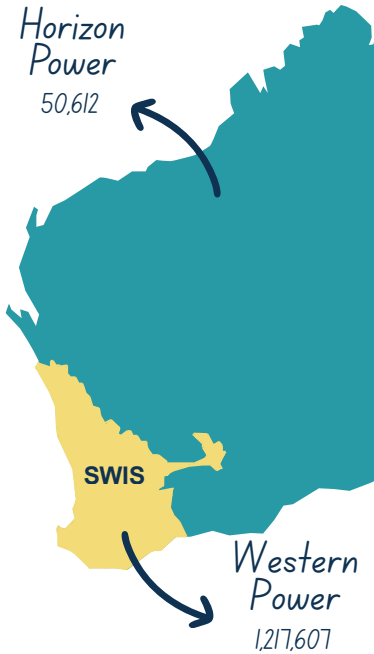


Electricity delivery reliability

Electricity delivery reliability 2024/25 - At a glance



Western Power is the distributor for more than 1.2 million customers in the SWIS. Horizon Power supplies the less populous areas of WA.

We licence energy utilities and monitor the reliability of electricity delivery. Poor reliability can have a major impact on customers. For businesses, outages mean lost trade. For households, outages disrupt daily life, especially for those who use life support equipment.



Customers experienced improved reliability overall in 2024/25 compared to 2023/24.

Average per connection

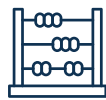
Western Power Horizon Power



Time interrupted (SAIDI)
Total of all outages

438 minutes

184 minutes



Interruptions (SAIFI)
Number of outages

2.69

2.11



Restoration time (CAIDI)
 $SAIDI \div SAIFI$

163 minutes

88 minutes

Outage frequency and duration standards

Figures include all outages over the year (non-normalised)

Interruptions of
over 12 hours



1,132

Connections with
> 16 interruptions



302

Interruptions of
over 12 hours



61,901

Urban connections
with > 9 interruptions



8,752

Non-urban with
> 16 interruptions



4,671

Horizon Power Western Power

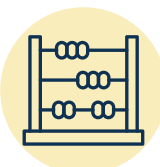
This report highlights reliability data from two licensed electricity distributors, Western Power and Horizon Power. More detailed distribution data from 2014 to 2025 can be found in the [ERA's energy distributor dashboard](#).

A distribution connection can represent many people. Apartment buildings, caravan parks, or commercial tenancy complexes often have a single connection. Data we collect from distributors counts each network connection as a single customer and includes both residential and business customers.

Key terms



System average interruption duration index (SAIDI). The average cumulative amount of time (in minutes) that individual customer connections experienced interruptions longer than one minute during the year. This shows how long, on average, a customer was without power over the year. When SAIDI is presented as normalised, a range of outages are excluded from the calculation.



System average interruption frequency index (SAIFI). The average number of times individual customer connections experienced an interruption longer than one minute during the year. This shows how often, on average, a customer was disconnected over the year. When SAIFI is presented as normalised, a range of outages are excluded from the calculation.



Customer average interruption duration index (CAIDI). The average duration (in minutes) of interruptions longer than one minute experienced by individual customer connections during the year. CAIDI is equal to SAIDI divided by SAIFI. This shows how long the average outage lasted for.



Explanation - Normalised Data

Western Power and Horizon Power provide reliability data in two formats – normalised data and non-normalised. The normalised figures are smaller as they exclude a range of outages.

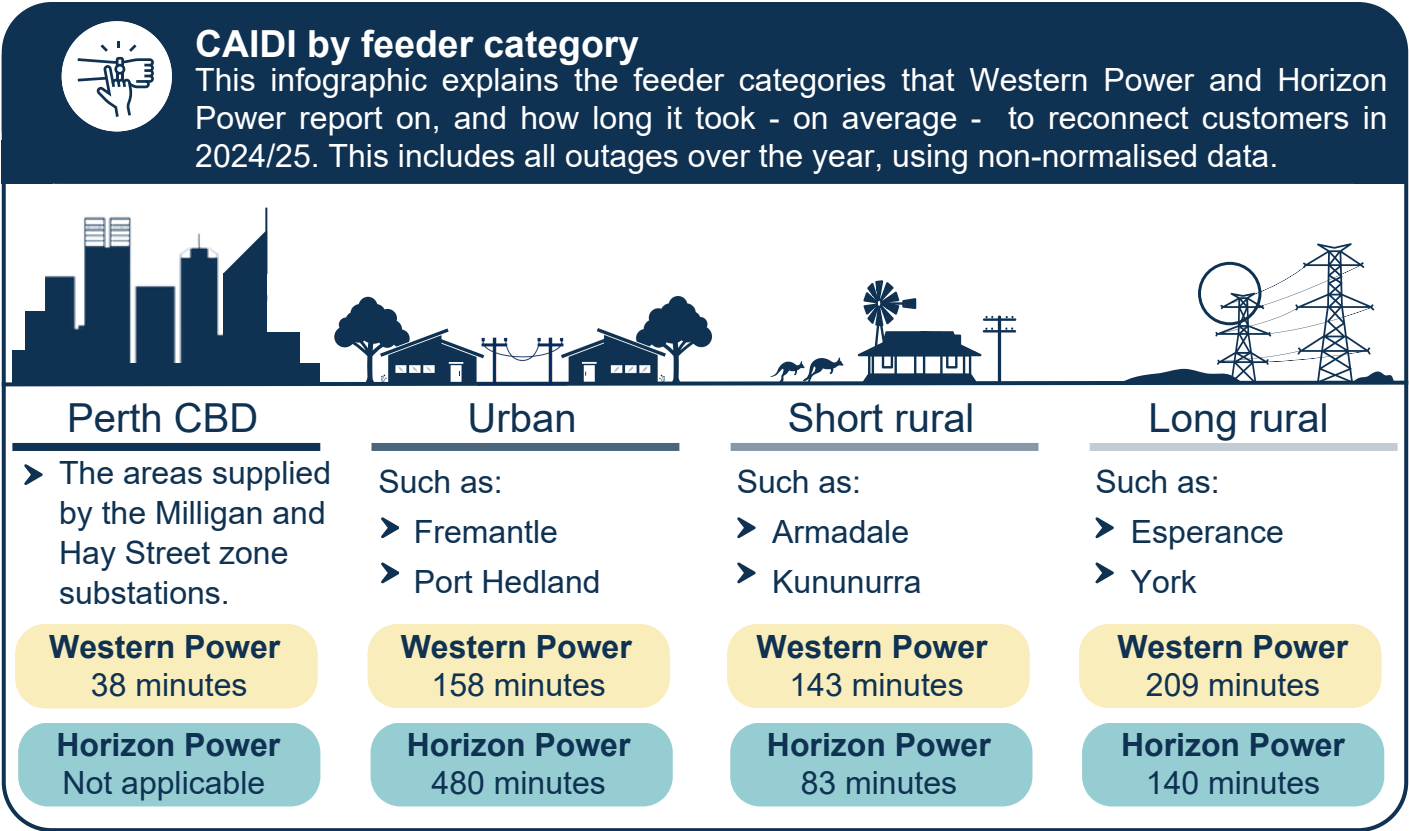
To illustrate how often customers experience outages and how long the outages last, this report focuses on non-normalised data. Non-normalised data better demonstrates customer experience – for a customer an outage has the same effect whether it was caused by the distributor or a major storm.

Normalised data excludes planned outages, those caused by a third party and outages on a 'major event day' – such as a significant storm or bushfire. Normalised data allows us to compare reliability between the years without fluctuations caused by natural disasters and other unpredictable events.

The reliability data is presented with respect to overall electricity connections for Western Power and Horizon Power, and for four electricity feeder categories:

- Perth CBD: Areas supplied by Western Power via the Milligan Street or Hay Street substations.
- Urban (excluding Perth CBD) feeders: Metropolitan areas designated in [regulation](#) (clause 3).
- Short rural: Feeder route length less than 200 kilometres.
- Long rural: Feeder route length greater than 200 kilometres.

The vast majority of customers across Western Australia are in the Urban (49.5 per cent) or the Short rural (42 per cent) feeder categories. Approximately 8 per cent of customers are connected to Long rural feeders while 0.5 per cent are in the Perth CBD feeder category.



Customer experience – South West Interconnected System

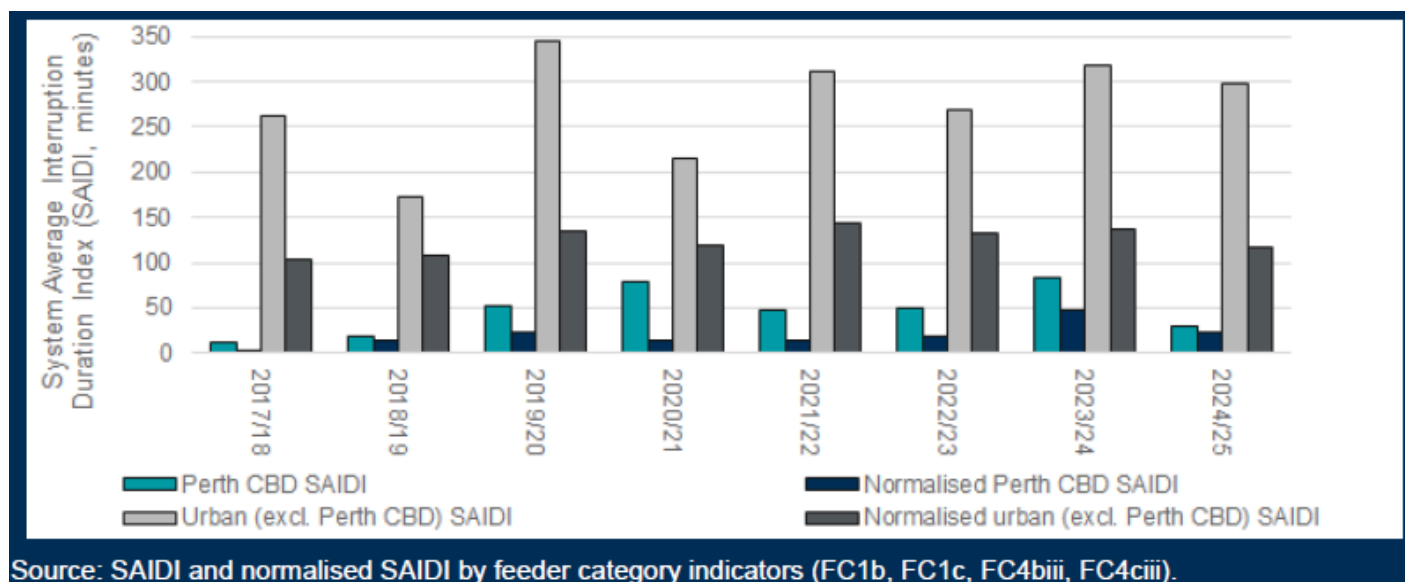
Generally, the number and length of outages declined in 2024/25 for most customers in the South West Interconnected System (SWIS).

The following four figures highlight the number and frequency of outages experienced by customers in each of the four feeder categories over the past eight years. By including normalised data, the figures show the gap between all outages and the ‘normalised’ data which excludes outages caused by a third party, planned outages and those on a ‘major event day’.

The total outage time on average is shown in Figure 1 and Figure 2 (SAIDI). Both figures illustrate how the normalised data fluctuates less from year to year than the actual outages experienced by the customer. For each feeder type, the taller bars indicate the customer experience and the corresponding shorter bars show the normalised data.

The majority of Western Power’s connections are to urban feeders. Figure 1 shows how the outage duration has fluctuated over the past eight years for these customers (light grey bar). In 2019/20, customers on urban feeders experienced the highest average cumulative outage of 345 minutes. The year prior had the lowest average cumulative outage (173 minutes). By excluding a range of outages, the normalised figures were more stable, ranging from 103 minutes in 2017/18 to 144 minutes in 2021/22 (dark grey bar).

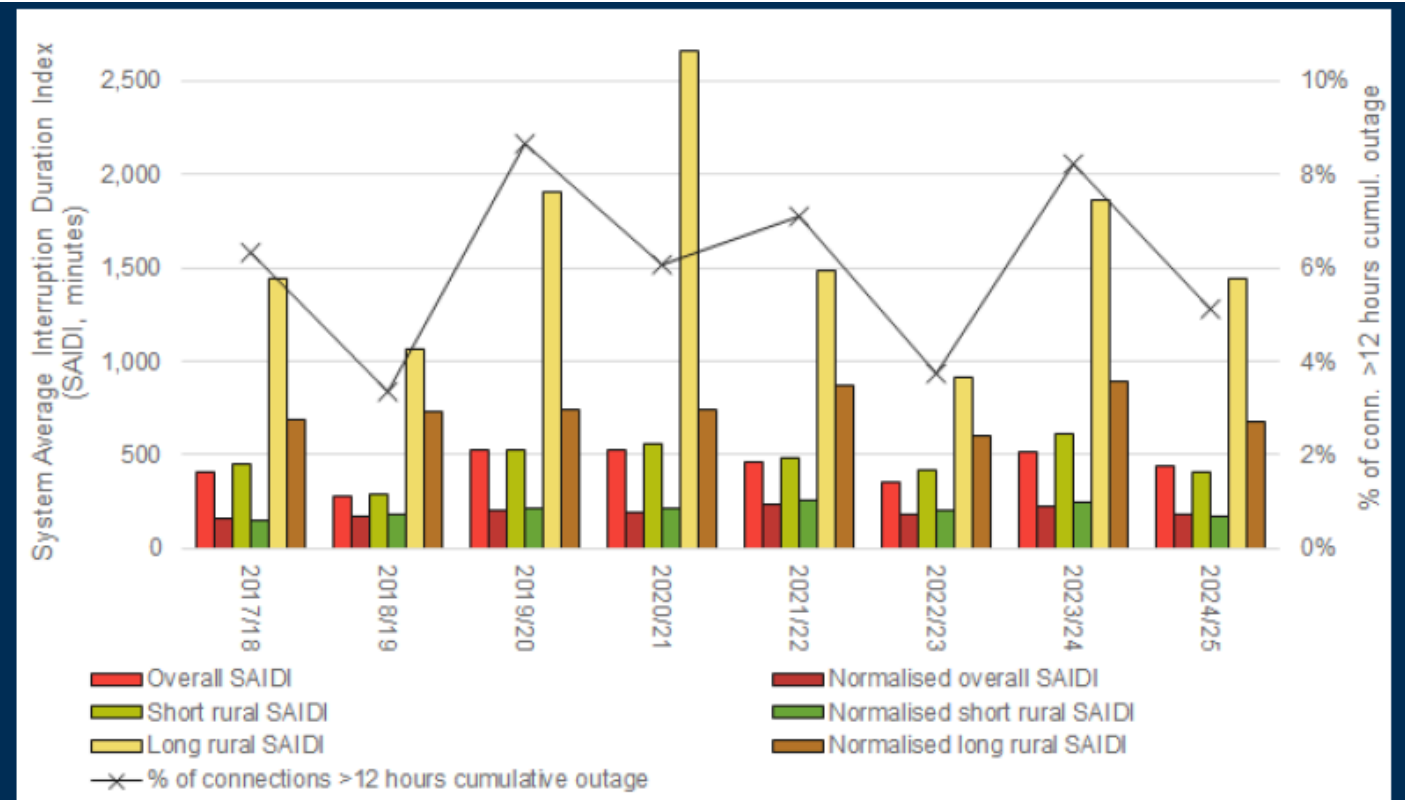
Figure 1: Western Power – Average cumulative outage (SAIDI) for urban feeder categories



In 2024/25 the average cumulative outage time across all connections, using all outages, was over seven hours. This means that customers in the SWIS were without power for 438 minutes on average (red bar, Figure 2). There were large variations in the outage time depending on feeder type. The average cumulative outage time ranged from 30 minutes for the Perth CBD (teal bar Figure 1) to almost 24 hours for connections to long rural feeders (1,438 minutes, yellow bar Figure 2).

A small proportion of customers in the SWIS experience more than 12 hours of outages in total over the year. The line on Figure 2 (right axis) combines total outage data from all feeder types to illustrate that this has fluctuated from a high of 9 per cent of customers in 2019/20 to a low of 3 per cent in 2018/19. In 2024/25, 5 per cent of customers experienced more than 12 hours of outages over the year.

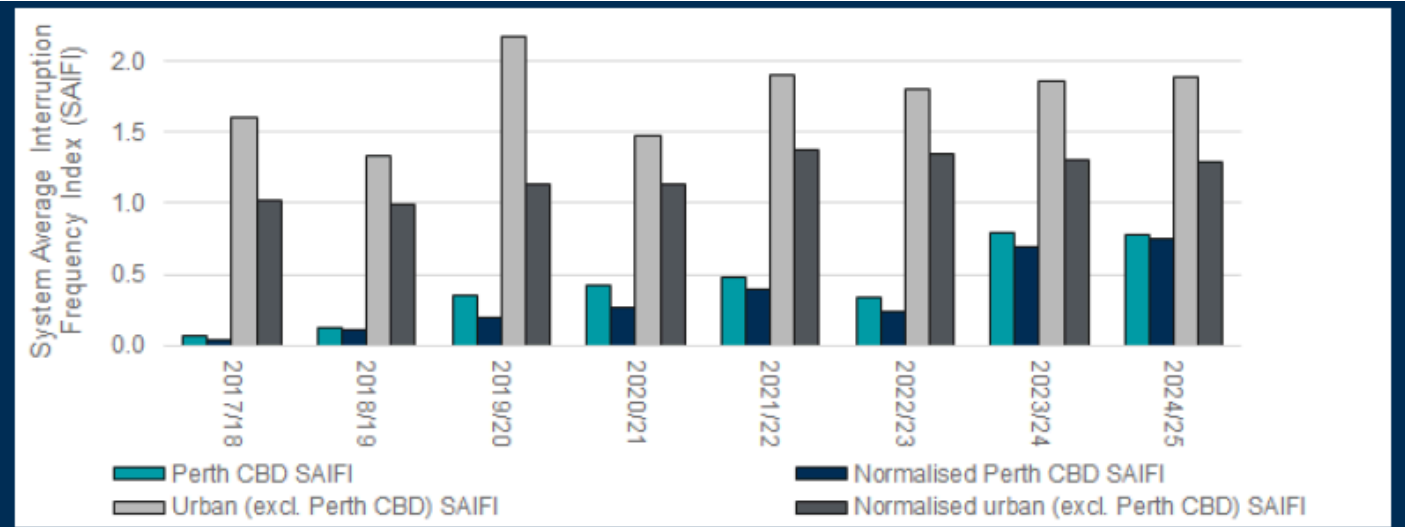
Figure 2: Western Power – Average cumulative outage (SAIDI) for overall and rural feeder categories



Source: SAIDI and normalised SAIDI overall and by feeder category indicators (FC1, FC1d, FC1e, FC4iii, FC4diii, FC4eiii); occurrences of electricity supply interruptions longer than 12 hours, and number of connections indicators (NQR1, CCD7).

The average frequency of outages is illustrated in Figure 3 and Figure 4. Figure 3 shows data for the Perth CBD and urban feeders while Figure 4 contains data for overall and rural feeder categories and includes the average length of interruptions (CAIDI on the right axis).

Figure 3: Western Power – Average outage frequency (SAIFI) for urban feeder categories



Source: SAIFI and normalised SAIFI by feeder category indicators (FC5b, FC5c, FC8biii, FC8ciii).

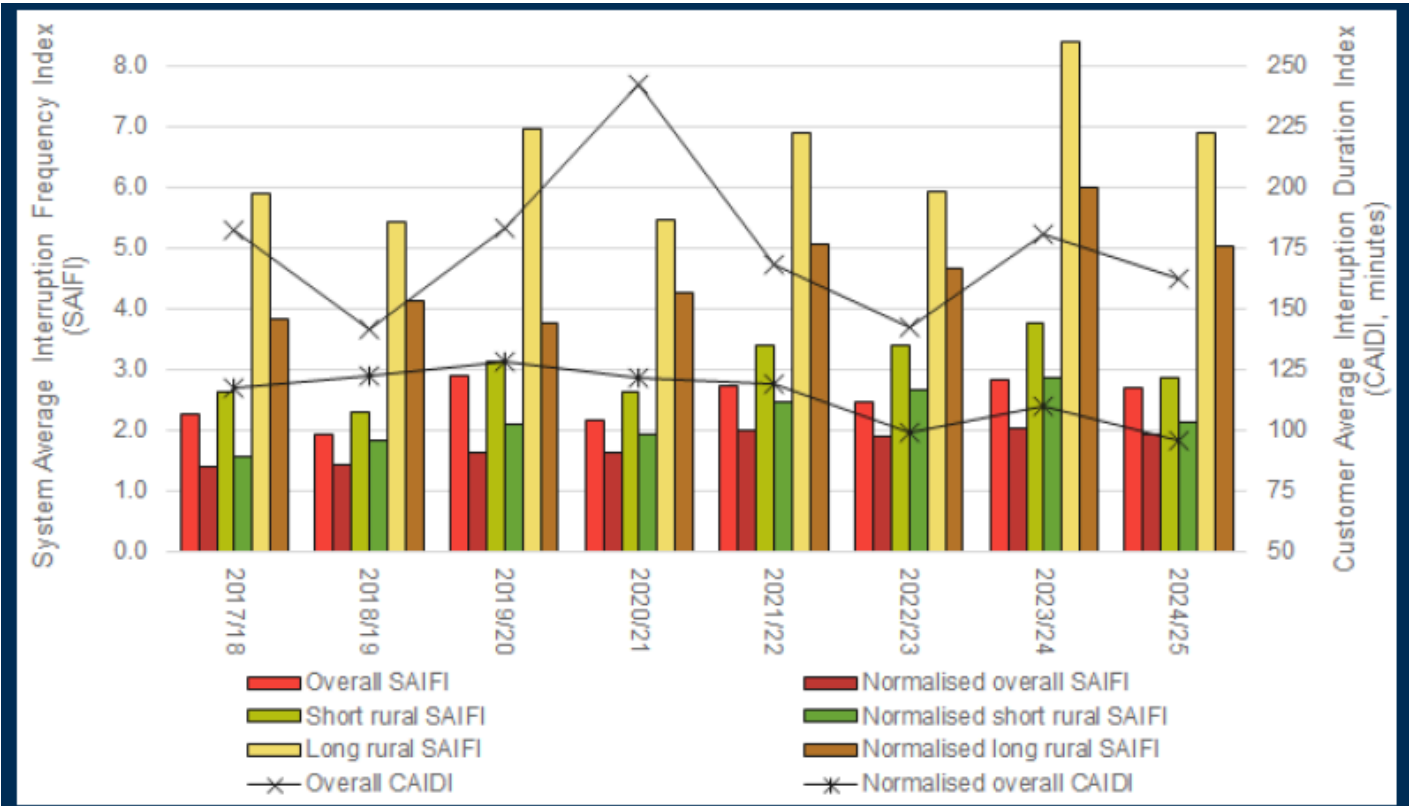
In total, customers experienced an average of 2.7 interruptions across all connections in 2024/25. The frequency of interruptions varied depending on the feeder type and ranged from 0.8 for the Perth CBD to 6.9 interruptions for connections to long rural feeders. After removing planned, third-party and major event day outages, the normalised data shows just 1.9 interruptions across all connections - ranging from 0.7 interruptions for the Perth CBD to 5 for long rural feeders in 2024/25 (Figure 3 and Figure 4 left axes).

The average length of all interruptions across all connections in 2024/25 was 163 minutes (Figure 4 right axis). Customers in the Perth CBD were again the least affected by outages with an average length of 38 minutes. In contrast, connections to long rural feeders experienced an average interruption length of almost 3.5 hours (209 minutes).

By excluding a range of outages, the normalised data shows the average length of interruptions was just 95 minutes across all connections, ranging from 30 minutes for the Perth CBD to 135 minutes for long rural feeders (CAIDI in Figure 4 right axis).

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Figure 4: Western Power – Average outage frequency (SAIFI) for overall and rural feeder categories



Source: SAIFI and normalised SAIFI overall and by feeder category indicators (FC5, FC5d, FC5e, FC8iii, FC8diii, FC8eiii); CAIDI equals SAIDI divided by SAIFI.

More information on Western Power’s reliability in 2024/25 can be found on its website in the [Annual Reliability and Power Quality Report](#) and the [Service Standard Performance Report](#) published by the ERA.

Customer experience – Outside the SWIS

Generally, the number and length of outages for most customers declined in 2024/25 in the locations served by Horizon Power.

The following two charts compare normalised and non-normalised average cumulative outage and outage frequency for Horizon Power customers over the past eight years.

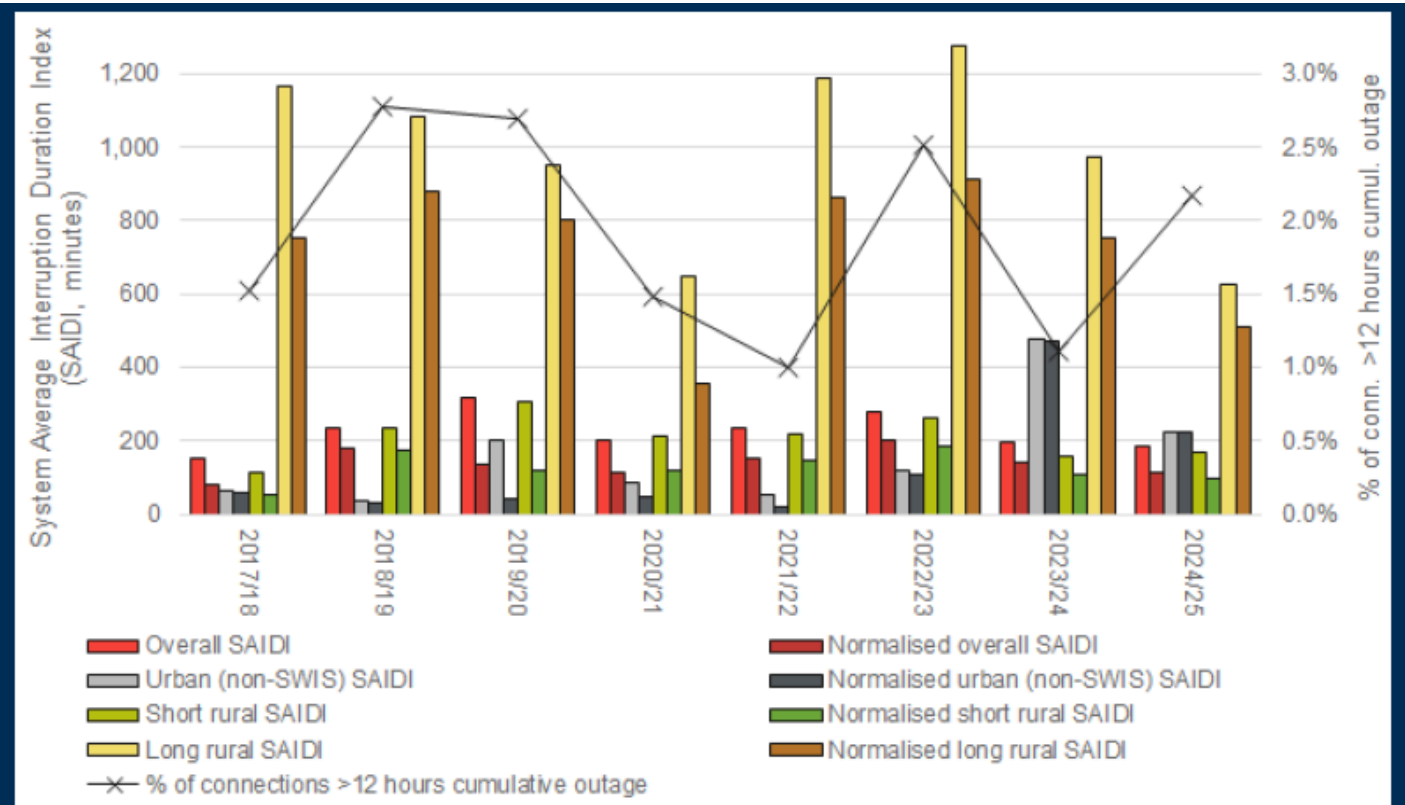
Figure 5 shows the average cumulative outage experienced by each connection as normalised and non-normalised. Using non-normalised data to illustrate customer experience, the average cumulative outage was 184 minutes across all connections in 2024/25. Customers on short rural feeders experienced an average cumulative outage of 166 minutes while customers on long rural feeders had an average cumulative outage time of 624 minutes (Figure 5 left axis).

Using normalised data, the average cumulative outage SAIDI was 116 minutes across all connections, ranging from 100 minutes for short rural feeders to 511 minutes for long rural feeders (left axis).

Each year, a small proportion of customers experience more than 12 hours of outages in total. The line graph on Figure 5 (right axis) combines data from all feeder types to illustrate how this percentage has changed over the past eight years.

Horizon Power’s reclassification of some connections between urban and short rural feeder categories based on electricity consumption has affected the comparison of cumulative outage for urban feeders to short rural feeders over time.

Figure 5: Horizon Power – Average cumulative outage (SAIDI) for all feeder categories



Source: SAIDI and normalised SAIDI overall and by feeder category indicators (FC1, FC1c, FC1d, FC1e, FC4iii, FC4ciii, FC4diii, FC4eiii); occurrences of electricity supply interruptions longer than 12 hours, and number of connections indicators (NQR1, CCD7).

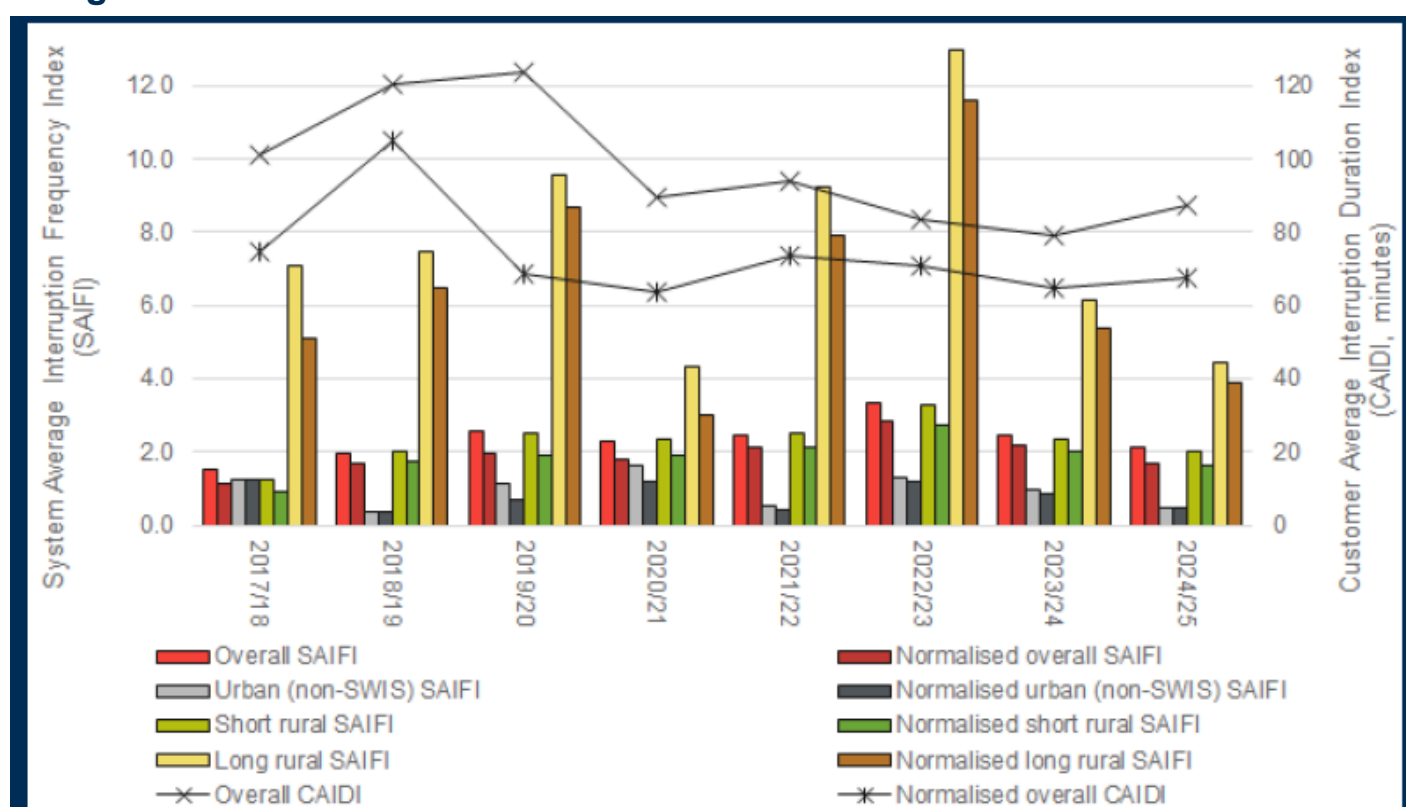
Figure 6 shows the frequency of outages, averaged across all connections as normalised and non-normalised. Using non-normalised data, in 2024/25 there was an average of 2.1 interruptions across all connections. For urban feeders, the average outage frequency was 0.5 and for long rural feeders the average was much higher at 4.5 interruptions (left axis).

Using normalised data, there were 1.7 interruptions across all connections, ranging from 0.5 interruptions for urban feeders to 3.9 interruptions for long rural feeders in 2024/25 (left axis).

When taking into account all outages, the average length of an interruption in 2024/25 for all connections (CAIDI) was 88 minutes across all connections (right axis). This average duration ranged from 83 minutes for short rural feeders to 480 minutes for urban connections – meaning that urban customers experienced longer outages than customers on short rural feeders (but less frequently).

Normalised data on the average length of an interruption was 68 minutes across all connections (right axis), ranging from 61 minutes for short rural feeders to 480 minutes for urban connections.

Figure 6: Horizon Power – Average outage frequency (SAIFI) for all feeder categories



Source: SAIFI and normalised SAIFI overall and by feeder category indicators (FC5, FC5c, FC5d, FC5e, FC8iii, FC8ciii, FC8diii, FC8eiii); CAIDI equals SAIDI divided by SAIFI.

More information on Horizon Power’s reliability in 2024/25 can be found on its website: [Network Quality and Reliability of Supply Code 2024/25 Performance Report](#).

Regulated reliability levels 2024/25

The [Electricity Industry \(Network Quality and Reliability of Supply\) Code 2005](#) (NQ&R Code) sets area-based (urban and non-urban) standards for outage duration and frequency that apply to Western Power and Horizon Power. This reliability data includes all outages customers experience, including planned outages and major event days caused by severe weather – this means that the data in this section is not normalised.

Including all interruptions is important to understand customer experience - even planned interruptions can be disruptive for customers, who may be unable to trade or work remotely.

This section outlines two distributors' performance against three NQ&R Code standards.

1. Customers who consume not more than 50 MWh of electricity per year that experience a supply interruption of longer than 12 hours may apply for compensation (Section 19)

- There were 61,901 occurrences of Western Power customers experiencing an interruption of longer than 12 hours in 2024/25 – this is 37 per cent lower than 2023/24. The number of these outages fluctuates from year to year and can be caused by extreme weather events.
 - 61,901 occurrences represent approximately 5 per cent of total connections (Figure 2 right axis). As a connection may have multiple long interruptions over the year, it is likely that fewer than 5 per cent of connections were affected by interruptions longer than 12 hours in 2024/25.
- There were 1,132 occurrences of Horizon Power customers experiencing an outage of longer than 12 hours. Over the past eight years, this figure has fluctuated between a low of 522 and a high of 1,380. 1,132 occurrences represent approximately 2 per cent of total connections (Figure 5 right axis).

2. For small use customers (who consume not more than 160 MWh of electricity per year), the maximum number of supply interruption events during the reporting year should be nine for urban areas (including the Perth CBD), and 16 for all other areas (Section 12)

- 8,752 urban Western Power connections had more than nine interruptions (a decrease of 15 per cent compared to 2023/24), and 4,671 non-urban Western Power connections had more than 16 interruptions (a decrease of 36 per cent compared to 2023/24).
- 302 Horizon Power connections had more than 16 interruptions (a decrease of 19 per cent compared to 2023/24).

3. Four-year average SAIDI (outage duration) should not be greater than 30 minutes for the Perth CBD, 160 minutes for other urban areas, and 290 minutes for non-urban areas (Section 13)

- Western Power's four-year average SAIDI for the Perth CBD was 52 minutes (a decrease of 18 per cent compared to 2023/24).
- Western Power's four-year average SAIDI for urban areas excluding the Perth CBD was 333 minutes (an increase of 2 per cent compared to 2023/24).
- Western Power's four-year average SAIDI for non-urban areas was 1,040 minutes (a decrease of 14 per cent compared to 2023/24).
- Horizon Power's reported four-year average overall SAIDI was 223 minutes (a decrease of 2 per cent compared to 2023/24). The ERA's calculations of Horizon Power's four-year average SAIDI for urban, short rural and long rural feeder categories for 2024/25 are, respectively, 220 minutes (an increase of 19 per cent compared to 2023/24), 202 minutes (a decrease of 6 per cent compared to 2023/24) and 1,016 minutes (a decrease of 0.5 percent compared to 2023/24) – accordingly the NQ&R Code requirement was satisfied for short rural feeder connections.