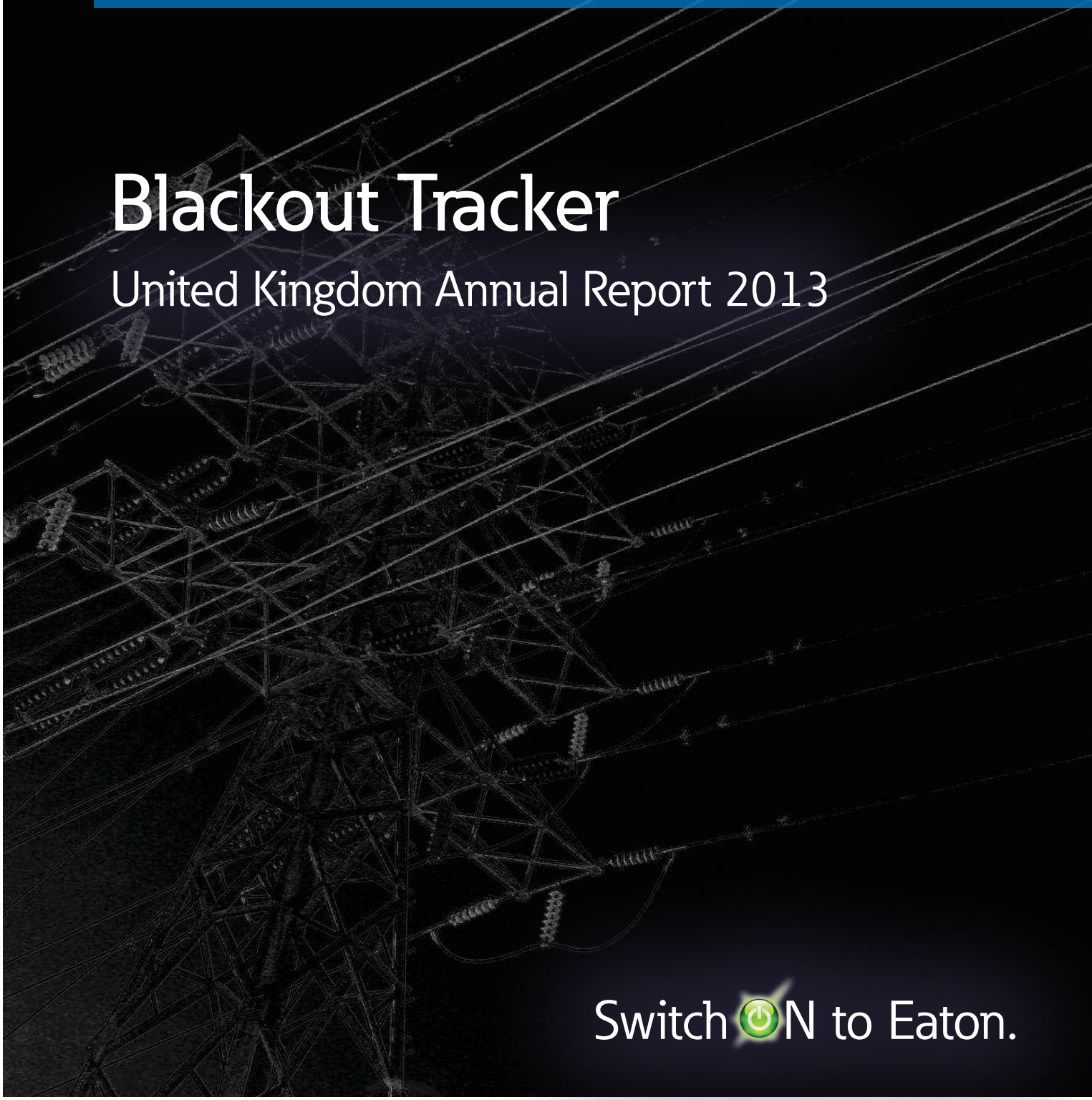
Power Outage Annual Report

Blackout Tracker

United Kingdom Annual Report 2013



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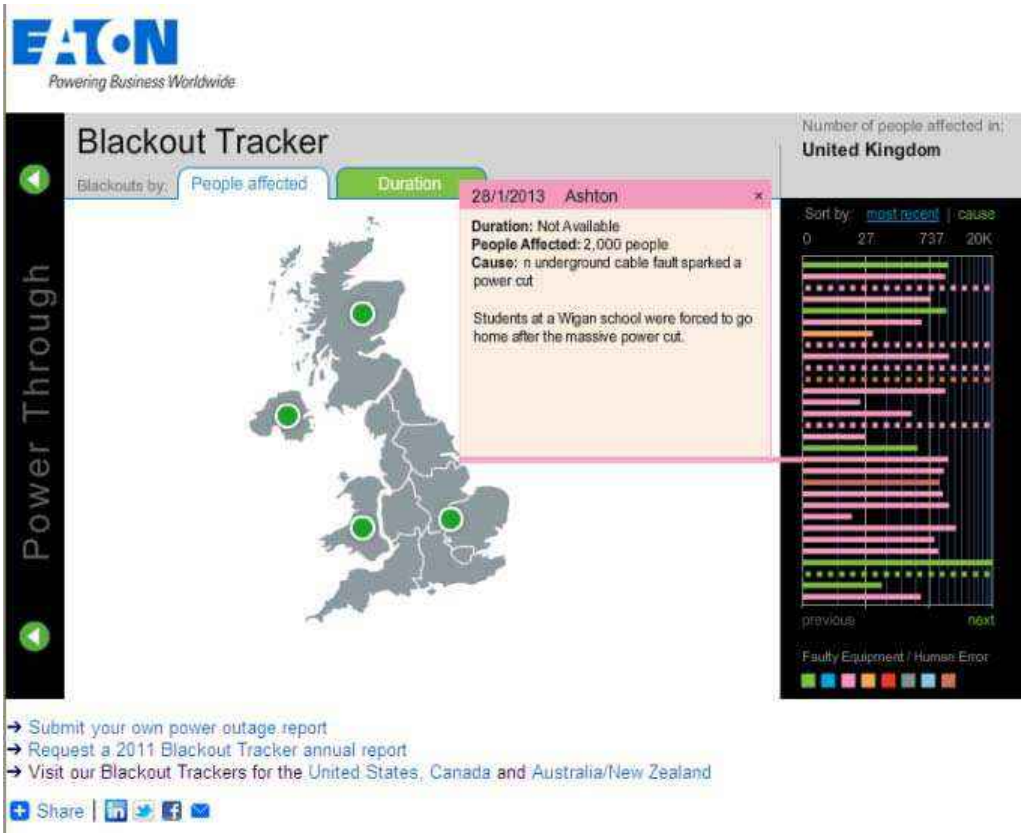


Introduction

Welcome to Eaton Blackout Tracker annual report for 2013. From the sweeping power failures brought on by severe storms to the smaller, local disruptions that affected just a small neighborhood, power outages caused problems for people and businesses across the United Kingdom (UK).

This annual report is based on reported power outages from sources including: news services, newspapers, websites (including those of newspapers and TV stations) and personal accounts. In all, 505 outages were tabulated and used as the basis for the report. This compares with 246 in 2012, 241 in 2011, and 260 in 2010. We at Eaton hope that you find the report insightful and that it prompts you to take appropriate action to prepare for power outages that could affect you and your business or organization.

The main body of the report follows this introduction and is organized into two sections:

1. Overview of 2013 UK power outage data
2. Power outage data for Northern Ireland, Scotland, Wales and the various regions of England

The costs and consequences of downtime

No matter how you look at it, the benefits of investing in power backup solutions to protect critical systems far outweigh the astonishing price tag related to downtime.

With the ability to cause irreparable damage and irretrievable loss of revenue in a matter of minutes, downtime has the power to unleash a hurricane of costs and consequences that are both direct and indirect, short-term and long-term.

Electrical power outages, surges and spikes are estimated to ring up more than $150 billion in annual damages to the U.S. economy, a figure we can reasonably assume applies to the U.K., as well. Downtime costs vary not only by industry, but by the scale of business operations. For a medium-size business, the exact hourly cost may be lower, yet the impact on the business can be proportionally much larger. Nailing down the cost of each hour of downtime varies widely on a number of factors, such as the nature of the business, the size of the company, and the criticality of its IT systems related to revenue generating processes. For instance, a global financial services organization may lose millions of dollars for every hour of downtime, whereas a small firm might lose only a margin of productivity.

According to Dunn & Bradstreet, 59 percent of Fortune 500 companies experience a minimum of 1.6 hours of downtime per week. Assuming an average staff of 10,000 employees who are paid an average of $56 per hour (including benefits), the downtime loss in labor alone for a Fortune 500 firm would ring up at $896,000 per week — or more than $46 million annually.

It isn't always easy to put an exact price tag on the consequences of downtime. Consider some of the tangible and intangible costs:

Tangible/Direct Costs

- Lost transaction revenue
- Lost wages
- Lost inventory
- Remedial labor costs
- Marketing costs
- Bank fees
- Legal penalties from not delivering on service level agreements

Intangible/Indirect Costs

- Lost business opportunities
- Loss of employees and/or employee morale
- Decrease in stock value
- Loss of customer/partner goodwill
- Brand damage
- Driving business to competitors
- Bad publicity/press

Top five most significant reported outages

1. **A complex combination of faults**, July 15 – Birchington, South East England: The equipment problems caused a 15-hour power outage.
2. **An explosion at Regeley Power Station**, July 6 – Staffordshire, West Midlands: The blast cut power to 120,000 customers.
3. **Severe storms**, Dec. 5 – Scotland: The massive power cut brought on by Mother Nature left 130,000 customers across country without power.
4. **An issue with the network**, March 22 – Belfast, Northern Ireland: Some 200.000 customers were left in the dark as a result of the utility problem.
5. **A violent storm**, Oct. 28 – Hever, Greater London: More than 220,000 customers suffered a loss of power as the storm rolled through the region.

Top five most unusual outages/causes

1. **Ahh-choo!** July 9 — Billericay, East of England: A Range Rover driver blamed a sneeze for a crash in which he collided with a wooden electricity pole, leaving 600 homes without power.
2. **Here's why it pays to stay in school, kids**, May 30 – Penlan, Wales: A bungling thief cut power to 1,000 customers — and set himself on fire — when he attempted to steal cable from a power line. The not-so-bright bandit planned to sell the cable pay his phone bill. Instead, he set himself ablaze when he used a screwdriver to try pry out the 11,000 watt cable
3. **Cat got your power?** Oct. 16 – St. Cyrus, Scotland: An entire village lost power for two hours after a cat got stuck on a utility pole.
4. **Plowing into new territory,** June 13 – Radstock, South West England: A tractor plowed into a power pole, knocking out electricity. A witness said it appeared that the accident was caused when a tire blew out on the vehicle.
5. **A real drip**, August 18 – Bromsgrove, West Midlands. A leaky water pipe caused a power outage when it flooded a nursing home, including the electrics room, which blew the building's power. Some residents had to be moved to another facility.

Industries severely hindered by downtime

In an age where it is unimaginable for businesses to continuing functioning in the absence of electrical power, even a brief power outage can cause significant losses of revenue, productivity and product. While the degree of impact caused varies by industry, unappealing consequences range from disruptive to literally life-threatening.

Here, we look at 10 industries whose need for continuous, clean power is vital:

1. Data Centers. Widely regarded as the backbone of operations for numerous organizations across a wide spectrum of industries, data centers are absolutely mission-critical. As a result, the facilities take some of the deadliest hits when it comes to downtime, from the irrecoverable loss of stored records to disruption of daily transactions.

2. Financial Institutions. As if the stock market wasn't already volatile enough, consider the potential chaos a power outage can wreak. In an industry where millions of dollars can be turned to profit — or turned to dust —in a matter of seconds, power outages have the ability to render financial firms completely powerless. When corporations can't execute crucial transactions on time, they lose millions of unrecoverable dollars per minute of downtime, not to mention several additional hours of recovery time.

3. Manufacturing Industries. There's nothing like a blackout to bring production lines to a grinding halt. From losses of materials to machinery breakdown to loss of production time, downtime can take a significant toll on manufacturing processes, even causing supply chains to collapse completely.

4. Consulting/ IT Services
Crashed computer systems, lost data and cut-off communications with customers are among the havoc created by outages in the IT world. In addition to the likelihood of requiring several subsequent weeks spent on attempted recovery of corrupt programs and data, these services staff highly paid professionals who are left stranded even during a brief period of downtime, resulting in the loss of billable hours.

5. Medical Facilities. Power truly becomes a matter of life or death when an outage strikes a hospital. When patients' lives are supported by highly sensitive and critical monitoring systems, any discontinuity in the normal functioning of this equipment can directly translate to loss of life.

6. Military Operations. Power outages have the ability to render service personnel defenseless. If equipment and weaponry cease to function, it can leave armed forces at the risk of attack.

7. Control Centers. Consider the possible mayhem if an outage was to disrupt the functionality of traffic signal operations, public transport systems, air traffic control centers, telecommunications firms and utilities, all of whom rely heavily on continuous power. The resulting interruption could significantly threaten the safety and security of millions of consumers.

8. Perishable Items. For industries that rely on the continuous availability of power for storage and preservation of perishables with very limited life spans — such as pharmaceutical firms, petrochemical companies and food processing plants —outages can cause damage or contamination to in-process products worth millions of dollars.

9. Public Safety. For most people, an unplanned outage ranks somewhere between a minor nuisance and a major inconvenience. However, in some cases, a blackout holds the power to endanger lives. Consider someone trapped in elevator that comes to a grinding halt or plunges into darkness; a building on fire where alarms and water sprinklers have become inoperable; or a citizen's inability to contact emergency services because communications are down.

10. Entertainment Venues. Revenue takes a huge hit when big-ticket events are cancelled or postponed, even for brief periods of time. In many entertainment venues, such as casinos and sporting events, an abrupt loss of power can also pose a dangerous situation for visitors and staff.

Northern Ireland, Scotland, Wales and the regions of England ranked by reported outages

2013	2012	2011
1. South East England (93)	1. South East England (71)	1. South East England (52)
2. Scotland (70)	2. East of England (30)	2. East of England (31)
3. East of England (59)	3. North West England (25)	3. Greater London (25)
4. South West England (52)	4. South West England (23)	4. North West England (22)
5. Yorkshire and the Humber (48)	5. Yorkshire and the Humber (20)	4. Scotland (22)
6. North West England (45)	6. Greater London (19)	6. Yorkshire and the Humber (19)
7. West Midlands (41)	6. Scotland (19)	7. South West England (18)
8. North East England (24)	8. East Midlands (15)	8. East Midlands (13)
9. Greater London (19)	9. West Midlands (12)	8. North East England (13)
10. East Midlands (19)	10. North East England (6)	10. West Midlands (12)
11. Northern Ireland (18)	11. Northern Ireland (4)	11. Northern Ireland (8)
12. Wales (11)	12. Wales (2)	12. Wales (7)

What you can do to protect your business

What you can do to protect your business

The most important thing you can do to protect your business is to develop a power protection plan. If you don't know where to start, contact an Eaton sales partner that specializes in power protection and get the expert advice needed. From small uninterruptible power systems (UPS) like the Eaton 3S UPS to models for large data centers like the Power Xpert 9395 UPS, Eaton resellers can offer the appropriate battery backup products. Eaton sales partners also offer standby and portable generators as well as surge protection devices.

Overview of 2013 UK power outage data

This section provides aggregate data for the UK. It includes all the data found in the subsequent Northern Ireland, Scotland, Wales and the regions of England section.

Outage summary

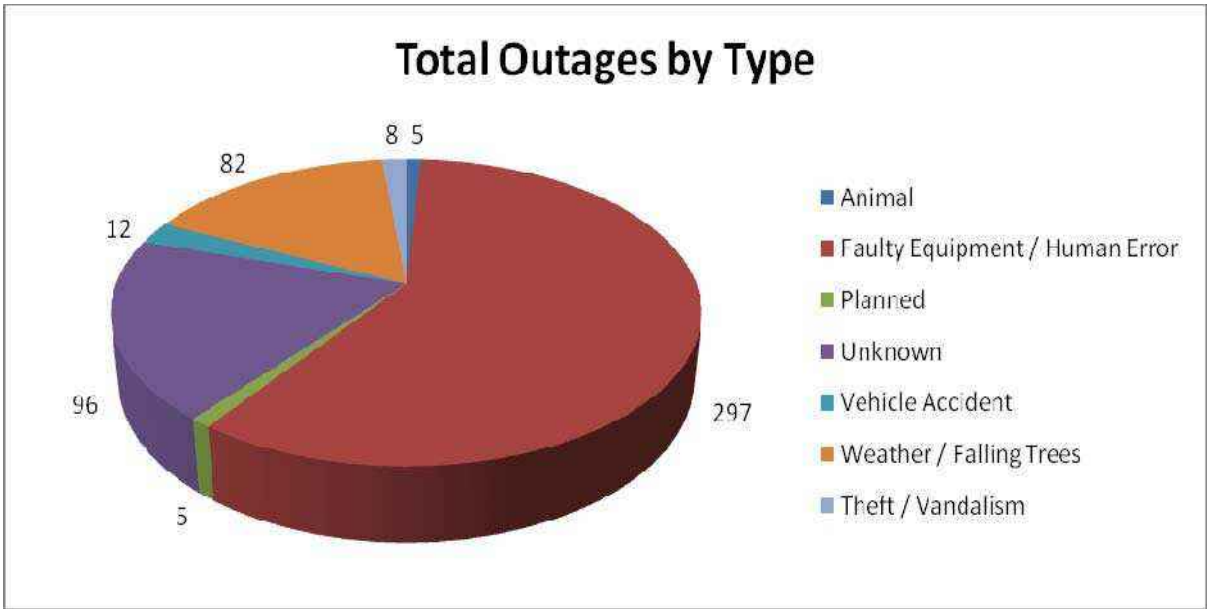
Total number of people affected by outages *(This is the sum of the number of people affected by reported power outages for 2012.)*	2,251,666
Total duration of outages *(This is the sum of the durations of the reported power outages.)*	18,067 minutes (more than 301 hours or 12 1/2 days)
Total number of outages *(The sum of the number of reported power outages.)*	505
Average number of people affected per outage *(This number is determined by dividing the "Total number of people affected by outages" by the number of outages that reported the number of people affected. Not all reports of outages included number of people affected. The number of outages used for this calculation can be found in the note following this table.)*	7,530
Average duration of outage *(This number is determined by dividing the "Total duration of outages" by the number of outages that reported durations. Not all reports of outages included the duration. The number of outages used for this calculation can be found in the note following this table.)*	196 minutes (over 3 hours)

Notes:

a. *Total number of people affected (and average) is based on 299 (59%) of the total reported outages. Total duration of outages (and average) is based on 92 (18%) of the total reported outages. These are the number of outages that had reports that included data for number of people affected and duration, respectively.*

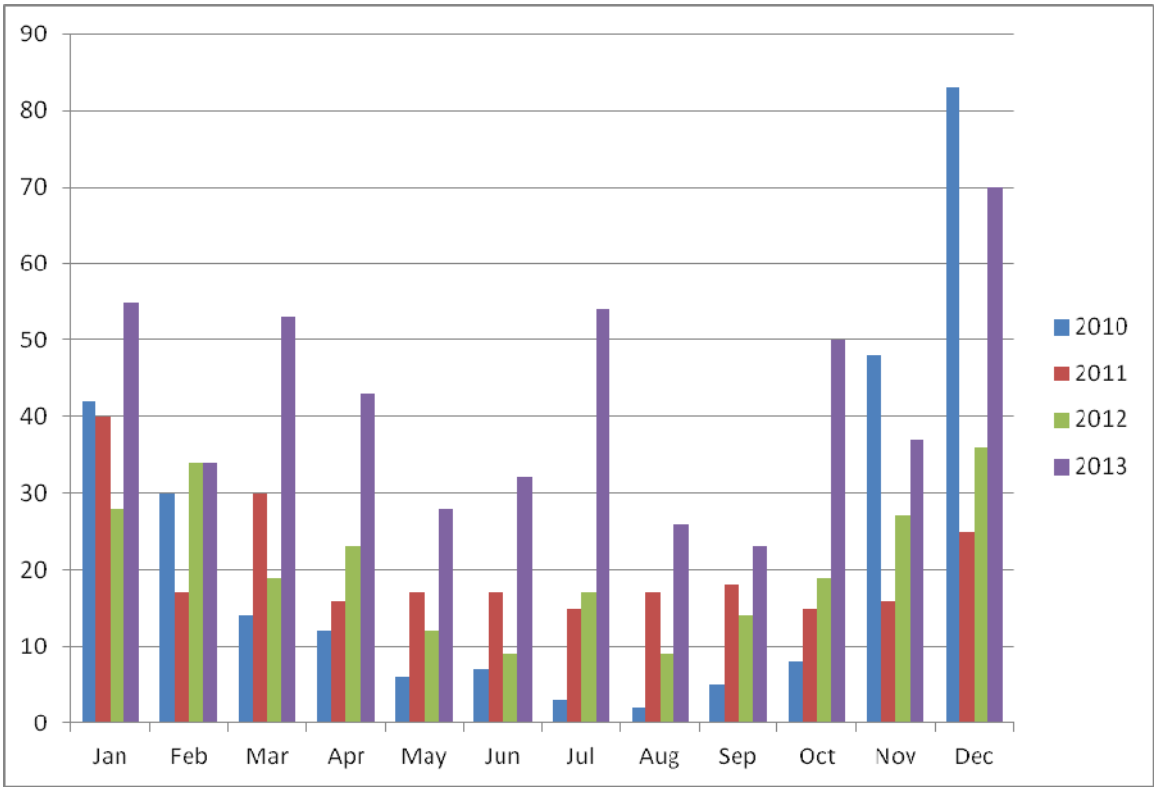
b. *Reports from news services, newspapers, websites, etc. that are used as sources sometimes give statistics using different terms. For example, some reports may be based on "people" while others may be based on "addresses", "homes and businesses" or "utility customers." For purposes of this report all of these are assumed to be and are counted as people.*

Reported power outages by cause

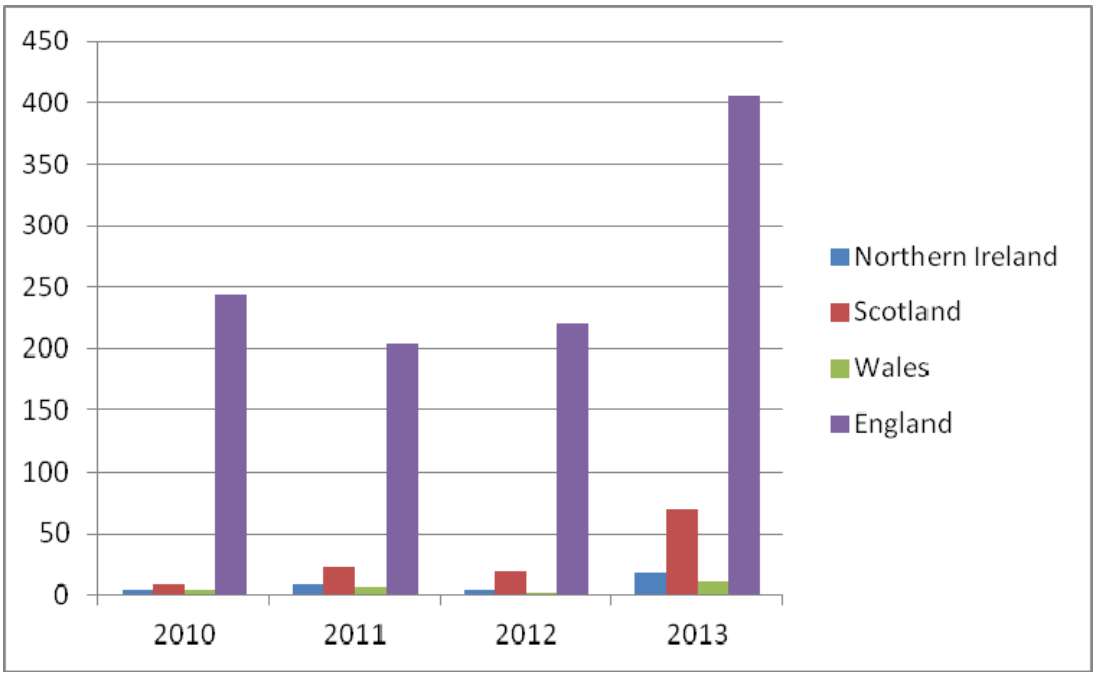


Note: Each power outage was grouped into one of seven possible causes. The outages by cause were totaled and the results displayed in the chart above. The number adjacent to the pie piece is the number of outages attributable to that cause.

Reported power outages by month



Reported power outages by country



Power outage data for Northern Ireland, Scotland, Wales and the regions of England

Introduction

This section of the report provides an analysis of the power outages for Northern Ireland, Scotland, Wales and the regions of England. There are four parts to each analysis.

1. The first part is an outage summary. The results are computed in the same manner as those in the outage summary found in the national power outage data in the previous part of this report. Only data pertaining to the country or region is used.
2. The second part of the analysis is the outage fact. This is simply an interesting fact concerning a particular outage (or outages) in a country or region.
3. The third part of the analysis is a chart of the power outages by cause. This is the same type of chart that can be found in the UK power outage data in the previous part of this report. Only data pertaining to a country or region is used.
4. The last part of each is the number of power outages by month. This is the same type of chart that can be found in the UK power outage data in the previous part of this report. Only data pertaining to the particular country or region is used. From this chart it may be possible to determine particular times of the year when power outages are more common.

Northern Ireland

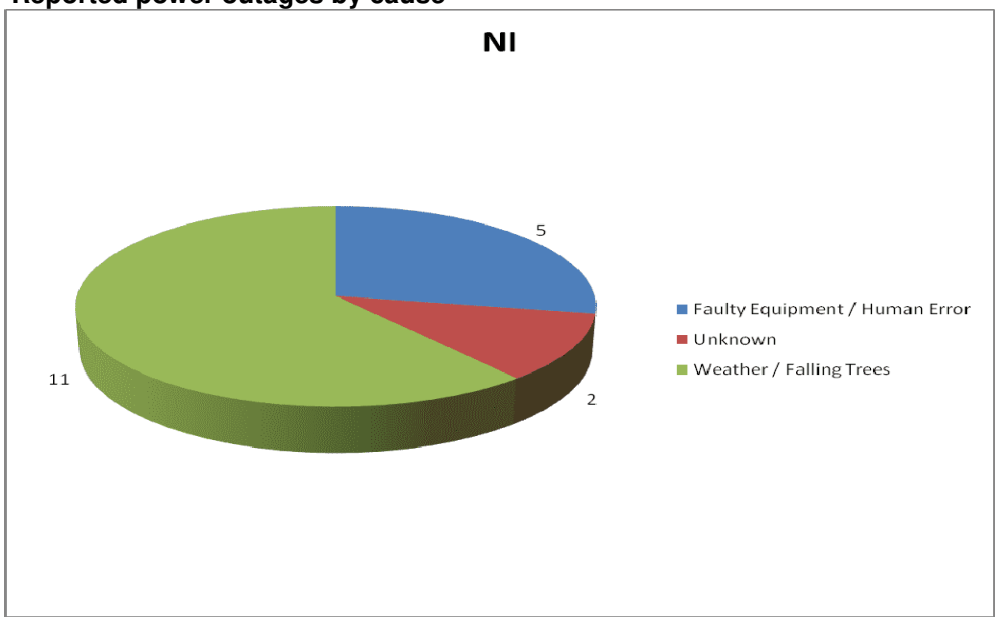
Outage summary

Total number of people affected by outages	388,250
Total duration of outages	Data unavailable/none reported
Total number of outages	18
Average number of people affected per outage	27,732
Average duration of outage	Data unavailable/none reported

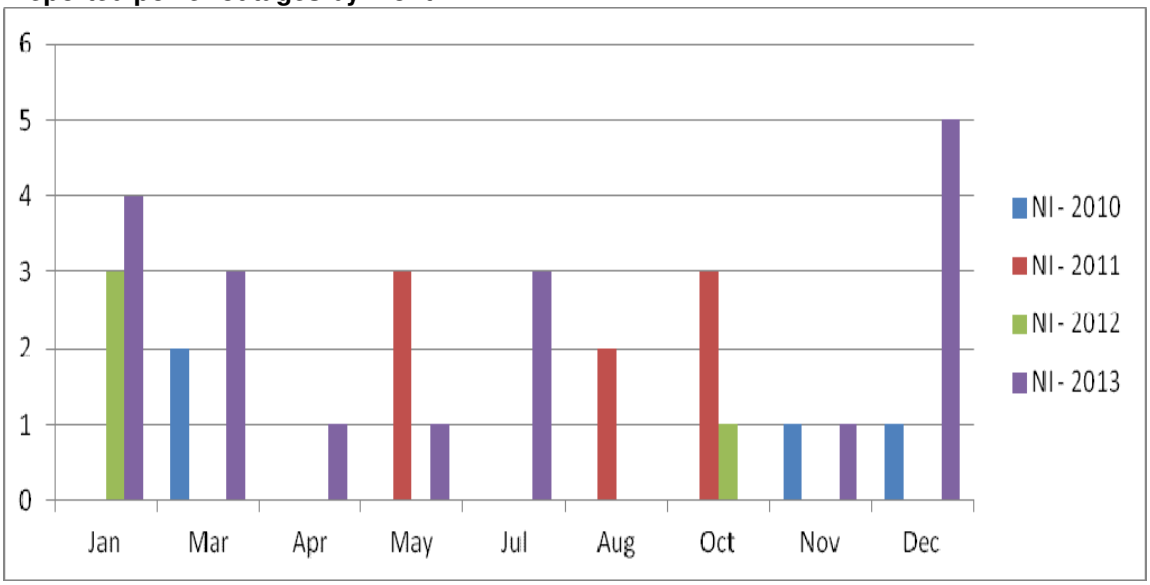
Note: Total number of people affected (and average) based on 13 (72%) of the total reported outages.
Total duration of outages (and average) based on 0 (0%) of the total reported outages.

Outage fact: On Jan. 18, a blizzard knocked out power to 20,000 in Ballyclare. Crews worked continuously from Friday until Saturday evening to repair all faults, but as electricity was restored to some customers, others lost power as a result of the continuing storms.

Reported power outages by cause



Reported power outages by month



Scotland

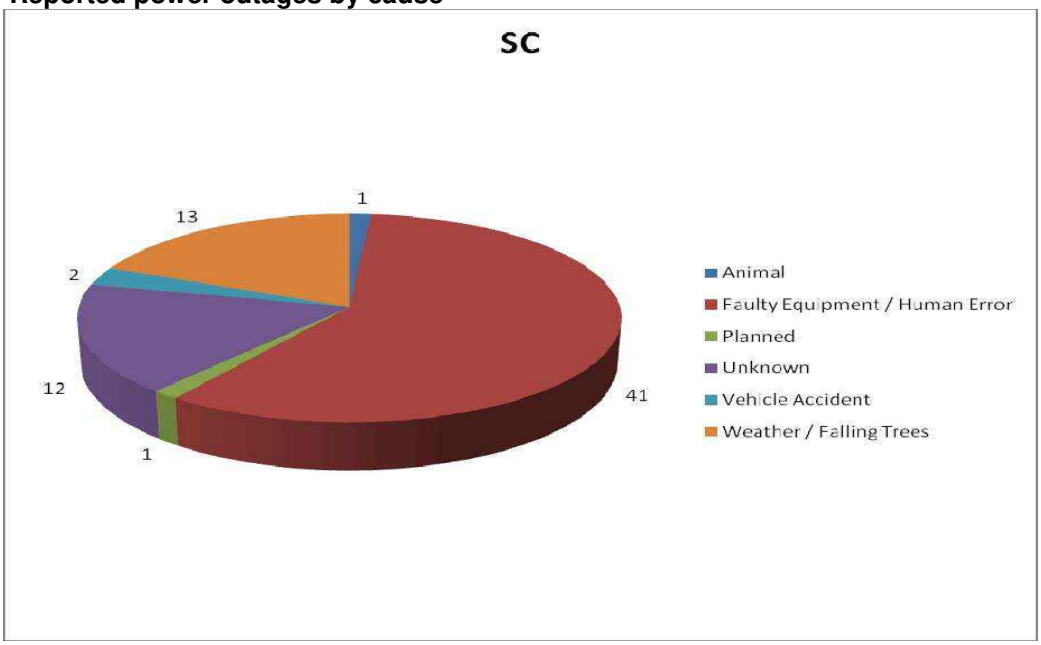
Outage summary

Total number of people affected by outages	333,672
Total duration of outages	2,132 minutes (more than 35 hours)
Total number of outages	70
Average number of people affected per outage	6,673
Average duration of outage	112 minutes

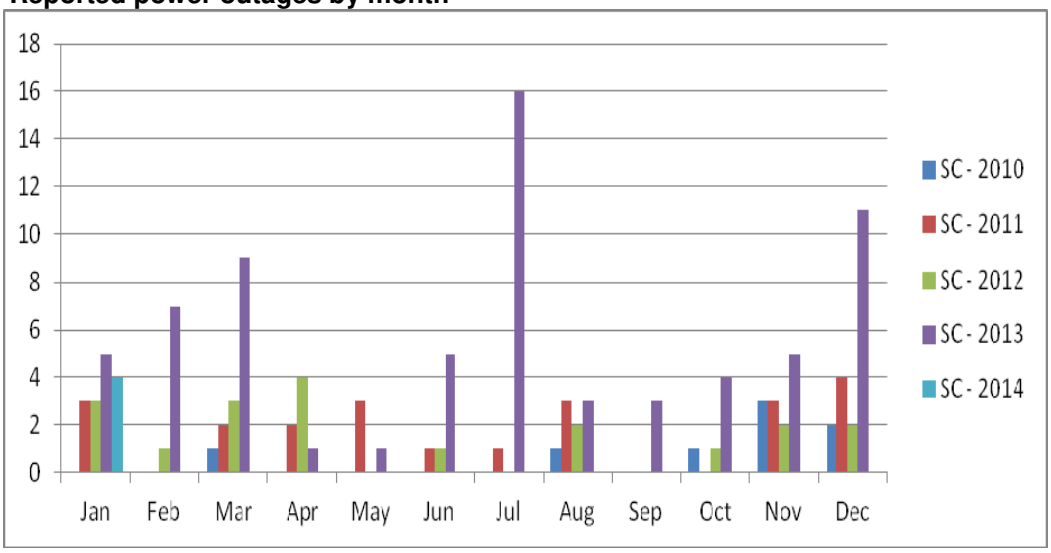
Note: Total number of people affected (and average) based on 37 (53%) of the total reported outages. Total duration of outages (and average) based on 9 (13%) of the total reported outages.

Outage fact: On Dec. 4, approximately 100,000 customers lost power and a lorry driver died after high winds caused chaos across Scotland. The man's HGV blew on top of two cars.

Reported power outages by cause



Reported power outages by month



Wales

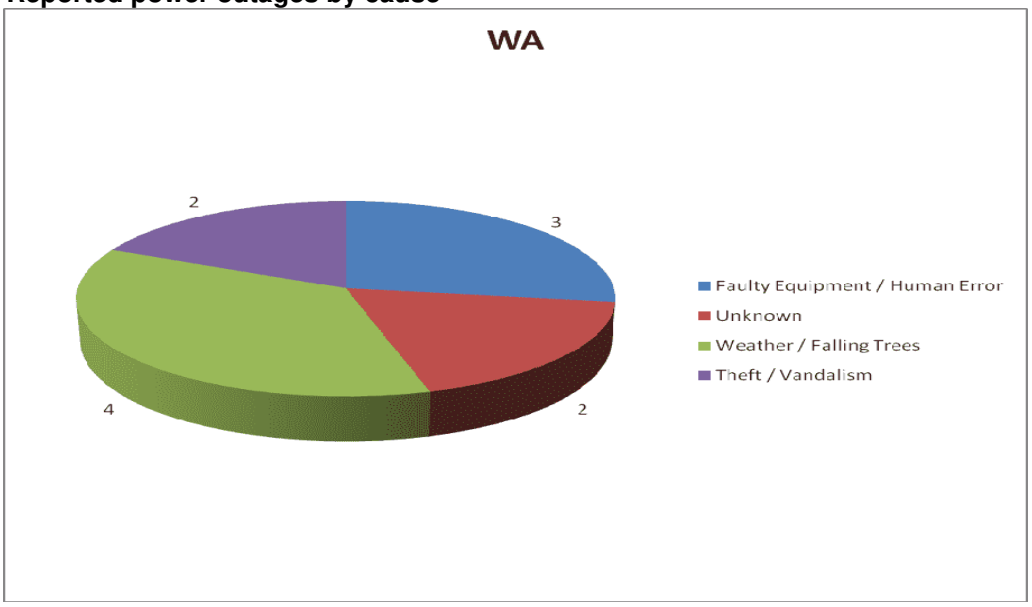
Outage summary

Total number of people affected by outages	23,446
Total duration of outages	295 minutes (nearly 5 hours)
Total number of outages	11
Average number of people affected per outage	2,345
Average duration of outage	98 minutes

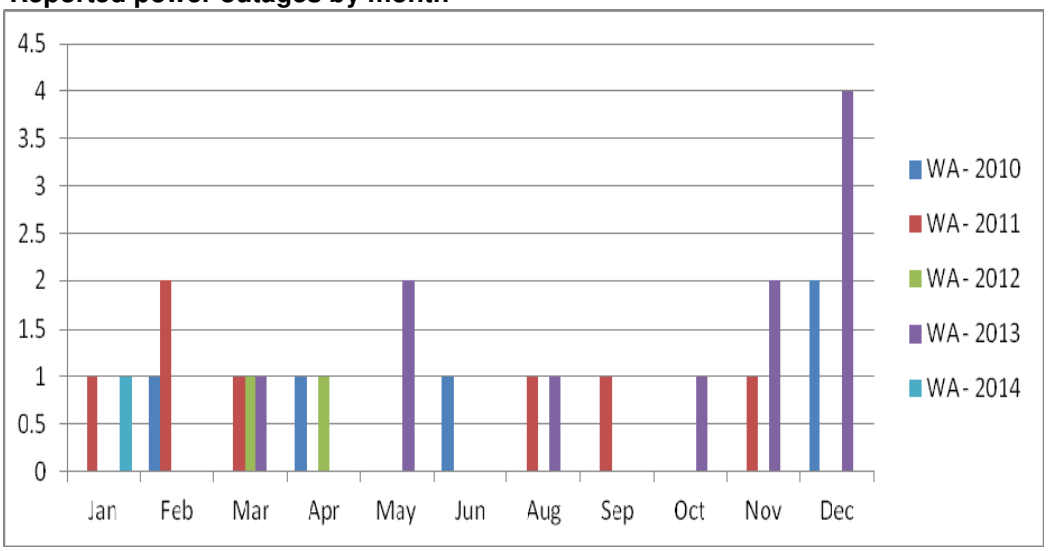
N*ote: Total number of people affected (and average) based on 9 (82%) of the total reported outages.Total duration of outages (and average) based on 3 (27%) of the total reported outages.*

Outage fact: On May 12, a power cut was caused by thieves during an attempted break-in. North Wales Police say the offenders cut through a power cable in Flintshire, causing an hour-long blackout.

Reported power outages by cause



Reported power outages by month



East of England

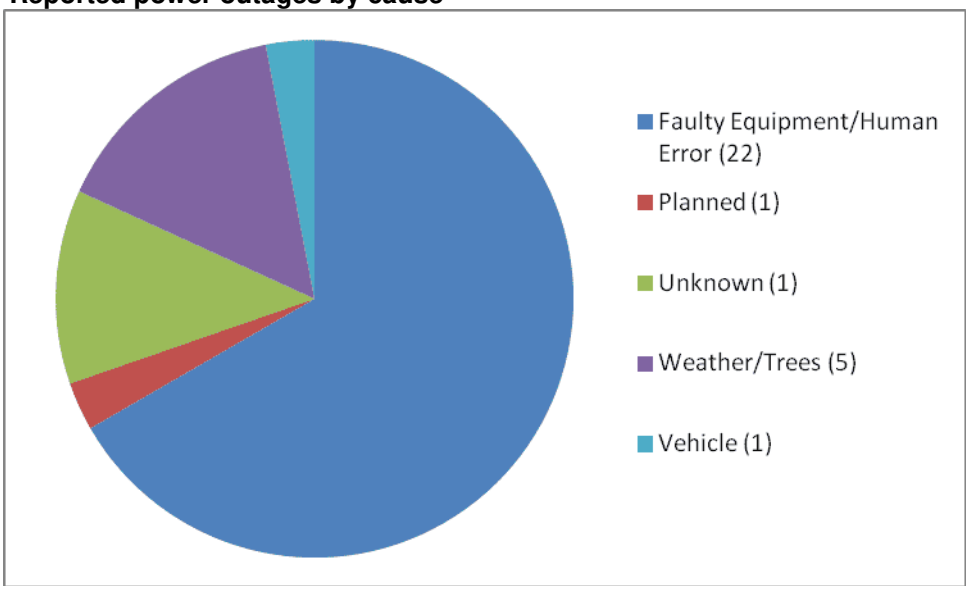
Outage summary

Total number of people affected by outages	65,775
Total duration of outages	2,337 minutes (nearly 39 hours)
Total number of outages	59
Average number of people affected per outage	1,530
Average duration of outage	146 minutes

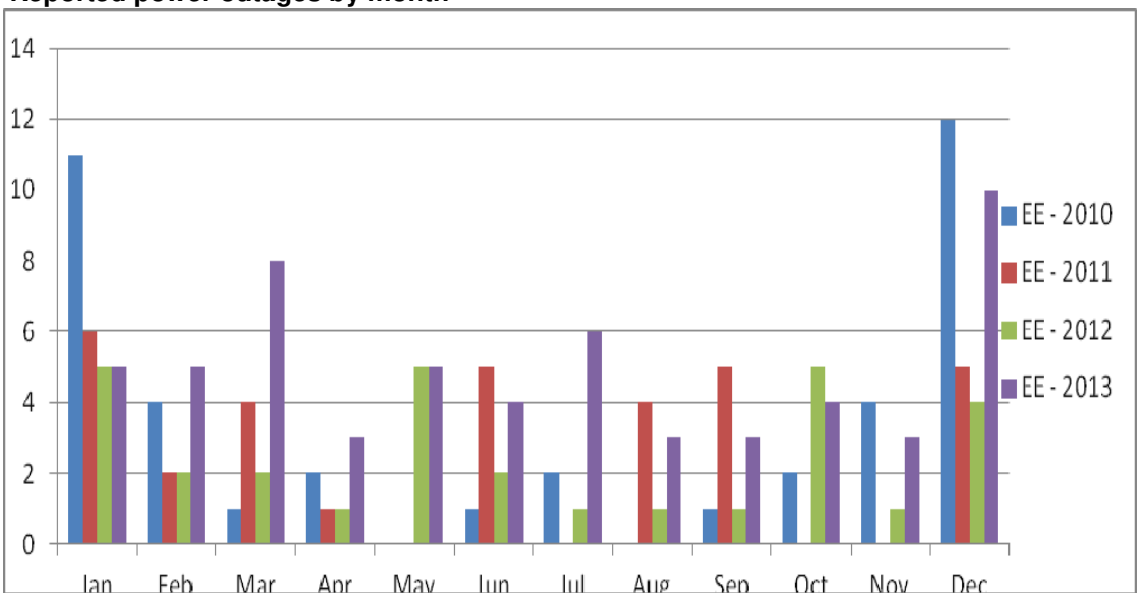
Note: Total number of people affected (and average) based on 39 (66%) of the total reported outages. Total duration of outages (and average) based on 13 (22%) of the total reported outages.

Outage fact: On March 4, swans are believed to have caused an outage In Cambridgeshire. The bird, which have poor forward vision, were likely to have come from a nearby reserve.

Reported power outages by cause



Reported power outages by month



East Midlands

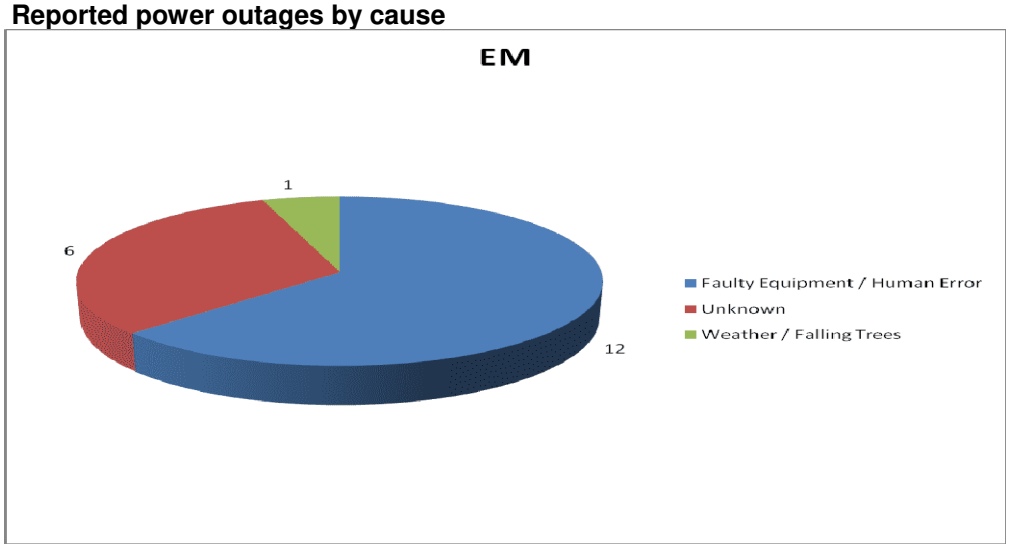
Outage summary

Total number of people affected by outages	178,099
Total duration of outages	867 minutes (over 14 hours)
Total number of outages	19
Average number of people affected per outage	10,476
Average duration of outage	124 minutes

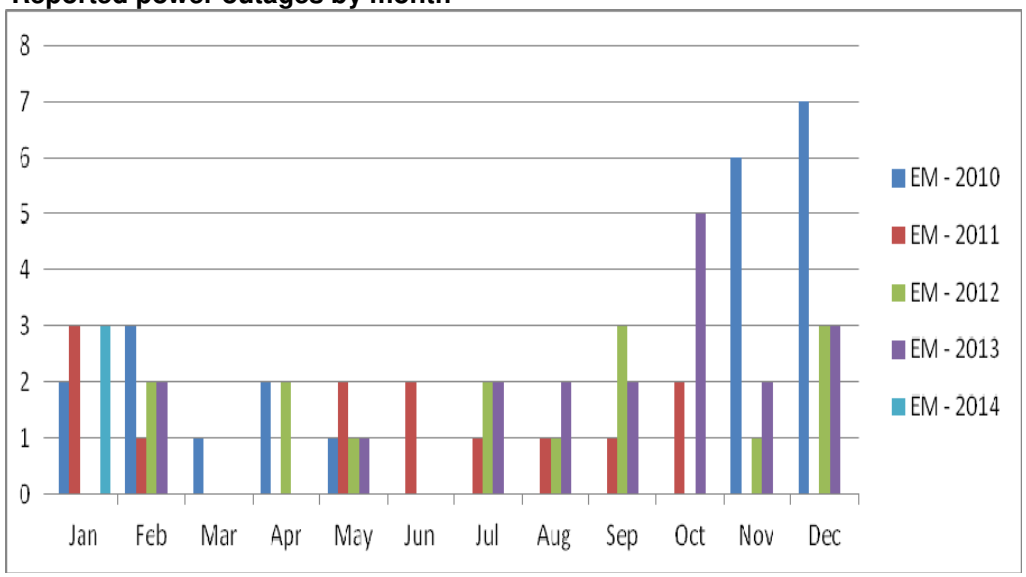
Note: Total number of people affected (and average) based on 17 (89%) of the total reported outages. Total duration of outages (and average) based on 7 (37%) of the total reported outages.

Outage fact: On Dec. 6, a problem with the "supergrid" was blamed for leaving 95,000 customers in the dark in Lincoln and a number of surrounding villages.

Reported power outages by cause



Reported power outages by month



Greater London

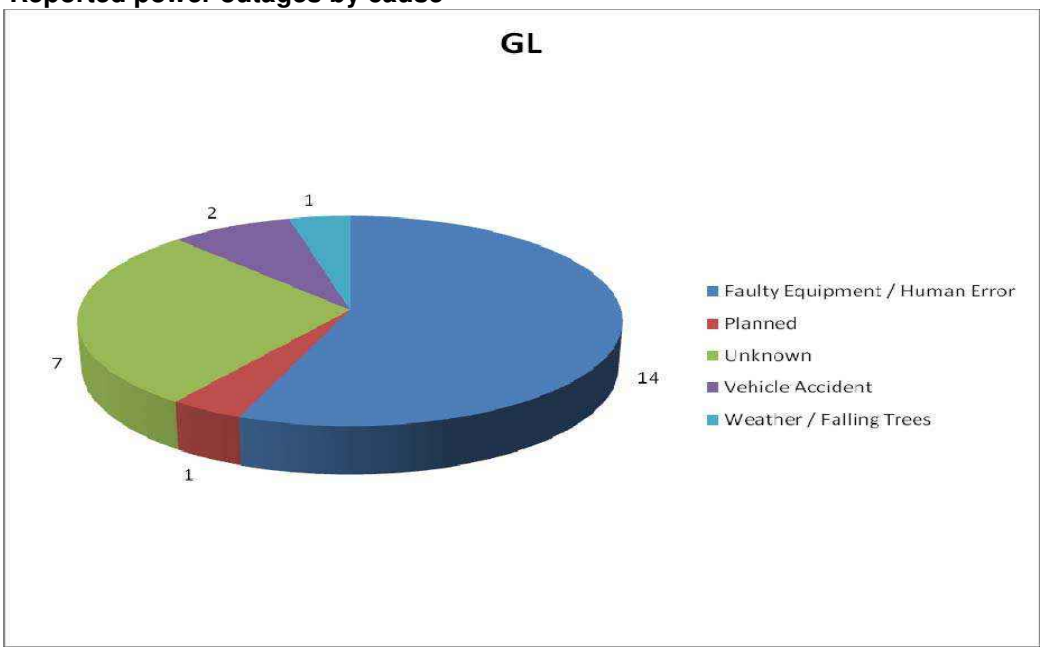
Outage summary

Total number of people affected by outages	255,552
Total duration of outages	90
Total number of outages	25
Average number of people affected per outage	23,232
Average duration of outage	90

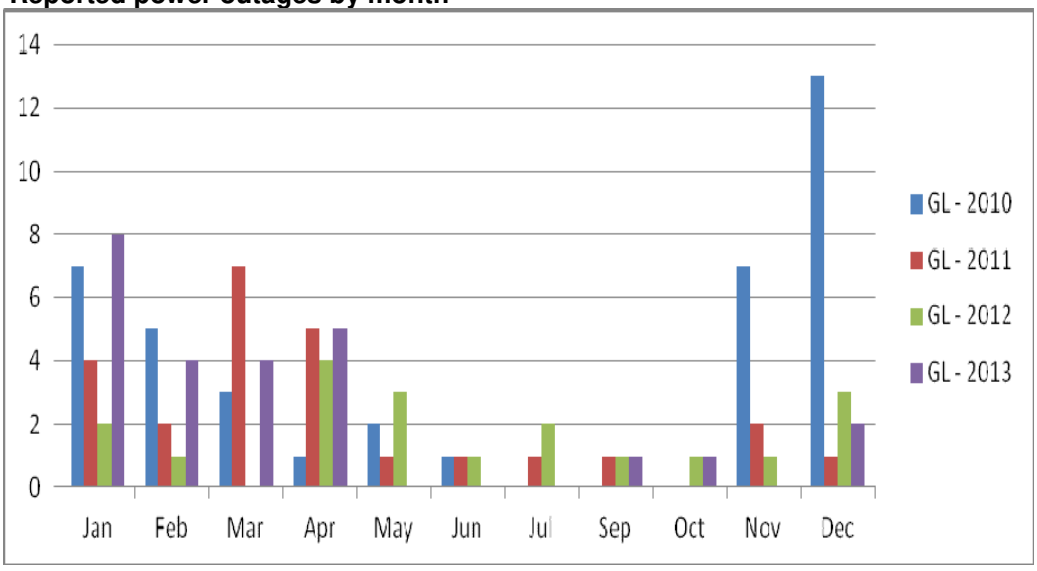
Note: Total number of people affected (and average) based on 10 (40%) of the total reported outages. Total duration of outages (and average) based on 1 (4%) of the total reported outages.

Outage fact: On Jan. 29, a construction crew was digging next to The Mount to install fence posts when they unexpectedly struck a cable, cutting power to 20 homes in Croydon.

Reported power outages by cause



Reported power outages by month



North East England

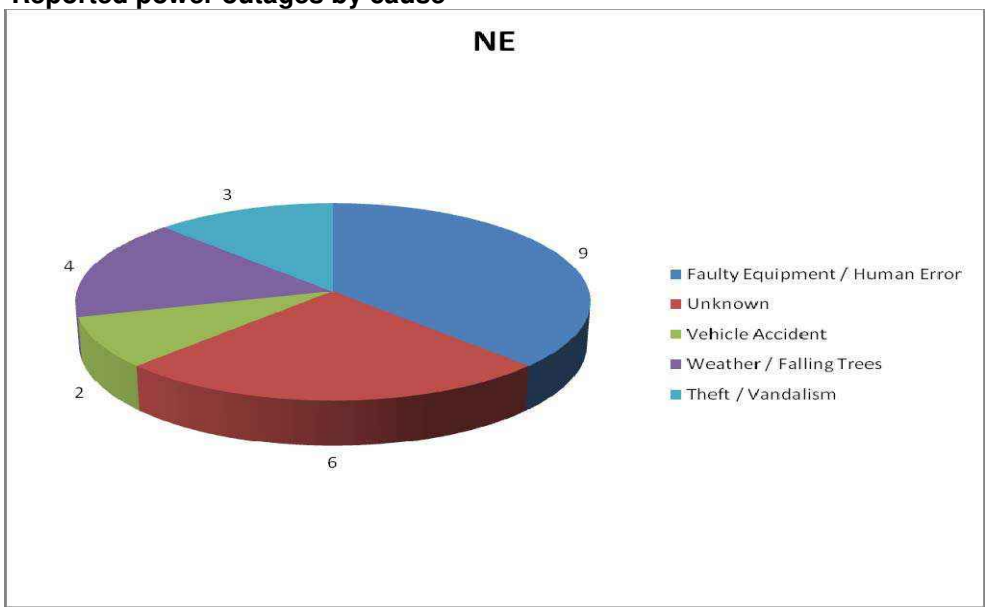
Outage summary

Total number of people affected by outages	86,861
Total duration of outages	692 minutes (more than 11 hours)
Total number of outages	24
Average number of people affected per outage	5,791
Average duration of outage	138 minutes

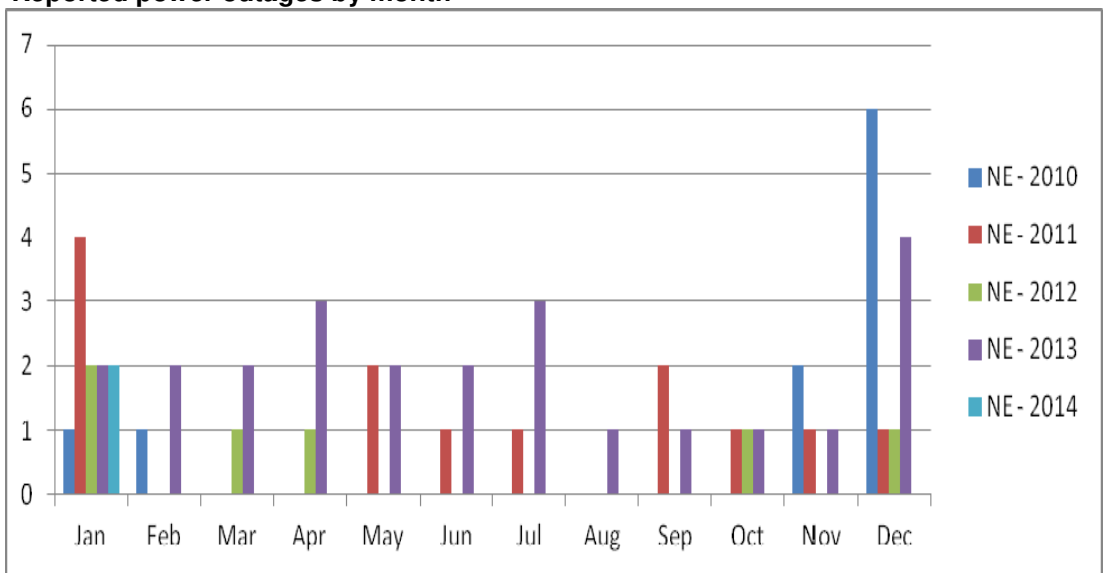
Note: Total number of people affected (and average) based on 15 (63%) of the total reported outages. Total duration of outages (and average) based on 5 (21%) of the total reported outages.

Outage fact: On July 18, a train caught an overhead power line in Sunderland, knocking out power and causing widespread disruption, with passengers having to be rescued from the affected train.

Reported power outages by cause



Reported power outages by month



North West England

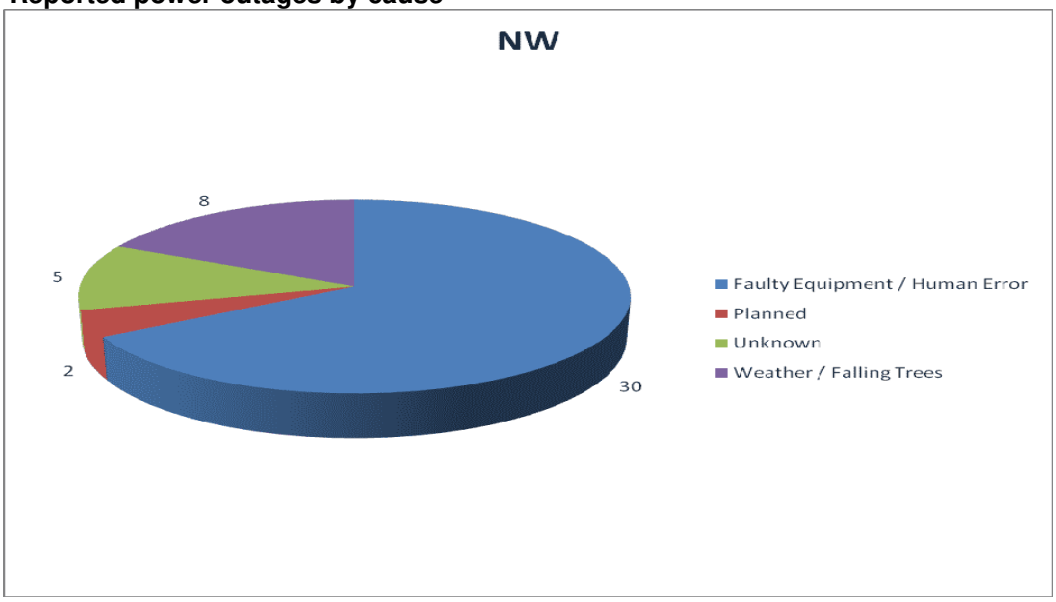
Outage summary

Total number of people affected by outages	142,406
Total duration of outages	1,541 minutes (nearly 26 hours)
Total number of outages	45
Average number of people affected per outage	4,450
Average duration of outage	308 minutes (over 5 hours)

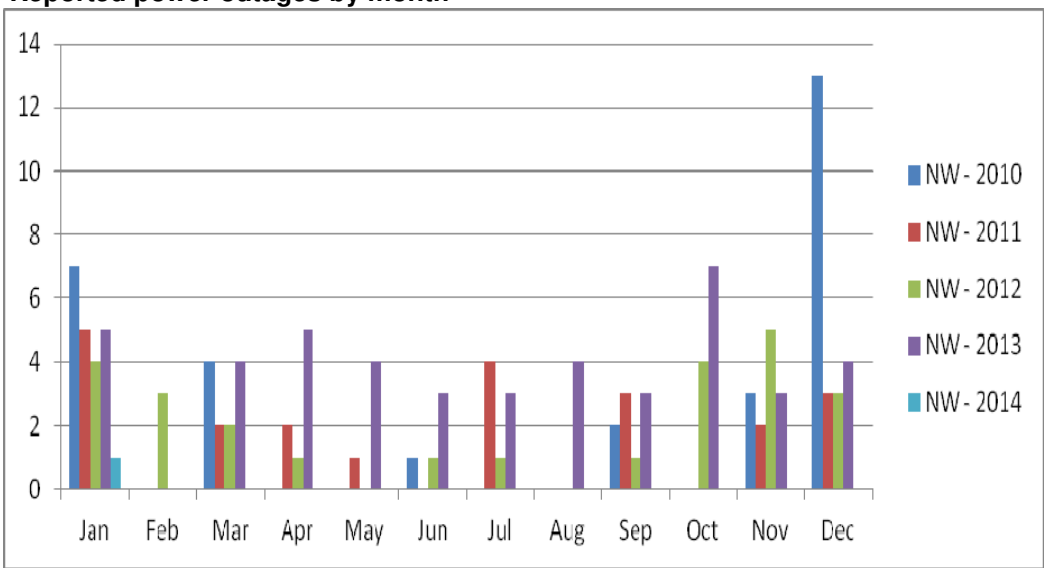
Note: Total number of people affected (and average) based on 28 (62%) of the total reported outages. Total duration of outages (and average) based on 5 (11%) of the total reported outages.

Outage fact: On Dec. 27, Winds exceeding 100 mph blew down trees, closed roads and cut power supplies to 24,000 in Cumbria.

Reported power outages by cause



Reported power outages by month



South East England

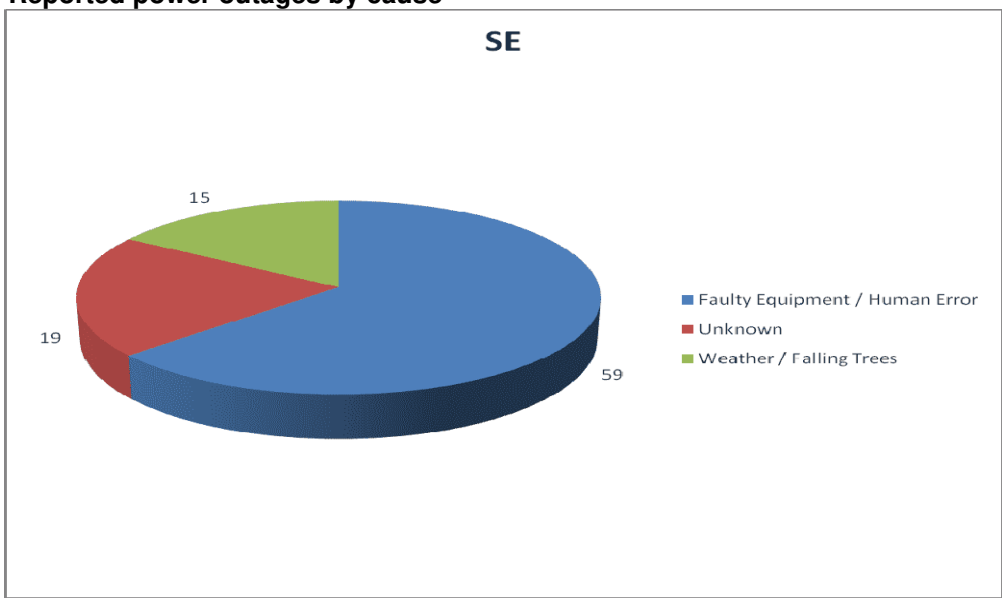
Outage summary

Total number of people affected by outages	213,569
Total duration of outages	4,451 minutes (more than 3 days)
Total number of outages	93
Average number of people affected per outage	3,445
Average duration of outage	278 minutes (over 4 1/2 hours)

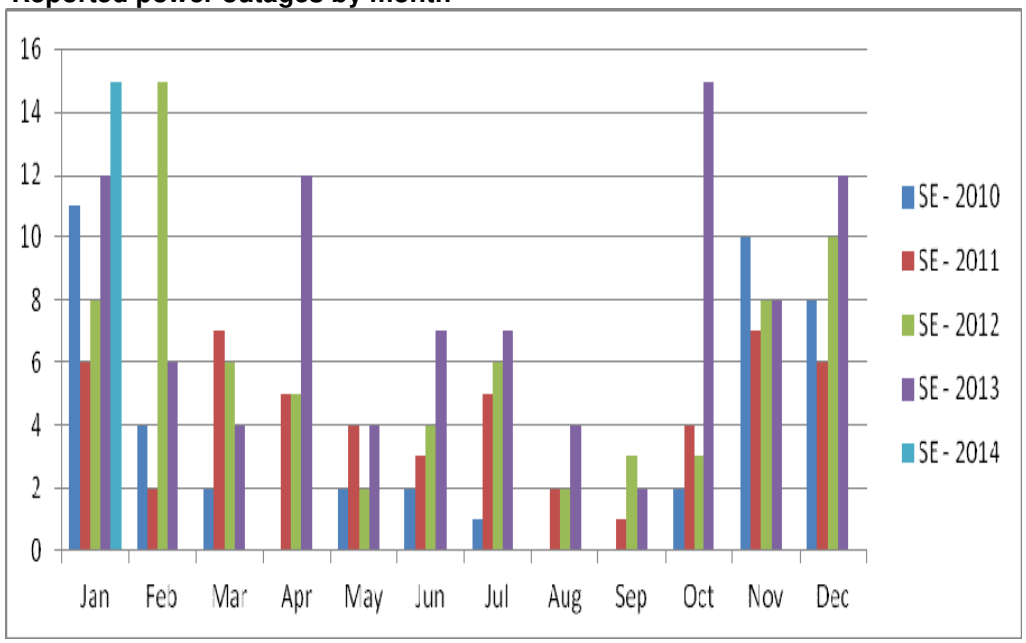
N*ote: Total number of people affected (and average) based on 42 (45%) of the total reported outages. Total duration of outages (and average) based on 13 (14%) of the total reported outages.*

Outage fact: On Oct. 30, a storm that produced wind speeds of 100 miles per hour hit the Isle of Wight and parts of Hampshire, knocking out power to 82,000 customers.

Reported power outages by cause



Reported power outages by month



South West England

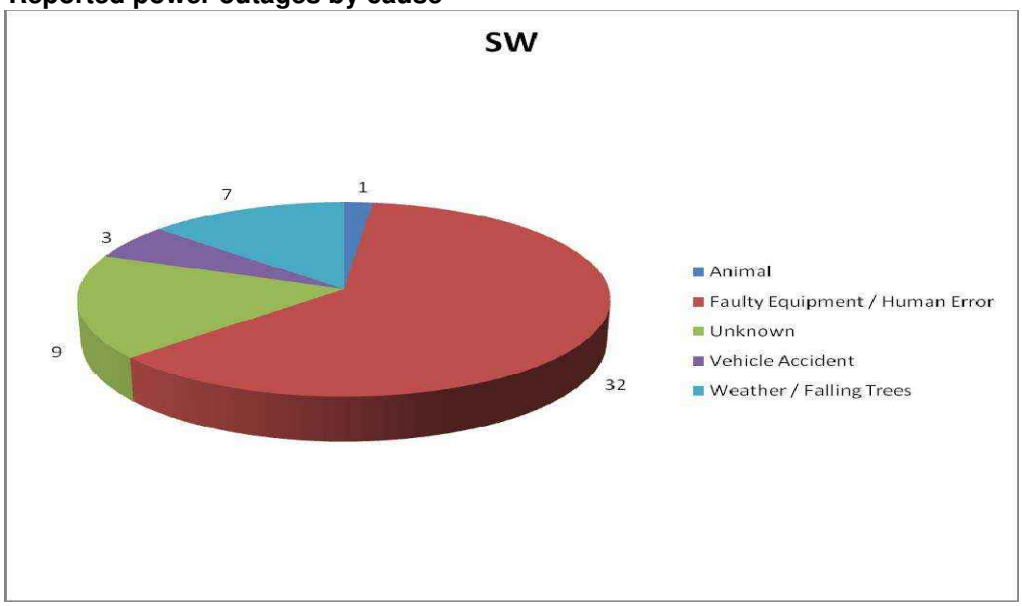
Outage summary

Total number of people affected by outages	94,393
Total duration of outages	1,290 minutes (21 ½ hours)
Total number of outages	52
Average number of people affected per outage	2,247
Average duration of outage	117 minutes

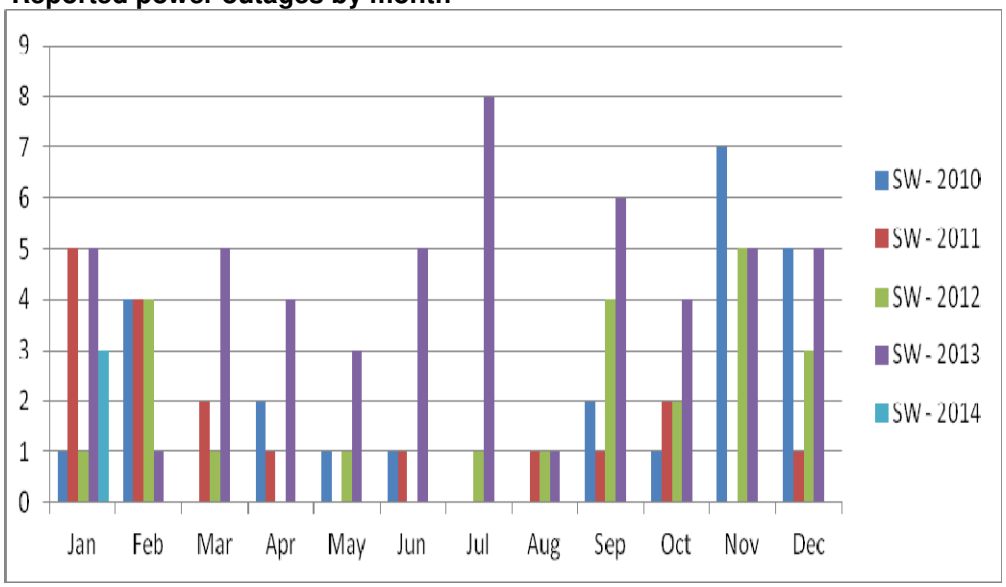
N*ote: Total number of people affected (and average) based on 35 (67%) of the total reported outages. Total duration of outages (and average) based on 9 (17%) of the total reported outages.*

Outage fact: On Dec. 4, a stray bird caused a power cut after flying into an electrical conductor at Skern. Eighty-five customers were without electricity for over an hour.

Reported power outages by cause



Reported power outages by month



West Midlands

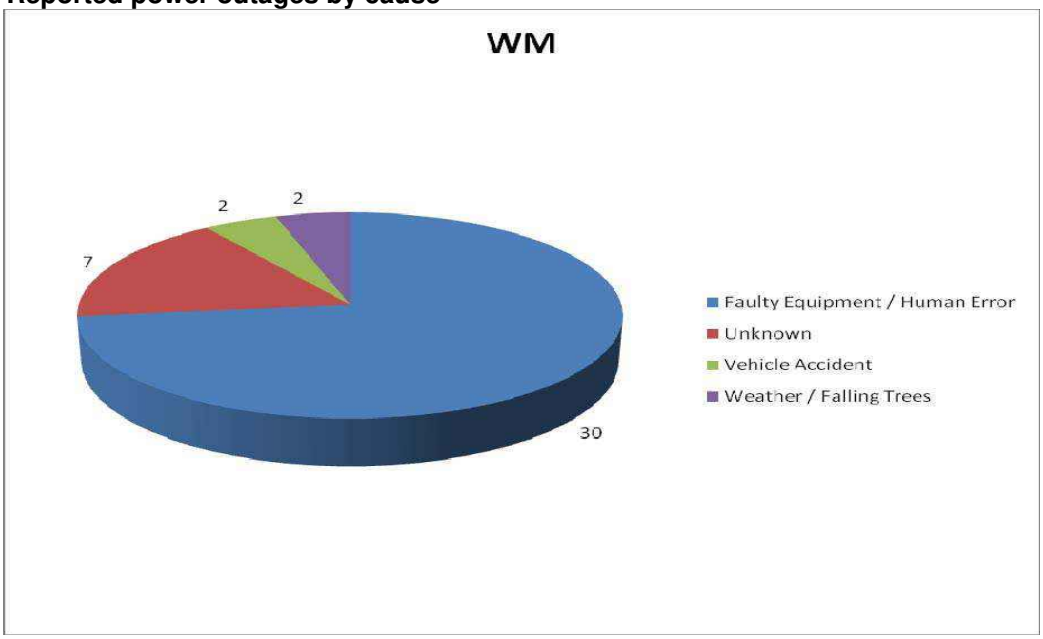
Outage summary

Total number of people affected by outages	181,681
Total duration of outages	2,592 minutes (more than 43 hours)
Total number of outages	41
Average number of people affected per outage	6,489
Average duration of outage	162 minutes (2.7 hours)

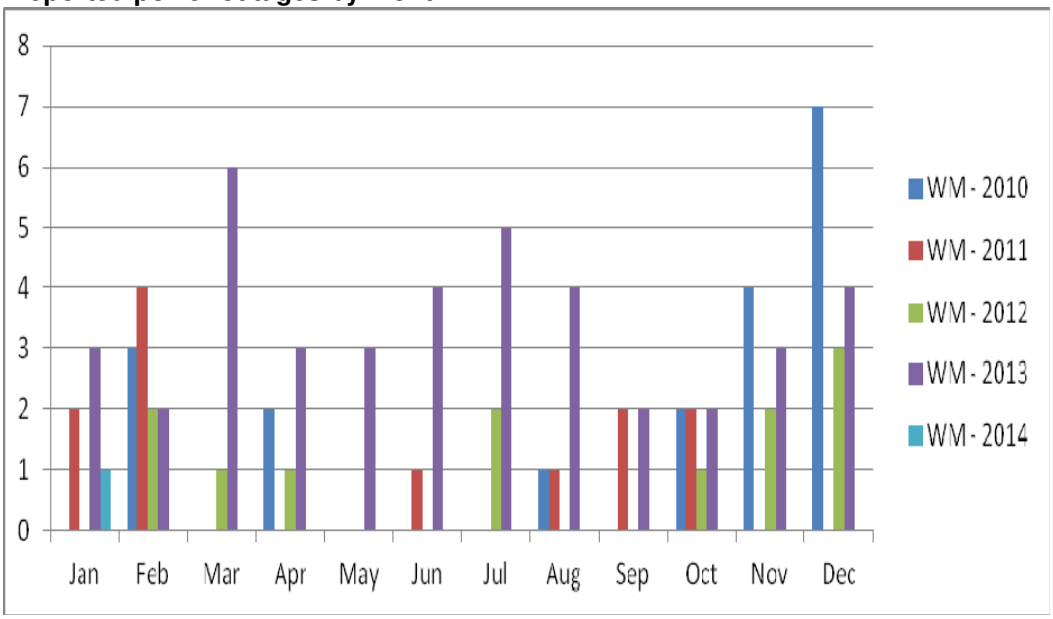
Note: Total number of people affected (and average) based on 25 (61%) of the total reported outages. Total duration of outages (and average) based on 15 (37%) of the total reported outages.

Outage fact: On August 18, a leaky water pipe blacked out a Bromsgrove nursing home when it flooded the electrics room and blew the building's power.

Reported power outages by cause



Reported power outages by month



Yorkshire and the Humber

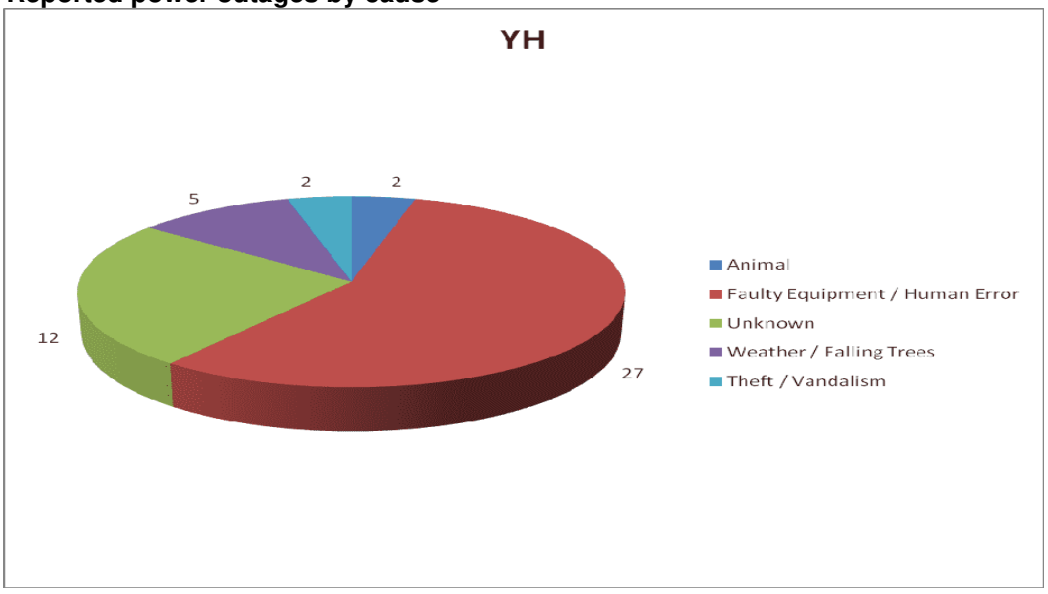
Outage summary

Total number of people affected by outages	287,962
Total duration of outages	1,780 minutes (almost 30 hours)
Total number of outages	48
Average number of people affected per outage	8,999
Average duration of outage	148 minutes

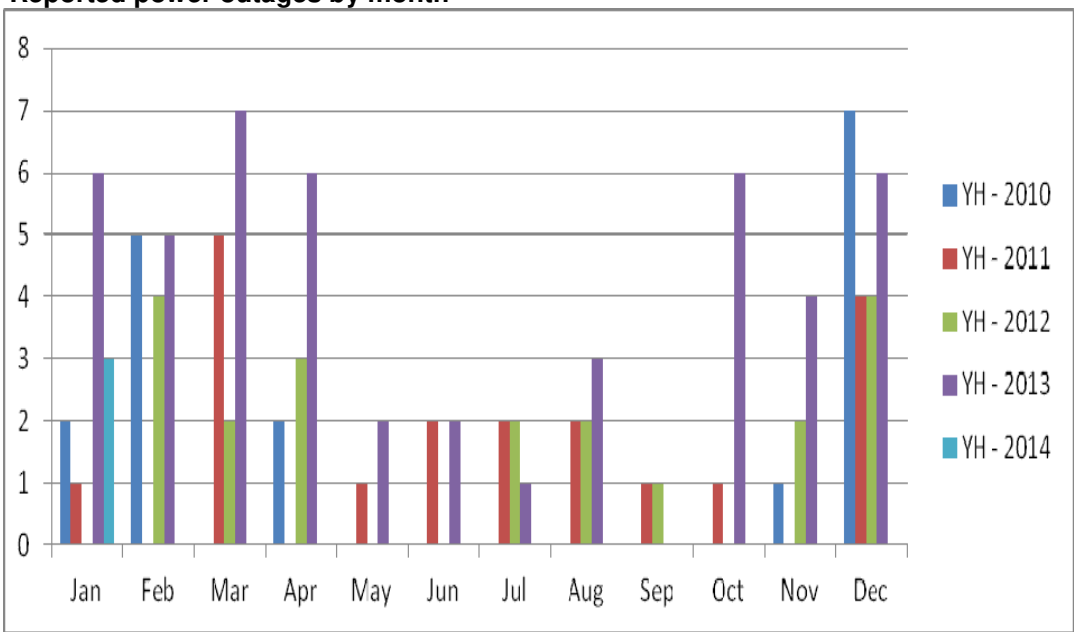
N*ote: Total number of people affected (and average) based on 29 (60%) of the total reported outages. Total duration of outages (and average) based on 12 (25%) of the total reported outages.*

Outage fact: On April 18, a bird strike in Malton damaged equipment at a major electricity sub-station and cut power to 85,000 customers. It was also necessary to briefly switch off supplies to an additional 40,000 homes.

Reported power outages by cause



Reported power outages by month



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