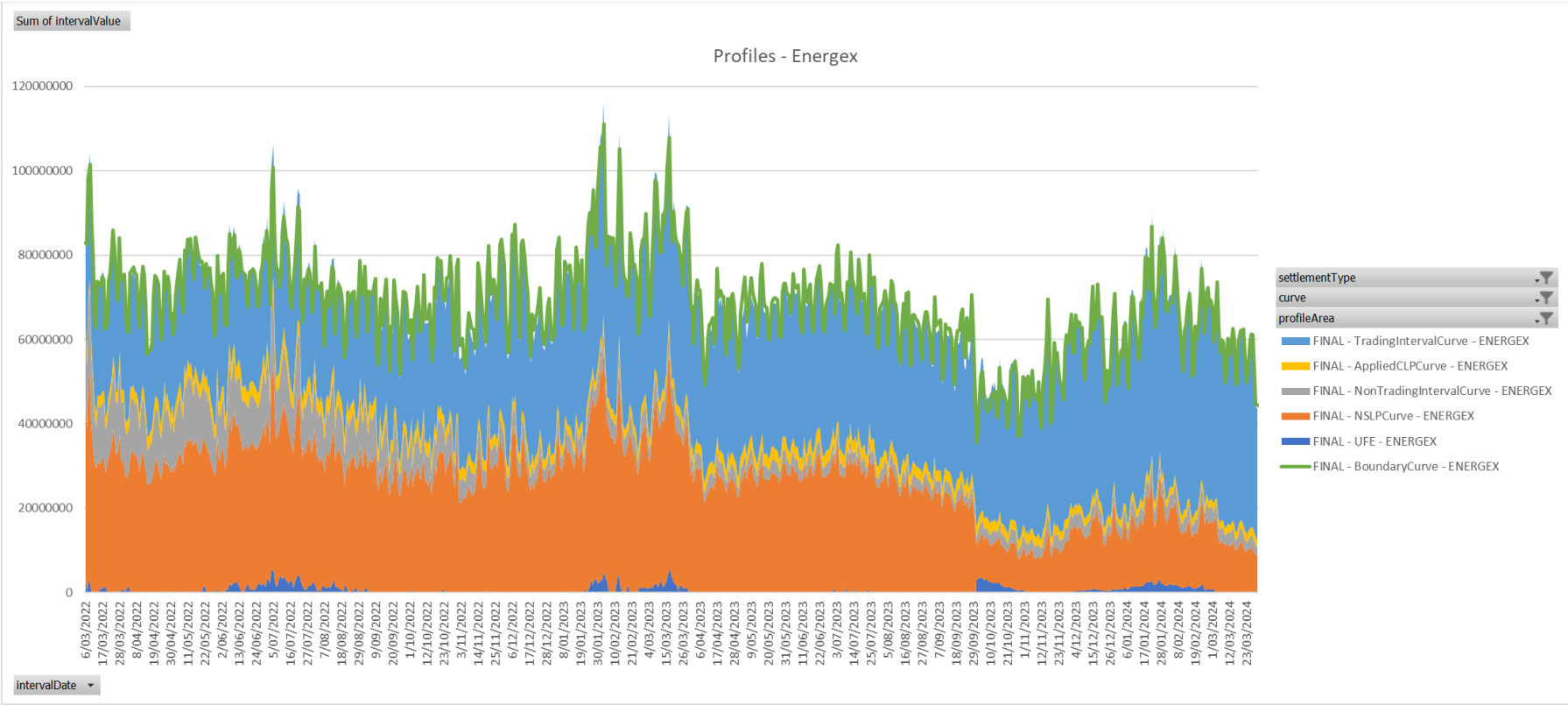


### A1.3.5 Endeavour Energy

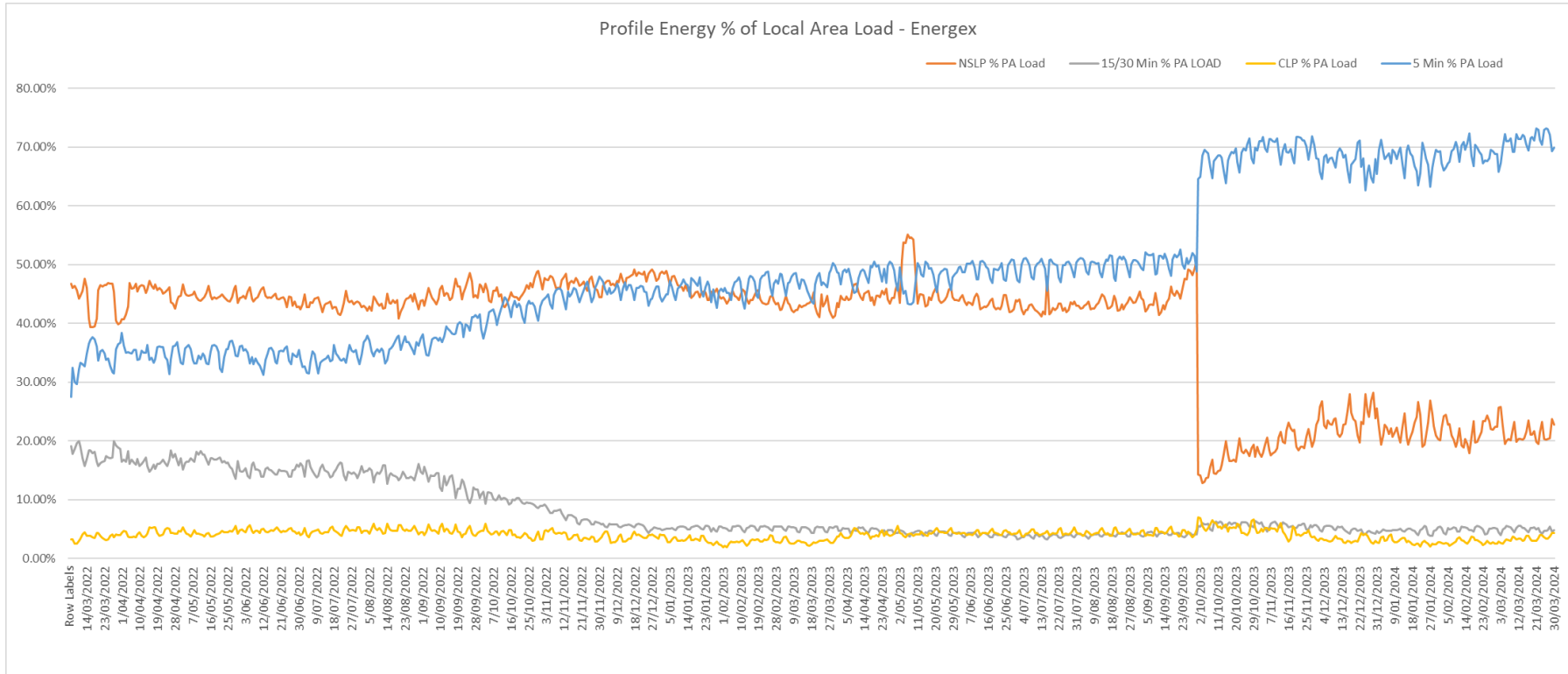




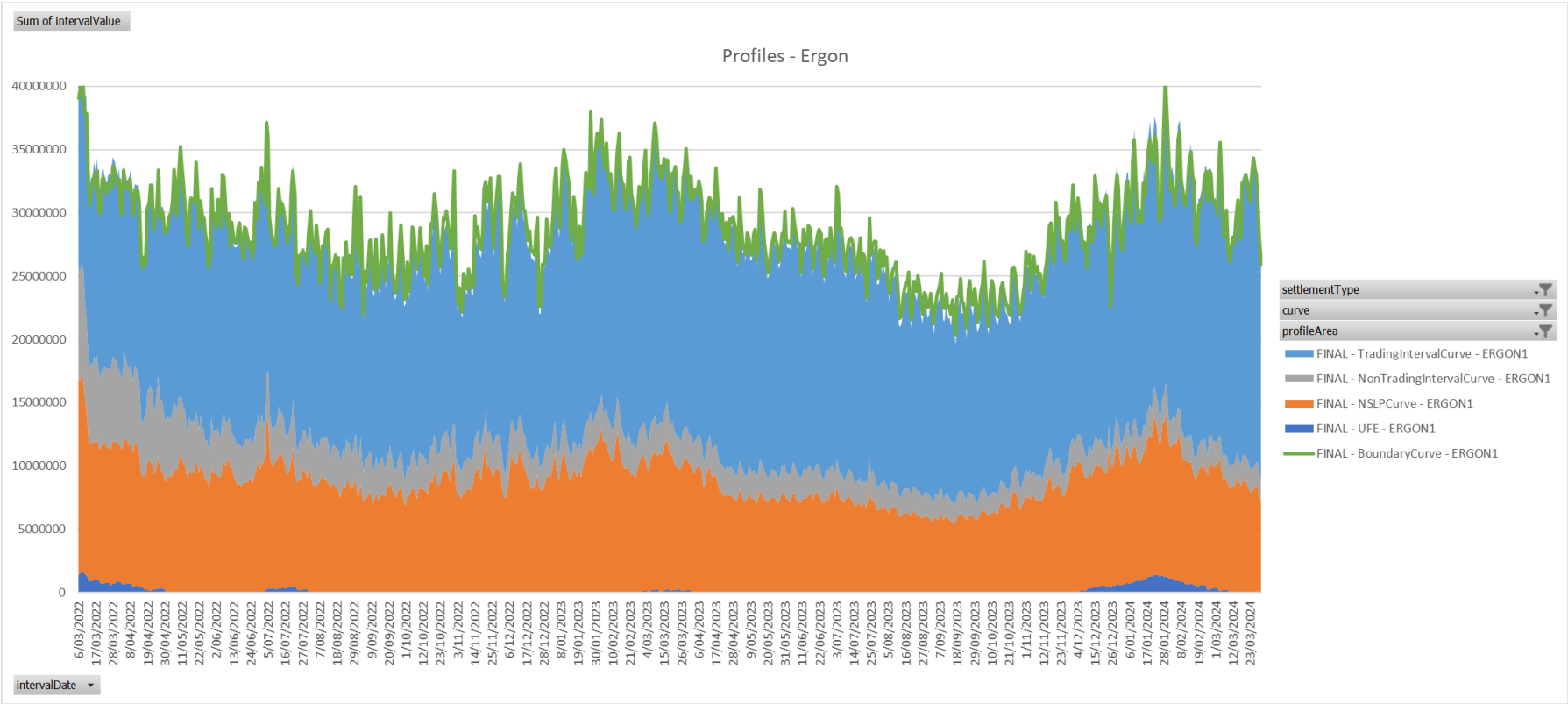
### A1.3.6 Energen



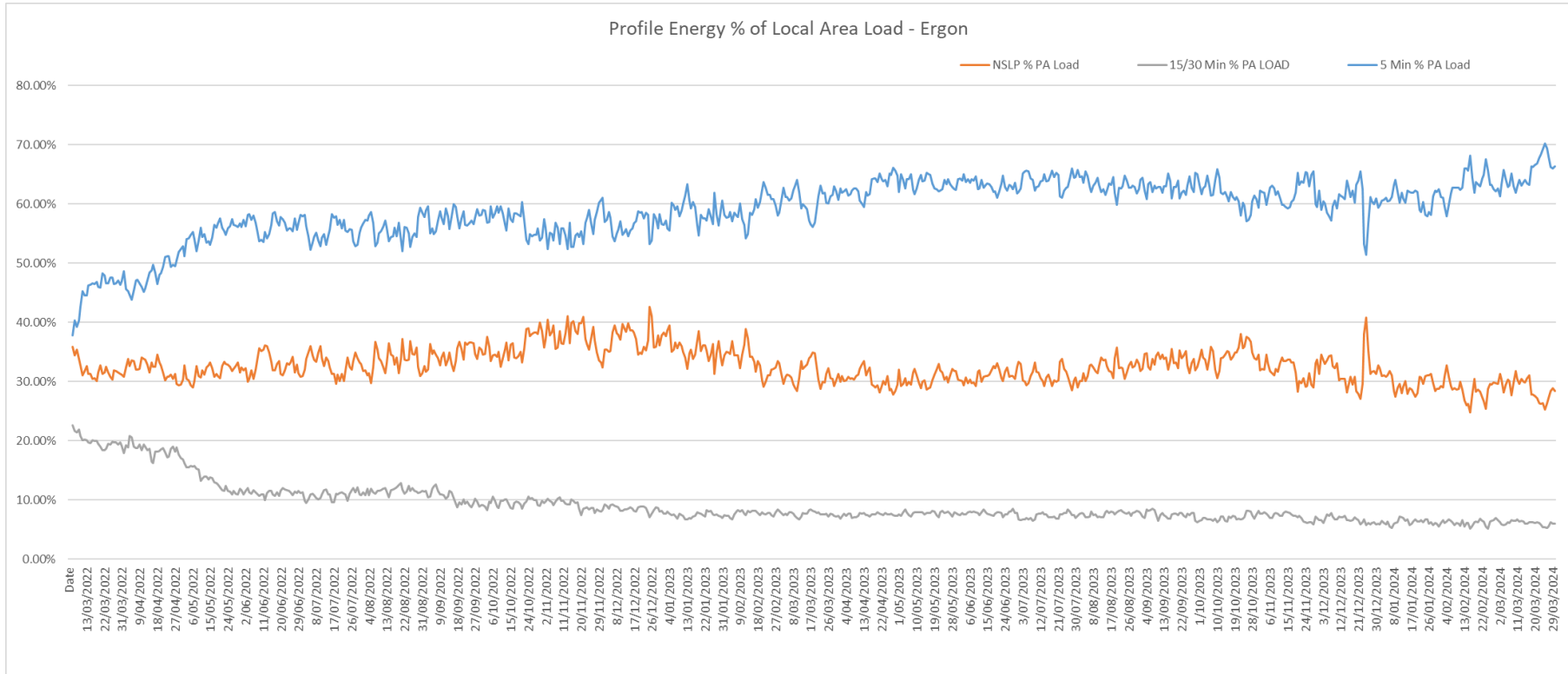
Weights have been applied to Final version settlement data from December 2021 to 30 September 2023.



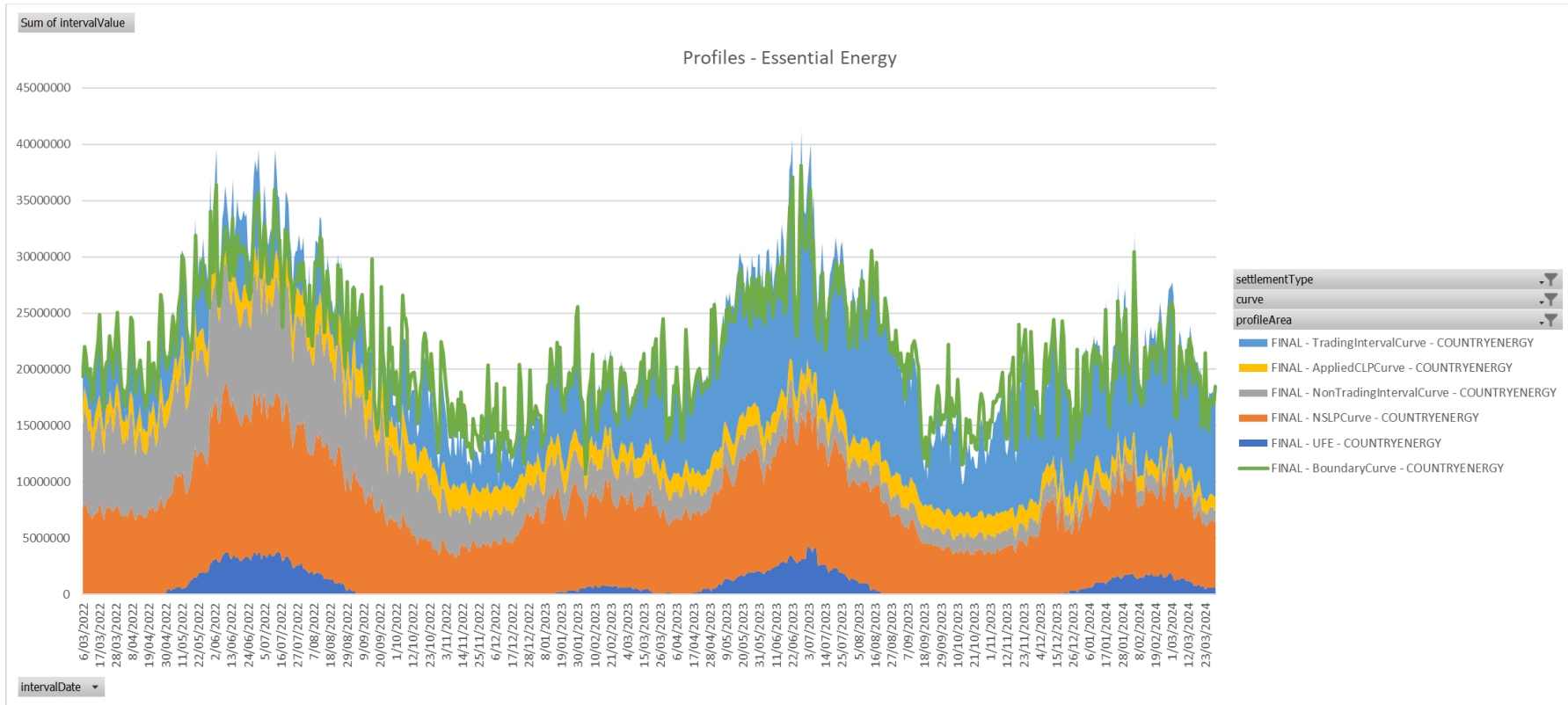
### A1.3.7 Ergon

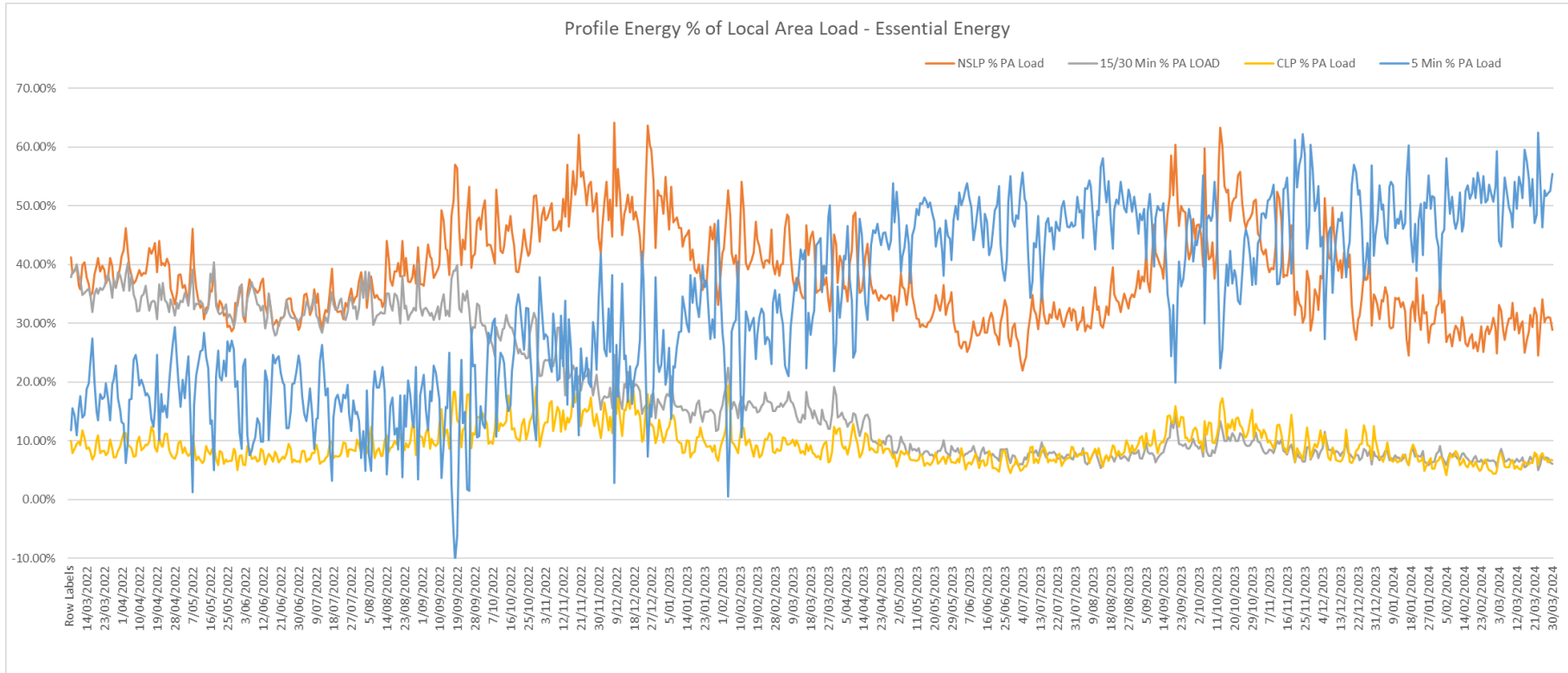




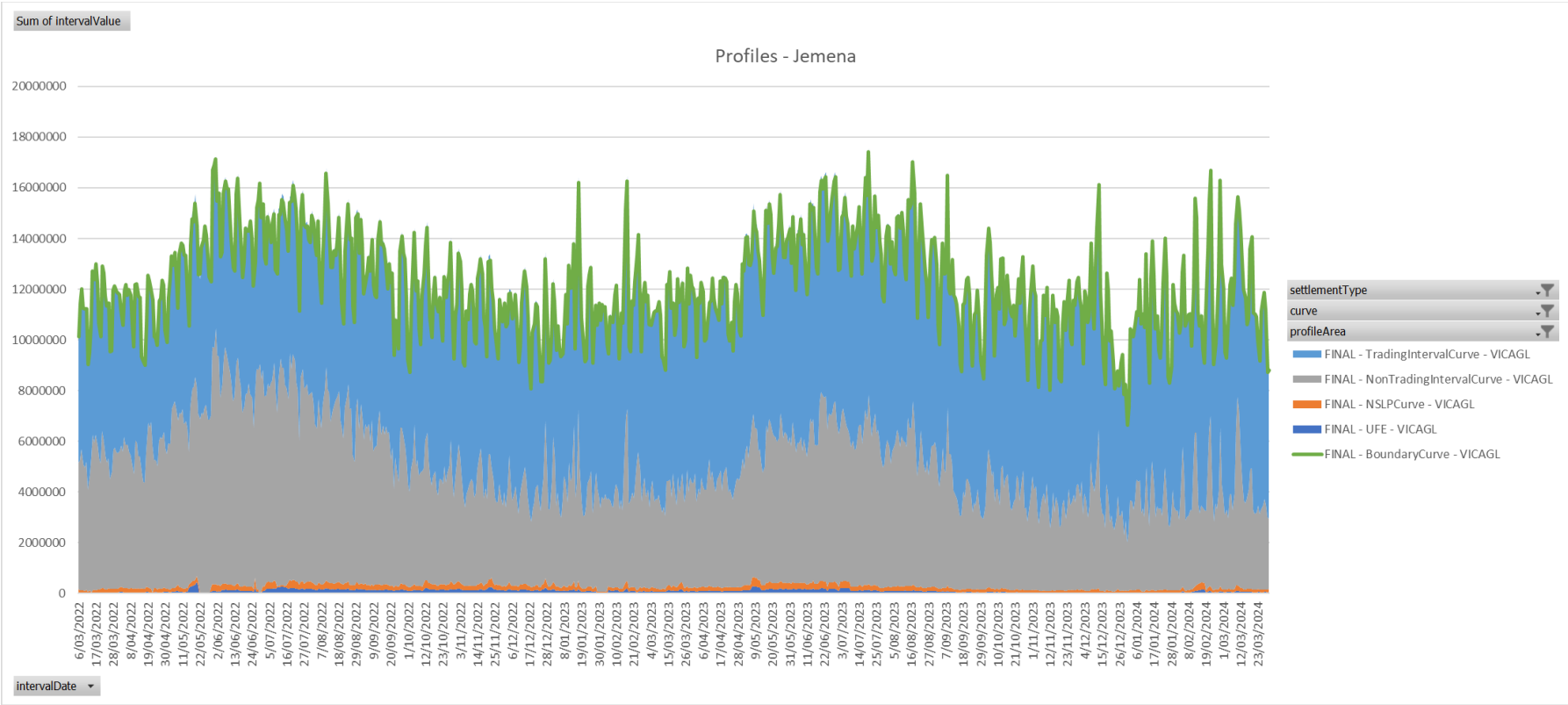


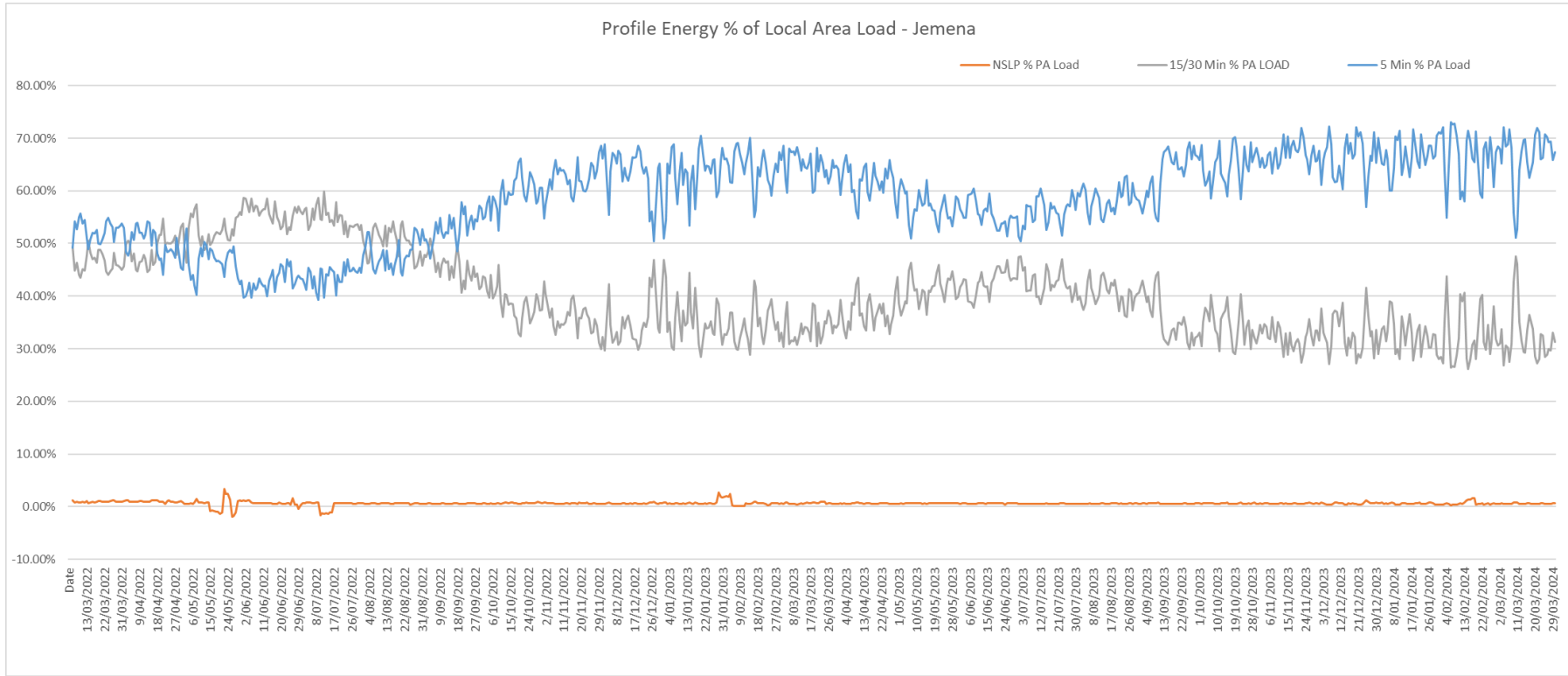
### A1.3.8 Essential Energy



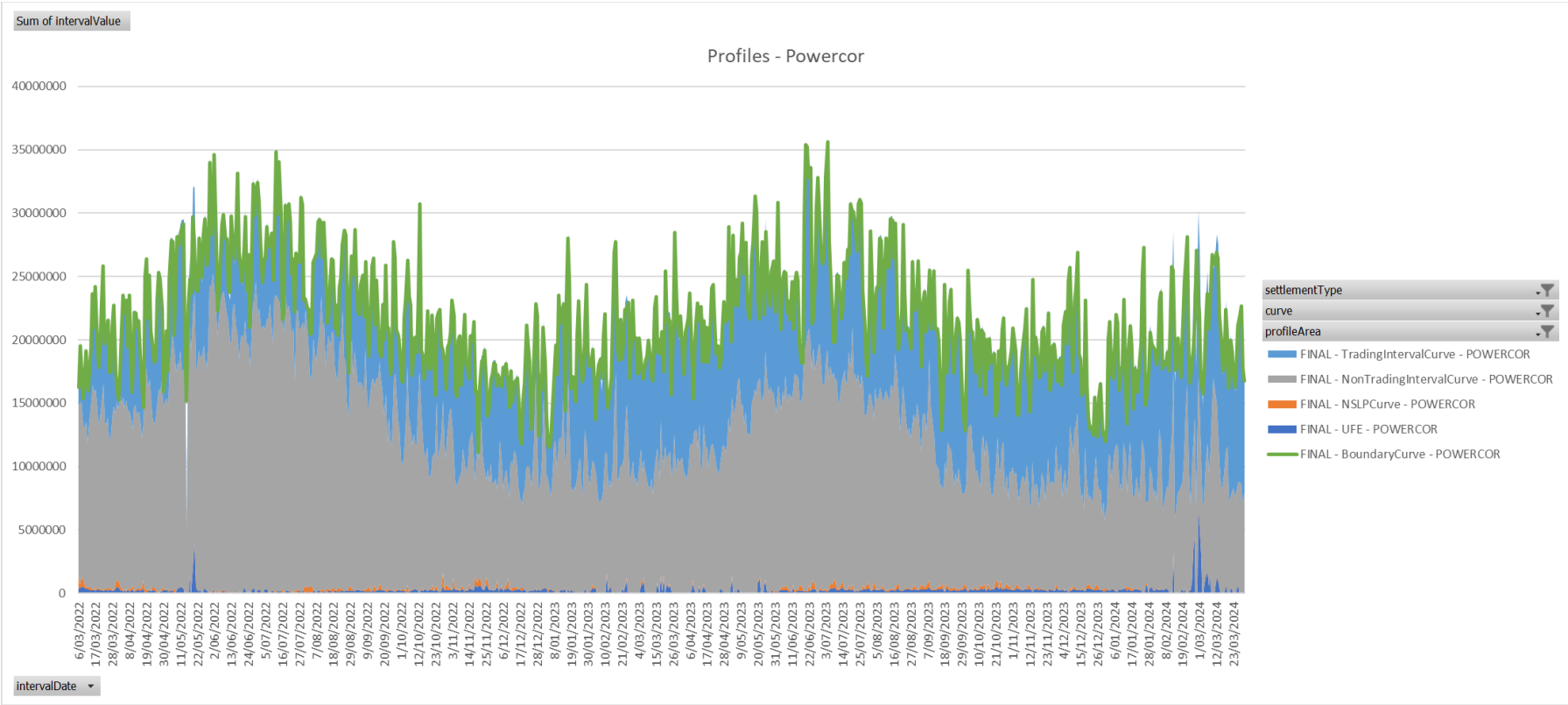


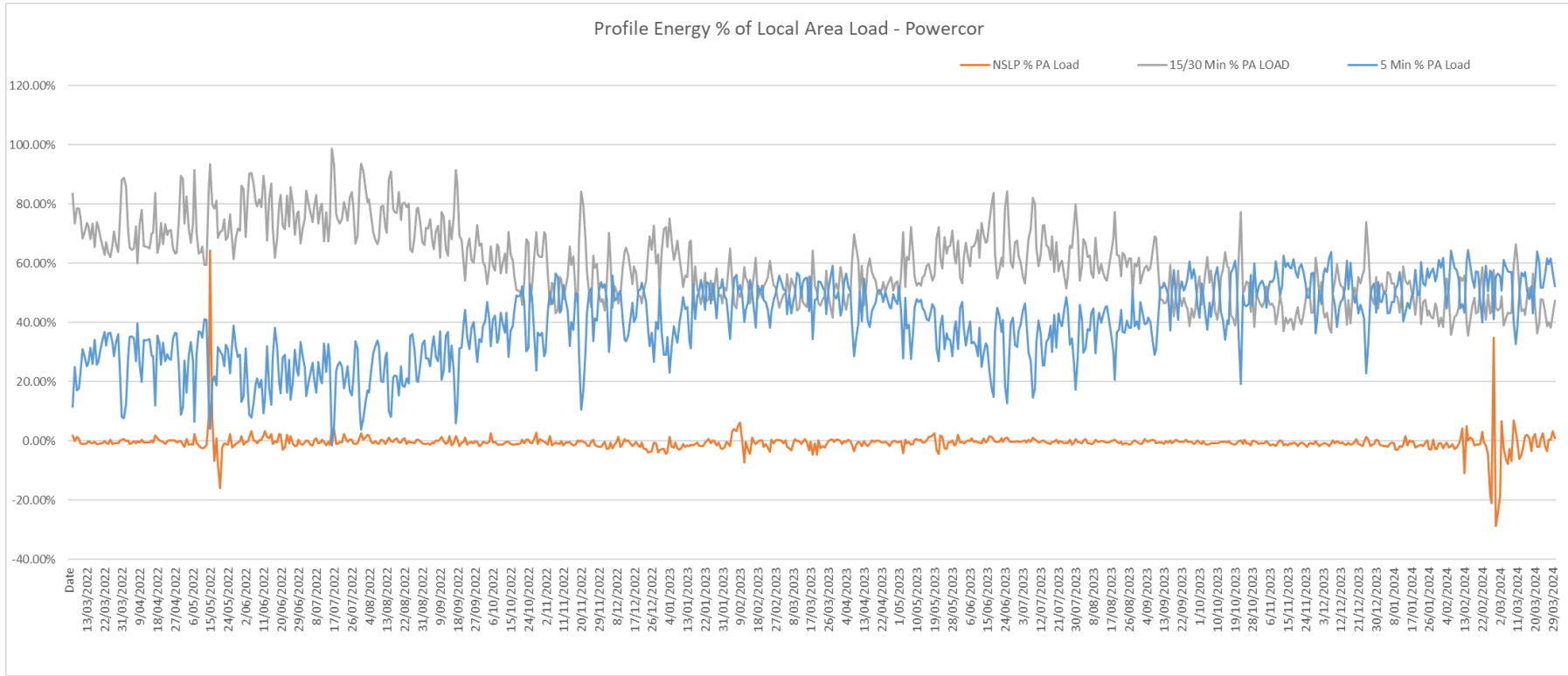
A1.3.9 Jemena



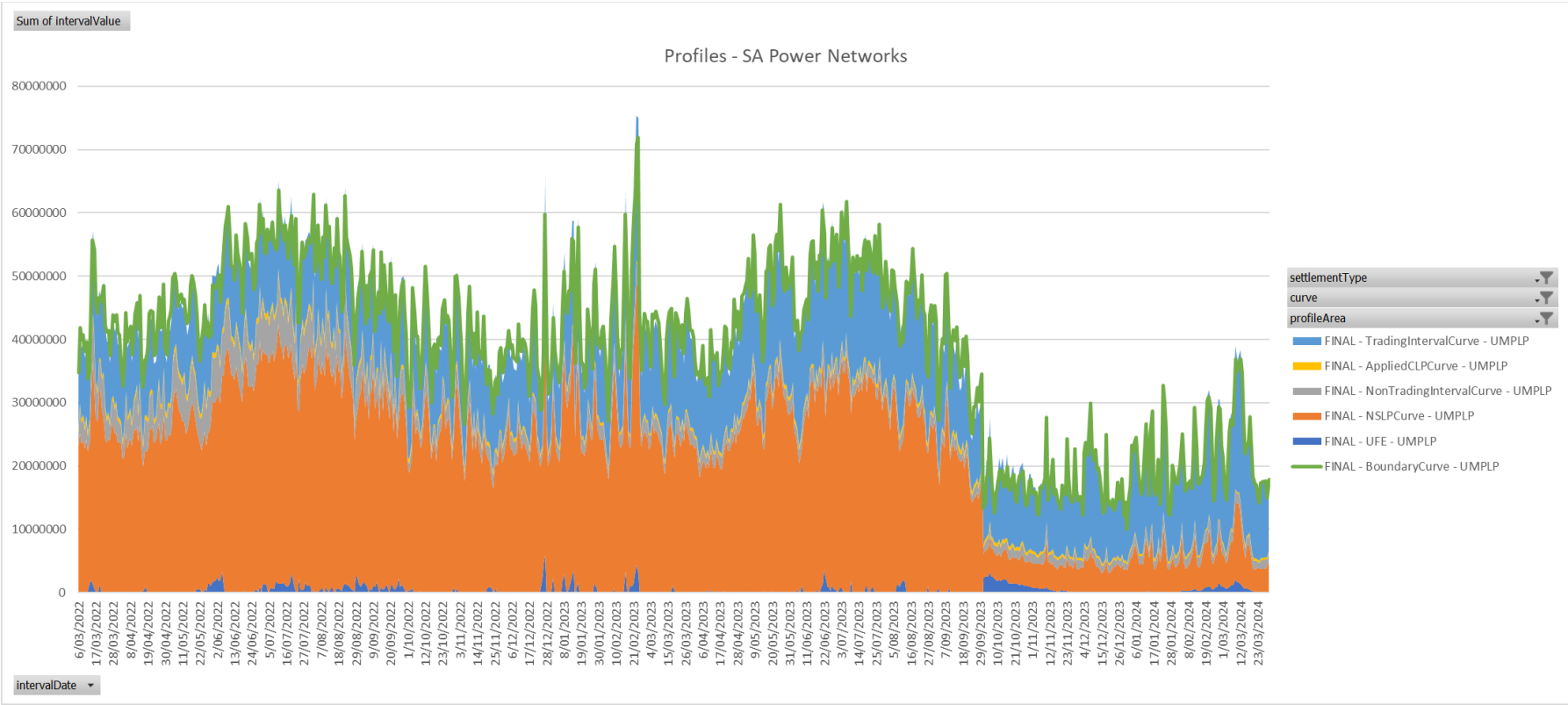


A1.3.10 Powercor



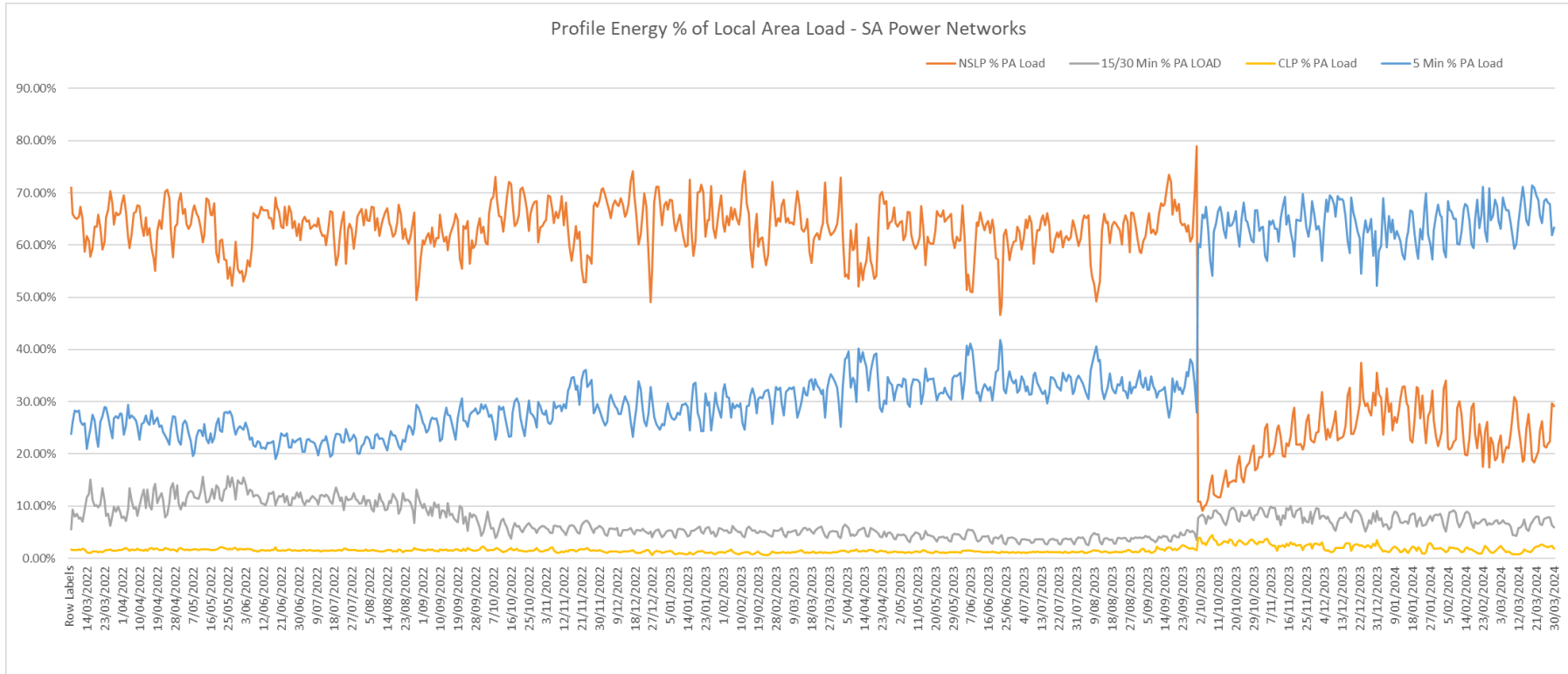


### A1.3.11 SA Power Networks

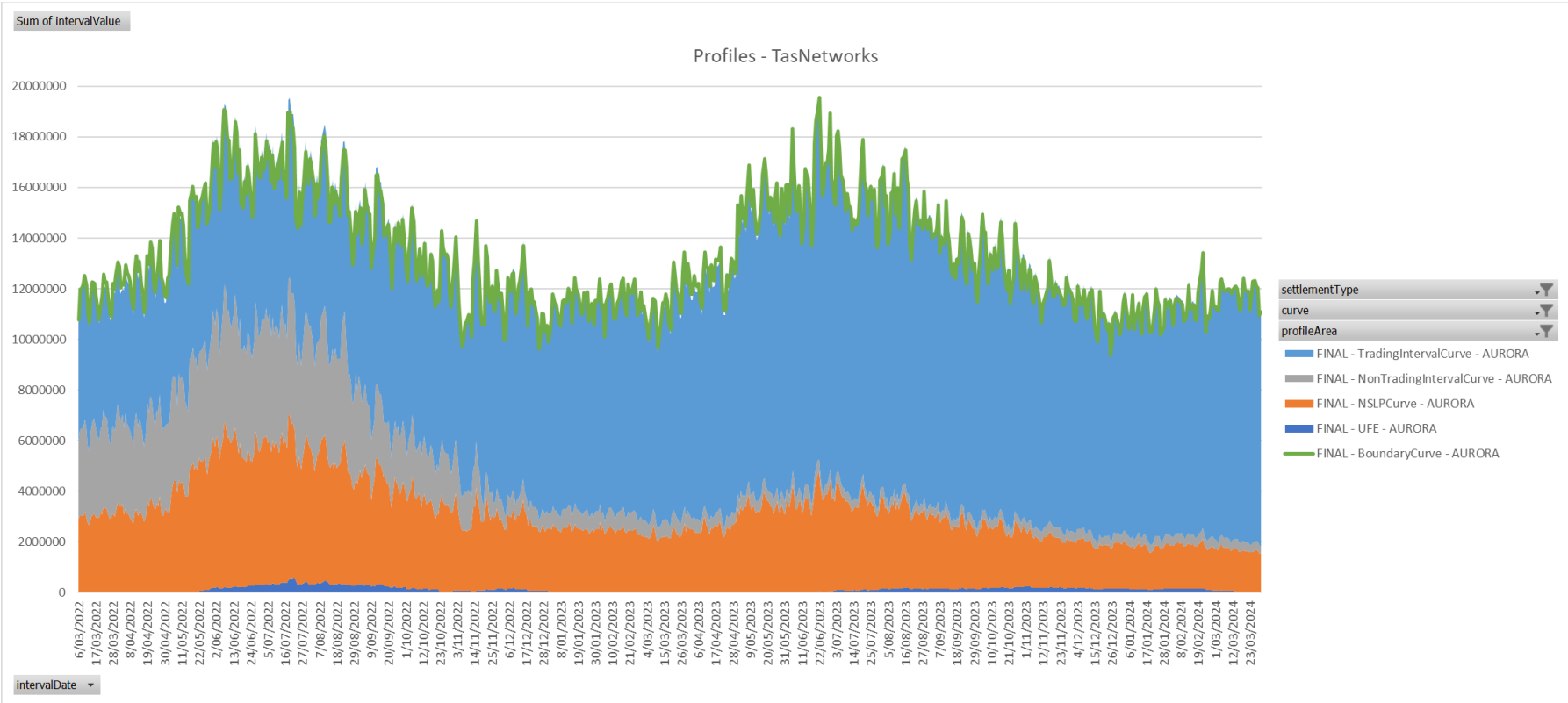


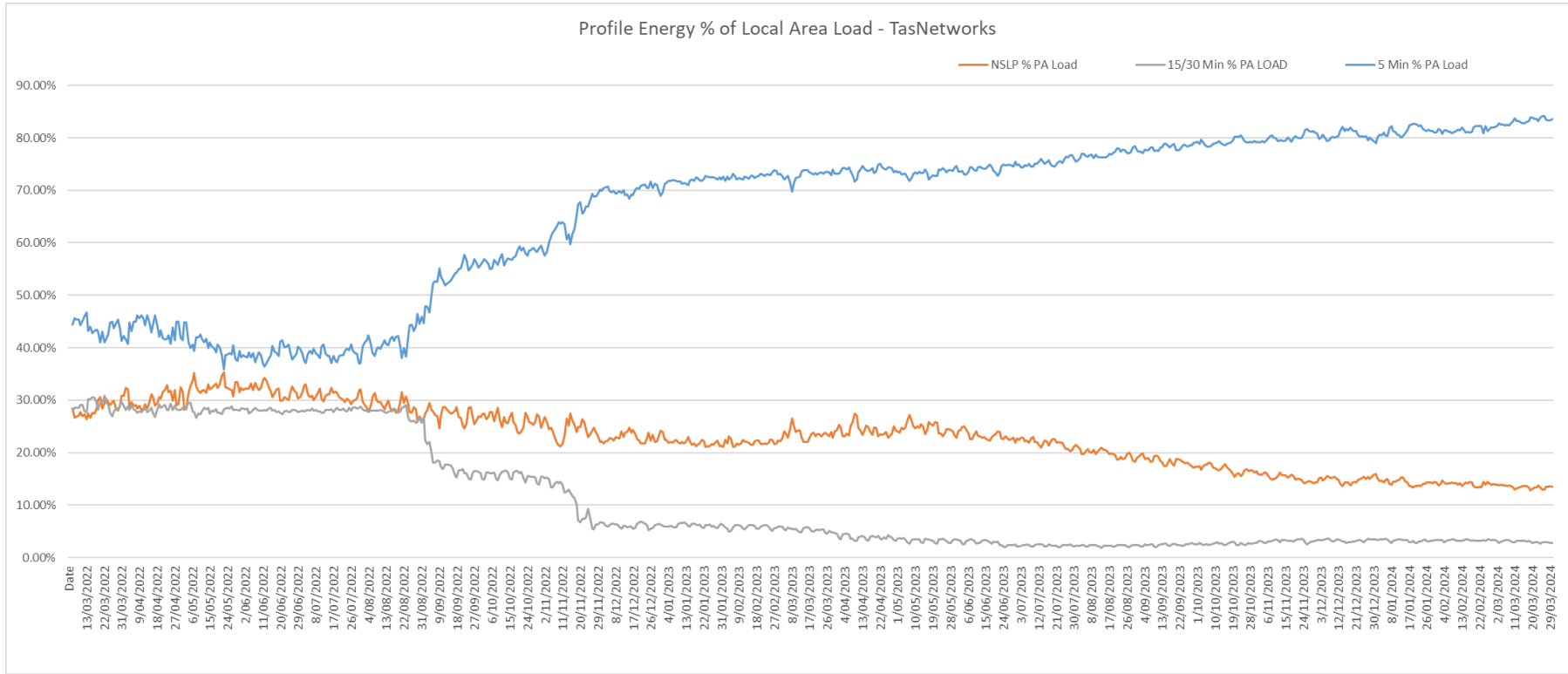
Weights have been applied to Final version settlement data from December 2021 to 30 September 2023.





### A1.3.12 TasNetworks





### A1.3.13 United Energy

