WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

Annual Stakeholder Report **12/13**

Contents

Welcome by Robert Symons, CEO, Western Power Distribution (WPD)

Welcome to our 2012/13 stakeholder report. This report details our performance for the third year of our five year investment plan.

Our business is a simple one. Our purpose is to make sure the electricity network of poles, pylons, cables, wires and substations in our four distribution areas safely delivers power to homes and businesses around the clock.

Outstanding customer service combined with technical excellence, innovation and a clear business structure makes WPD the best electricity distribution business in the UK.

As part of the acquisition of the Midlands businesses in April 2011 we promised Ofgem (the regulator for electricity distribution companies) that we would improve customer service and lower costs. Within 12 months of the acquisition, we had delivered:

- a 20% reduction in operating costs;
- a 40% reduction in the average amount of time a customer is without electricity;
- a 96% reduction in the number of customers who have a power cut in excess of 18 hours; and
- a 70% reduction in the number of customer complaints to the industry ombudsman.

This performance was a tremendous start. In the 2012/13 year following, we continued to work closely with our customers and stakeholders to deliver further improvements and give them the chance to influence our decisions for the future.

Put simply - we deliver on our promises. We are proud of our record but we are not complacent. The next regulatory period will be eight years from April 2015 to March 2023 - a time in which many new challenges are predicted. These include safeguarding network security and providing reliability at an affordable cost, and continuing to push forward the boundaries of customer service excellence. In addition it is becoming increasingly important to deliver on a range of environmental commitments, including the facilitation of new 'Low Carbon Technologies' – specifically heat pumps for domestic heating, solar photovoltaic for electricity generation and electric vehicle charging.

Whilst our performance today is important, so too are our plans for the future. We have been working with stakeholders on our future investment plans for 2015 – 2023.

We welcome feedback from customers and stakeholders. You can find out about our plans for the future in our 2015-23 Business Plan, which is available in the Stakeholder section of our website.

1 Who we are and what we do

WPD is an electricity Distribution Network Operator (DNO). We are responsible for the network of engineering assets that distribute electricity to customers' homes and businesses every day.

The network we operate covers a geographic area of 55,500 km2, serving 7.8 million customers.

WPD does not buy or sell electricity, or send any bills to electricity customers.

What we do is simple and comprises of four key tasks:

- we operate our network assets effectively to 'keep the lights on';
- we maintain our assets so that they are in a condition to remain reliable;
- we fix our assets if they get damaged or if they are faulty; and
- we upgrade the existing networks or build new ones to provide additional electricity supplies or capacity to our customers.

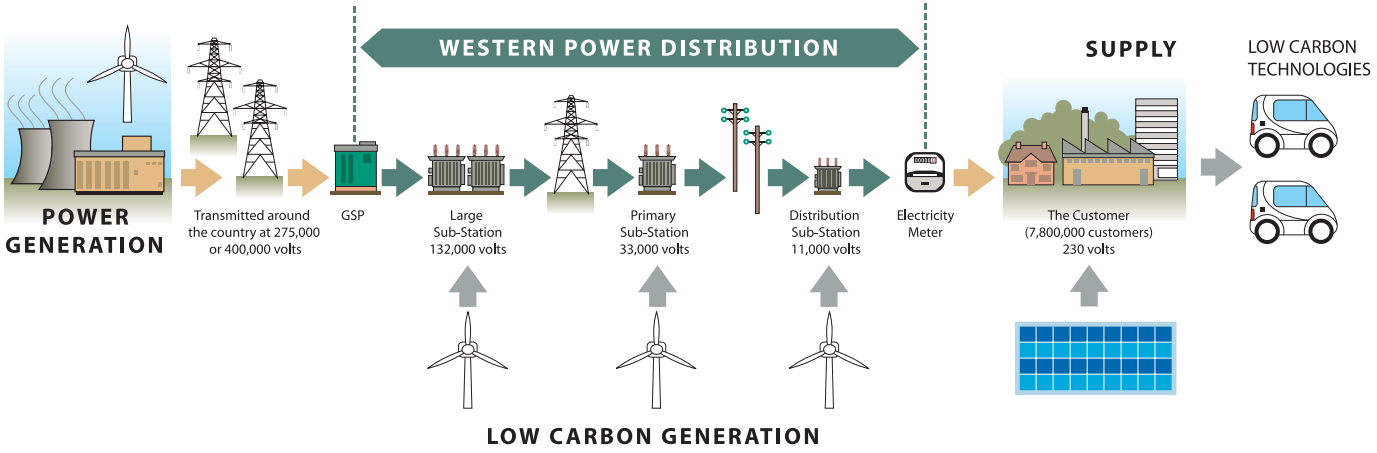
All of these tasks are carried out having the highest regard to the levels of safety, whether that be to members of the public, contractors or our own operational staff.

Our distribution network consists of transformers (which convert electricity from one voltage to another), underground cables and overhead lines (which carry electricity across long distances), switches (to turn on, off or to alter the routing of electricity), and service connections (which take the electricity into customers' premises).

This network sits between the National Grid transmission network and the customer.

Our business objectives are to:

- Minimise the **safety** risks associated with WPD's distribution network
- Improve the **reliability** of electricity supplies and to make the distribution network more resilient
- Reduce WPD's impact on the **environment** and to facilitate low carbon technology
- Consistently deliver outstanding **customer service** and **connections**
- Meet the needs of vulnerable customers with our **social obligations**
- **Engage** with **stakeholders** and act on their feedback



Our network is the largest in the UK, covering densely populated residential areas and widely dispersed rural communities. We operate from the Lincolnshire coast in the East Midlands, through to Gloucestershire in the West Midlands, to Monmouthshire and Pembrokeshire in South Wales, and down into the South West to the counties of Somerset, Devon and Cornwall.

Our teams are based in local offices where they take responsibility for local issues, deliver local work programmes and respond to local power cuts quickly.

At WPD we try to get whatever we are delivering "right first time". To encourage this we stress that all employees should:

- Take personal responsibility.
- Follow the problem through until the end.
- Work with others to find a solution.
- Keep the customer informed.
- Follow the Golden Rule – treat customers the way you would like to be treated.

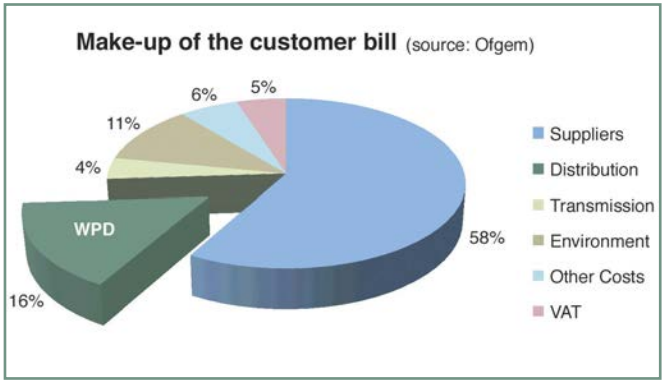
We continue to look for, and make use of, innovative techniques and encourage creativity so that we carry out our work effectively and efficiently. This helps to ensure value for money for our customers, stakeholders and our shareholders.

Although we are facilitating competition in some of the services we provide (such as new connections) we are still a natural monopoly within the geographic area we serve. We are, therefore, regulated by the Office of Gas and Electricity Markets (Ofgem).

Ofgem issues licences to DNOs that set out the obligations and responsibilities of the companies and also determines the revenues they are allowed to earn each year. WPD has four licences covering the four geographic areas of the West Midlands, East Midlands, South Wales and the South West.

Periodically, Ofgem scrutinises the business plans of DNOs through a process known as a Distribution Price Control Review. This determines how much DNOs are allowed to charge in total per year for network investment, operating costs and allowed returns.

This charge, known as DUoS (Distribution Use of System), is payable by the electricity suppliers who, in turn, incorporate it into their electricity charges to customers. Our charges account for around 16% of the make-up of an average domestic customer's bill.



2 Performance snapshot

Operationally 1st April 2012 – 31st March 2013 has been another excellent year for us.

WPD are the top performing company overall for customer satisfaction. As part of Ofgem's Broad Measure of Customer Satisfaction Incentive, a research agency undertakes a monthly satisfaction survey of DNO customers who contact the DNO to report loss of supply, have a general enquiry or request a new connection. Last year, the four WPD DNOs were ranked joint 1st place (WPD South Wales and WPD South West), 3rd place (WPD East Midlands) and 5th place (WPD West Midlands) in the league table of all 14 DNOs.

We met all of Ofgem's national Guaranteed Standards of Performance and continue to lead the way in the UK for the reliability of our network. The following table shows you how our network has been performing over the last year, against our key performance indicators:

NOTE: Each traffic light indicator is a combined measure of our performance against individual targets set by Ofgem, and/or our performance compared to other UK electricity network companies.

Green – Performance better than the target and the average performance

Amber – Performance worse than the target, but better than the average performance; or performance better than the target, but worse than the average performance

Red – Performance worse than target and the average performance.

Western Power Distribution	West Mids	East Mids	South Wales	South West
Network Reliability A combined measure of the average number of times a customer is without their electricity supply in a year (Customer Interruptions) and the average number of minutes that a customer has their supply interrupted (Customer Minutes Lost). *Targets exceeded.*	●	●	●	●
Environment A range of measures including reduction of waste, $C0_2$ emissions and electricity used in offices. *Targets met.*	●	●	●	●
Connections Our overall performance when providing customers with a new connection as measured against Ofgem's Connection and Distributed Generation Standards of Performance. *We achieved the highest success rate of all electricity network companies.*	●	●	●	●
Stakeholder Engagement Stakeholder Engagement Award Scheme. *We scored 8.4 out of ten, the highest score awarded.*	●	●	●	●
Customer Satisfaction Measure of customer satisfaction with our telephone response service and our complaint handling performance. *We were rated top out of all the DNOs. No Ombudsman complaints against WPD.*	●	●	●	●
Network Outputs Health Indices Measure of whether we have delivered the network improvements agreed with the energy regulator Ofgem, in terms of our asset replacement delivery, by looking at the overall health of our assets.	●	●	●	●

3 Our performance in detail 2012/13

3.1 Safety

The safety of our staff, customers and all members of the public is a top priority. Whilst the electricity network, and work upon it, has inherent hazards, the design standards, operational processes and working methods adopted by WPD minimise the risk of injury to staff, contractors and the public. We continue to work with trade union appointed safety representatives within the business to ensure that best practices are shared and applied within WPD.

The number of Lost Time Incidents reported within the WPD group remains at a very low level. However, we are not complacent. We continue with our on-going programme of safety roadshows for staff and always strive for zero incidents.

Lost Time Incidents Work related accidents resulting in a day or more away from work.		
	2011/12	2012/13
WPD West and East Midlands	3	9
WPD South Wales and South West	1	1

Non Lost Time Incidents Work related accidents that do not result in a day or more away from work.		
	2011/12	2012/13
WPD West and East Midlands	79	91
WPD South Wales and South West	37	31

Case study

Safety education at local shows

A new record was set for entries to the WPD-sponsored children's safety poster competition at this year's Bath and West Show, with over 1,600 received!

The 'Safety on the Farm' competition was part of the Bath and West Show's Safety Zone. Experts from WPD and other industries were on hand to provide advice on electrical safety and prevention of accidents. (WPD's Safety Manager is pictured with the winners).

In addition, at this year's Royal Welsh Show, 2,000 visitors to the WPD stand saw Pylonman, played interactive games and watched a safety demonstration. The competition there attracted over 600 entries from 28 Welsh schools.

Our Power Discovery Zone website, which contains safety information and games for children, had 6,837 hits last year and has 90 registered teachers who access the Teachers Zone and use our free teaching resources.

3.2 Reliability

Our objectives are to reduce the number and length of power cuts experienced by customers. Customers expect their power to be available at the flick of a switch, and are increasingly reliant on electricity at home and at work. We work around the clock, all year round, to keep the lights on.

Despite our best efforts, power cuts do happen from time to time. They can be caused by bad weather, wear and tear of our equipment, a third party accidentally damaging a cable or even vandals deliberately interfering with the network. Whatever the cause, it is our job to respond restore power supplies quickly and safely.

On the whole, the network continued to perform really well in 2012/13. We measure the reliability of the network in three ways:

- Number of interruptions to supply (security of supply)
- Duration of interruptions to supply (availability of supply)
- Speed of restoration of supply

We report the number and duration of supply interruptions to Ofgem every year, as part of their Interruption Incentive Scheme (IIS). This data is audited annually to ensure that it is accurate. Based on this IIS performance, Ofgem can increase or decrease our revenues. Ofgem set different targets for the West and East Midlands, South Wales and South West of England, reflecting differences in the size and type of network.

In 2012/13 the average minutes of lost supply per customer per year was 45 minutes in WPD West Midlands, 30 minutes in WPD East Midlands, 30 minutes in WPD South Wales and 46 minutes in WPD South West.

Case study

WPD Helicopter Unit celebrates 50 years at 50 feet

Western Power Distribution's ground crew and pilots celebrated 50 years of flying this year with a hangar party!

The Unit, established in 1963, has developed immensely over the last 50 years and clocked up an impressive 80,000 hours of flying time. The majority of the unit's work involves routine and emergency visual line patrols, flying just above the overhead lines. Robert Symons says "the work makes a significant contribution to the business and everyone from ground crew to pilots contributes to this success".

On an average day, trained Observers check for storm damage, vandalism or deterioration which may not be visible from the ground. Helicopters can cover up to 160km of overhead line in a five-hour flying day, compared with two men in a vehicle on the ground which could take up to ten days.

The whole unit plays a great part in maintaining efficiency and reliability at WPD.

Security of supply - 2012/13

This is the number of supply interruptions recorded per 100 connected customers in a year. We call this “Customer Interruptions” (CI).

WPD West Midlands	
IIS performance	**81.39 CI***
Ofgem target	109.9 CI
Our performance	**25.94% better than target**

WPD East Midlands	
IIS performance	**48.16 CI***
Ofgem target	75.70 CI
Our performance	**36.38% better than target**

WPD South Wales	
IIS performance	**48.37 CI***
Ofgem target	79.50 CI
Our performance	**39.16% better than target**

WPD South West	
IIS performance	**60.66 CI***
Ofgem target	73.60 CI
Our performance	**17.58% better than target**

Availability of supply - 2012/13

This is the average number of minutes that a customer has their supply interrupted. We call this “Customer Minutes Lost” (CML), per connected customer.

WPD West Midlands	
IIS performance	**44.82 CML***
Ofgem target	95.60 CML
Our performance	**53.12% better than target**

WPD East Midlands	
IIS performance	**30.19 CML***
Ofgem target	68.20 CML
Our performance	**55.70% better than target**

WPD South Wales	
IIS performance	**29.80 CML***
Ofgem target	44.60 CML
Our performance	**33.18% better than target**

WPD South West	
IIS performance	**46.31 CML***
Ofgem target	51.00 CML
Our performance	**9.20% better than target**

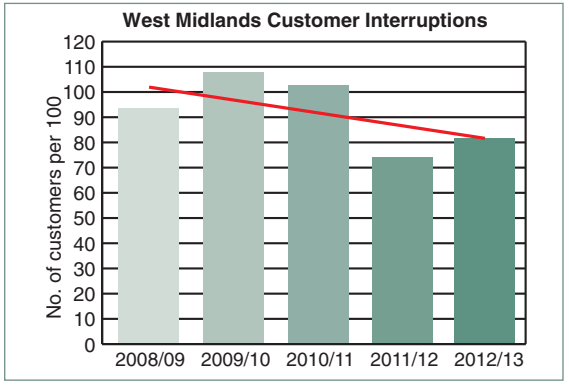
In simple terms this means that, on average, customers in South Wales, the South West and the East Midlands can expect to be without power once every two years and those in the West Midlands once every 18 months – with a portion of this time due to planned work.

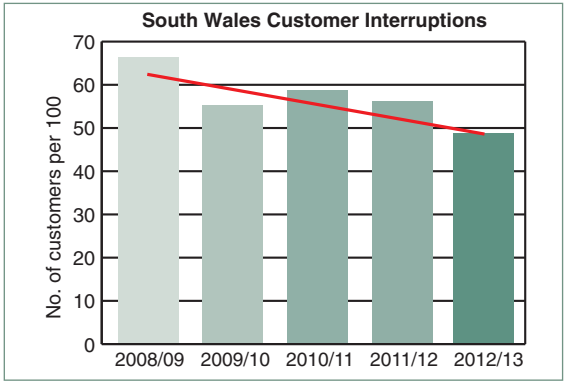
* These figures are based on all power cuts lasting longer than three minutes, including those caused by bad weather, and 50% of the total figures caused by pre-arranged shutdowns for maintenance. Subject to agreement with Ofgem, we can exclude the impact of some exceptional events, such as those caused by very severe weather.

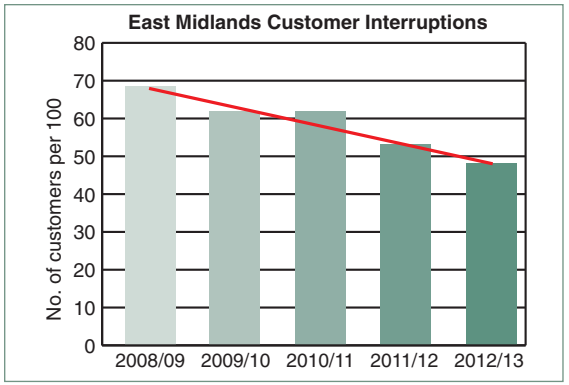
Performance trends

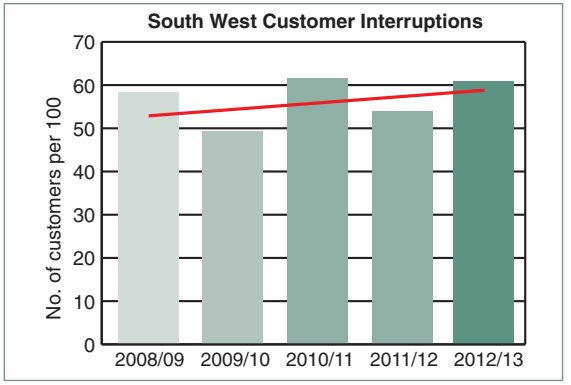
Over the last five years our performance has improved on the whole. We are proud to continue to be acknowledged by Ofgem as a leading performer, and are always looking for new opportunities and initiatives to improve the quality of supply in the future.

Security of supply

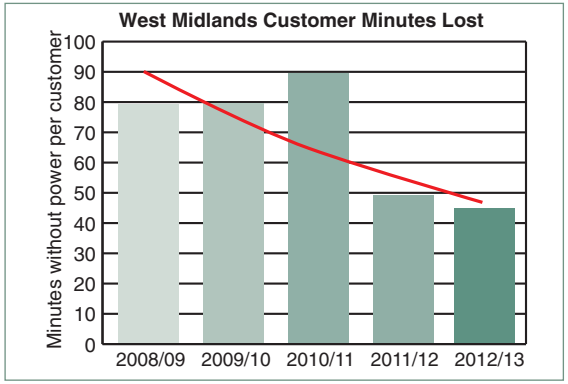


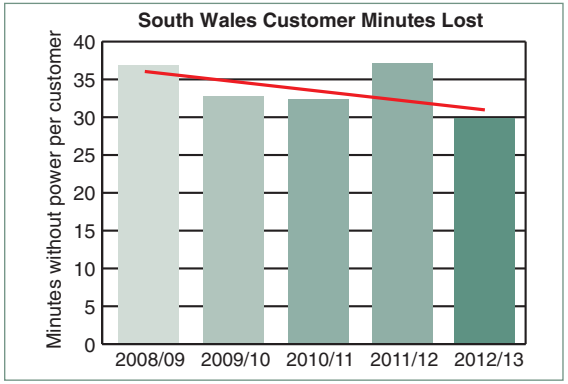


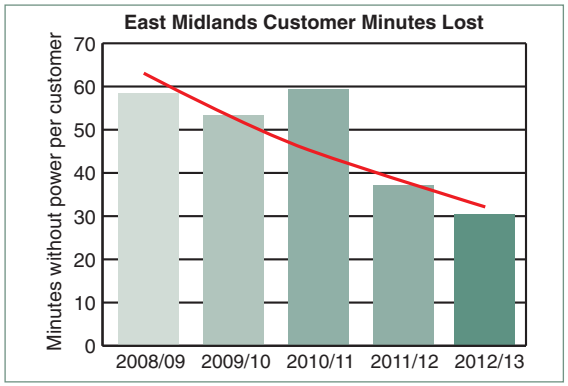


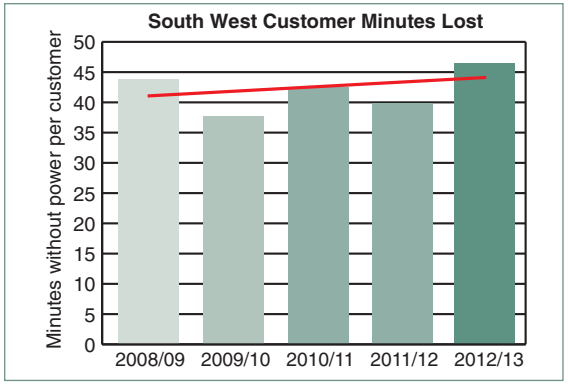


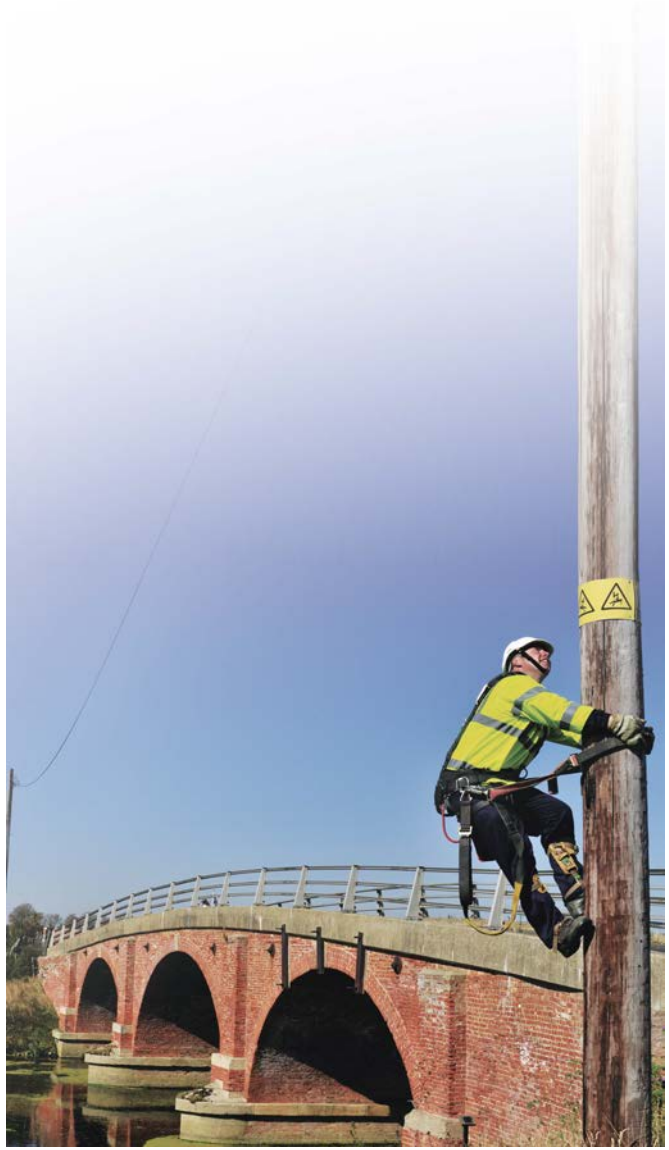
Availability of supply









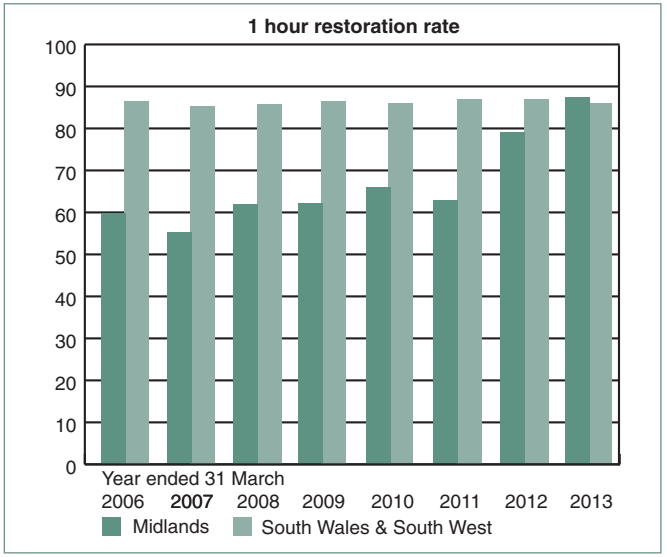


Speed of restoration – ‘Target 60’

As well as the measures set by Ofgem, we have our own initiative called Target 60. Knowing just how difficult it can be without power, we aim to restore supplies to as many customers as possible within one hour of a fault on our high voltage network.

In 2012/13, our success rate against this standard was:

WPD West and East Midlands	**87.1% of customers restored within one hour**
WPD South Wales and South West	**85.7% of customers restored within one hour**



3.3 Environment

We recognise our responsibility to operate in a way that minimises our impact on the environment. We are constantly striving for high environmental compliance standards and greater operating efficiency. Over the last few years we have raised the profile of environmental responsibility and sustainability amongst our staff and managers. We also work closely with partners representing a range of environmental and heritage interest bodies.

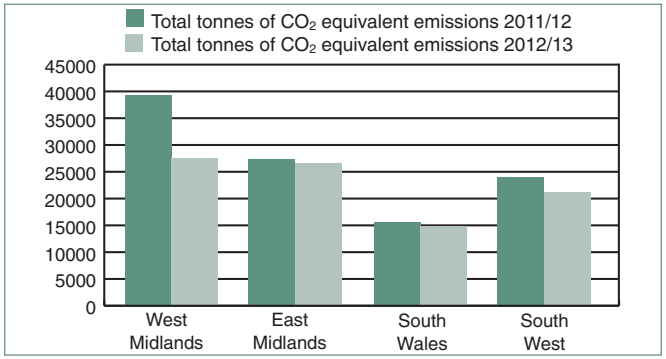
In our plans for 2010-2015, we set targets to improve environmental performance when compared to 2009/10 in seven key areas:

- To reduce CO_2 emissions per vehicle by 5%.
- To reduce the volume of waste being sent to landfill by 5%.
- To reduce our own electricity usage in offices by 5%.
- To increase our investment recovery (money obtained from the sale of scrap and equipment no longer required) by 5%.
- To reduce the volume of SF6 gas leakage from our installed equipment by 25%.
- To reduce the loss of oil from fluid filled cable leaks by 5%.
- To complete a programme to establish oil retaining 'bund' walls around 100% of our transformers (high volume oil filled transformers rated at 33kV and above) to prevent inadvertent ground pollution by oil.

Business carbon footprint

We measure and report on our business carbon footprint annually. We look at ways of reducing our overall carbon emissions by reviewing methods to reduce business miles and identifying opportunities to improve building and vehicle efficiency.

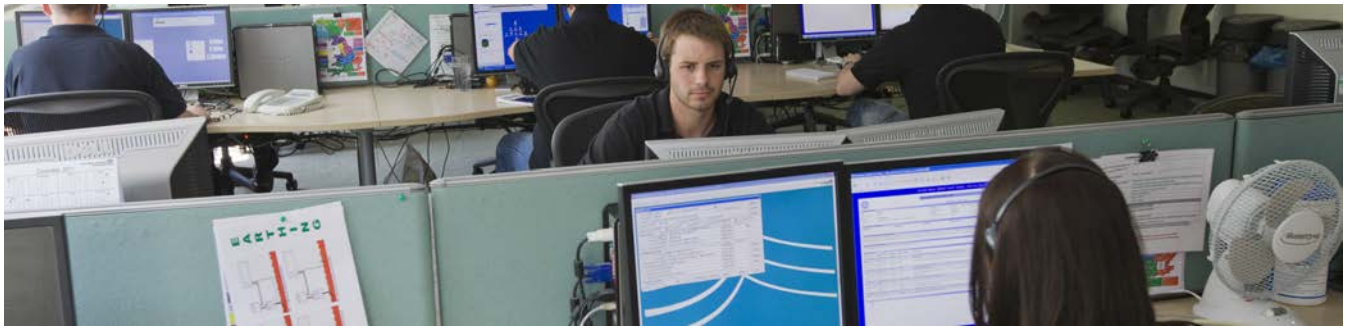
We made significant savings of tonnes of CO_2 as a result of the restructuring of the Midlands to a geographic structure, meaning operational staff are more locally based, which reduces travel distances. And this year we've seen another reduction in the total tonnes of CO_2 equivalent emissions of our operations across all four regions:



This year also saw the successful roll-out of our ISO14001 environmental management certificate into South Wales. At our last audit, we extended the scope of our ISO14001 certificate to include six more South Wales depots;

- Ty Coch
- Brecon
- Llandrindod Wells
- Church Village
- Lamby Way
- Merthyr Tydfil

Next year we hope to bring the remaining depots in South Wales under the scope (Clydach, Brackla, Ffynnon Menter, Withybush and Llanfihangel.) In 2014/15 we will be extending the scope further to include all depots and offices in the South West.



Fluid losses

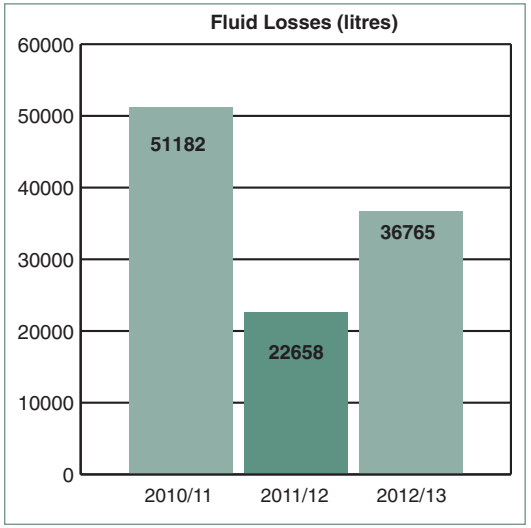
The design of very high voltage underground cables has evolved over the years and our new cables all use a solid plastic-like insulation. Old designs of 33kV and higher voltage cables used an insulating oil inside the cable. Whilst these cables are normally very reliable, sometimes due to a fault, or more commonly when there is damage by third parties digging the street, this oil may leak out.

Recent years have seen a gradual and overall decline in Fluid Filled Cable (FFC) losses through more accurate data recording and improved detection of leaks. This improved detection of leaks is mainly down to PFT (Perfluorcarbon Tracer), a non-toxic and chemically inert liquid that is added to cable fluid in small doses to allow quick leak location.

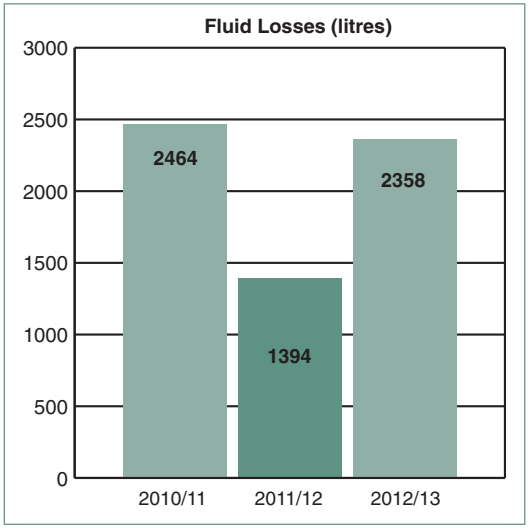
While the overall picture is one of reduced losses there have been occasional years where losses have been higher or lower than average and 2011/12 was a year with lower than average losses. Early and late summer are when we experience the highest leak rates. As ground dries out during the warm months then softens again in autumn the cables are affected. As the summer of 2012 was one of the wettest in history, it appears that the wet ground helped reduce losses to an abnormally low level.

The last year has been back in line with the gradual reduction we see over longer terms. So, whilst 2012/13 losses were higher than 2011/12 they were still lower than 2010/11 and the longer term trend continues.

Midlands**



South Wales and South West*



* A major cable leak in South Wales accounts for 1,790 litres

** One major cable leak in East Midlands accounts for over 10,000 litres

Undergrounding in National Parks and Areas of Outstanding Natural Beauty (AONB)

We recognise that caring for the environment does not just refer to managing and reducing pollution. Whilst electricity is a vital part of everyday life, the equipment needed to deliver it can be unattractive and visually intrusive. Unfortunately, placing cables underground for long distances, particularly in rural locations, is up to five times more expensive than providing overhead cables.

Whilst underground cables are less vulnerable to severe weather than overhead lines, when problems do occur, they can sometimes be difficult to locate and repair. We therefore have to strike a balance.

In 2012/13 nine schemes have been completed in the WPD area, this represents the removal of approximately 11km of overhead line and an investment of £1.2m.

In the five year price control period we have completed 28 undergrounding schemes and have another 35 in the schedule to complete before the end of the current distribution price review.

Around £8 million has been allocated in the new business plan to continue the initiative after 2015.

We have **five** National Parks and **sixteen** AONBs in our region.

We continue to work with all 21 organisations responsible for these areas to ask them where they would like us to put some of our overhead lines underground.

Case study

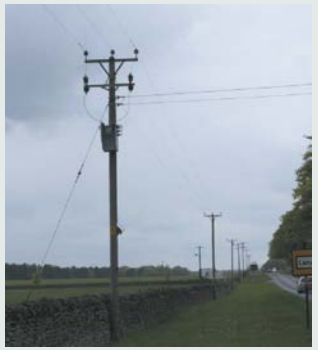
Going underground

A section of the Cotswold Way is the latest to benefit from WPDs commitment to remove overhead lines at iconic sites. A section which ran alongside Lansdown Road, one of the main routes into the Georgian city of Bath, and forming part of the setting of the Bath World Heritage Site, was removed.

The scheme involved removing 41 poles, 2,385 metres of high voltage line and 150 metres of low voltage line, and cost around £222,000.

During the work we provided generators to three main businesses temporarily affected by the works; Bath Racecourse, Lansdown Golf Course and The Blathwayt Public House. We went the extra mile in this case and provided a number of customers affected by the shutdown with a complimentary meal and drink at a local public house, which was very well received by those affected.

Before



After

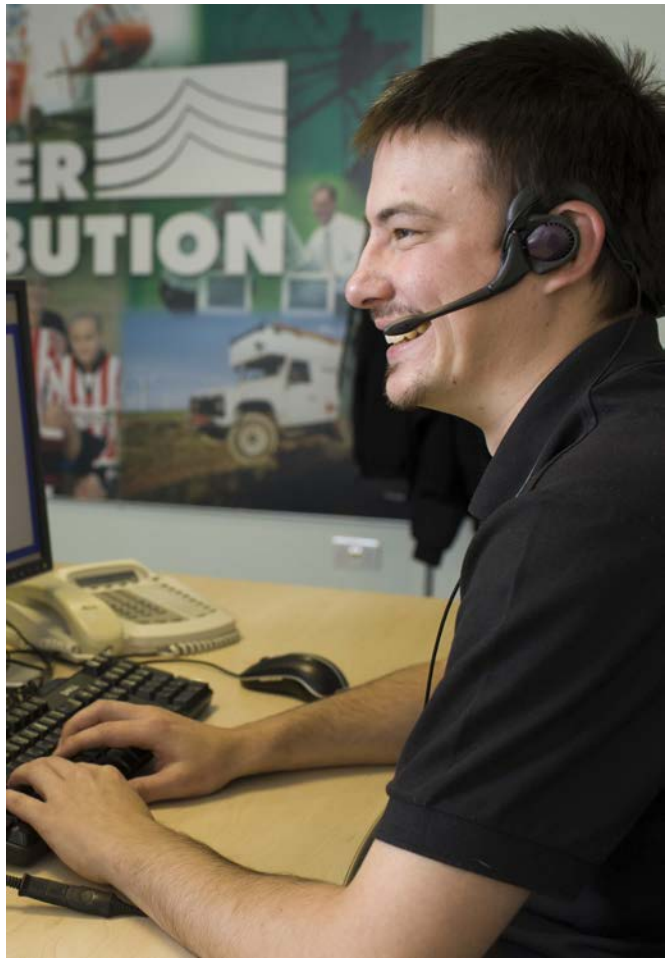
3.4 Customer service

Our job is an essential public service – making sure homes and businesses have the power people need to live their daily lives. That's why we are committed to putting customer service at the heart of all we do.

Customers contact us for a variety of reasons, ranging from reporting a power cut or asking us for a map showing where our cables and equipment are located, to needing to connect to the network for the first time. Whatever the reason, it is vital that we make it as easy as possible to get in touch and when they do, make sure we have the information our customers need.

Our business culture is to get things right first time, every time. All our staff know this, and everyone works hard to provide the best possible service.

WPD's fourth annual customer awareness initiative Power for Life got underway during February 2013 with the unveiling of a brand new TV advert. The month-long campaign featured newspaper advertising, a leaflet delivered to 7.8 million homes and businesses, and face-to-face opinion research. A total of 2,000 people from towns and cities across the WPD region took part in these interviews, both pre and post campaign, to assess customer opinion and to gauge awareness levels of the business.



WPD West and East Midlands - 2012/13			
Total number of calls (all calls)		626,563	
Average speed of answer		1.27 seconds	
		Target	**WPD performance**
Power cuts	Percentage of calls answered within 20 seconds	80%	**99.4%**
Power cuts	Rate of calls abandoned	4% or less	**0.09%**
General enquiries	Percentage of calls answered within 20 seconds	80%	**99.4%**
General enquiries	Rate of calls abandoned	4% or less	**0.01%**

WPD South Wales and South West - 2012/13			
Total number of calls (all calls)		456,074	
Average speed of answer		1.6 seconds	
		Target	**WPD performance**
Power cuts	Percentage of calls answered within 20 seconds	80%	**99.3%**
Power cuts	Rate of calls abandoned	4% or less	**0.08%**
General enquiries	Percentage of calls answered within 20 seconds	80%	**99.6%**
General enquiries	Rate of calls abandoned	4% or less	**0.02%**

Proactively contacting our customers

Our two Contact Centres handled 1.1 million inbound calls during 2012/13.

During a power cut:

When there are incidents affecting the high voltage network we proactively send text messages to customers, giving them the estimated time of restoration.

In 2012/13 we sent messages to:

West Midlands **119,269** customers *

East Midlands **105,738** customers *

South Wales **110,431** customers

South West **134,141** customers

*From November 2012 when proactive texting in the Midlands went live.

After a power cut:

Once power has been restored, the next day we contact every customer that has called us, to apologise and explain what caused the problem.

In 2012/13 we investigated and called back approximately:

West Midlands **162,000** customers

East Midlands **146,000** customers

South Wales **63,000** customers

South West **104,000** customers

Complaints performance

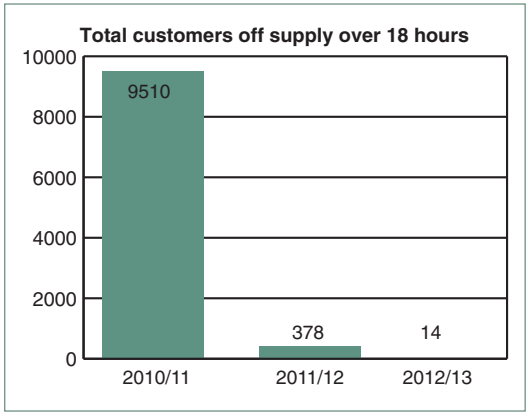
We aim to resolve complaints as quickly as possible, without the need for the customer to take the matter to the independent Energy Ombudsman.

WPD 2012/13

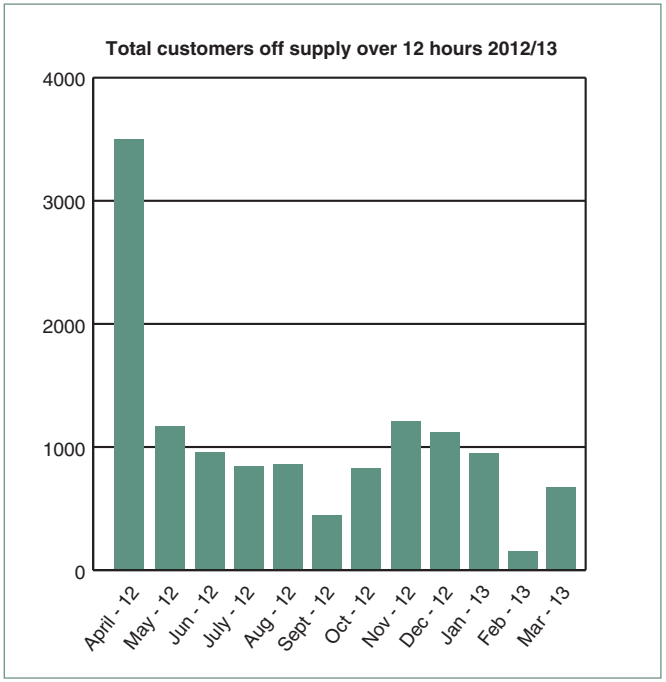
Total number of complaints	**8239**
Percentage resolved to the customer's satisfaction	**100%**
Number of complaints referred to the Energy Ombudsman	**0**
Number of complaints found against us by the Energy Ombudsman	**0**

Guaranteed standards

Customer service standards are set by Ofgem. These guaranteed standards provide a minimum level of service. We pay compensation to customers who have not received these minimum levels of service. Furthermore we have committed to pay any customers who do not receive this level of service ***double*** the payment set by Ofgem.



In 2012/13 we continued with our push to ensure our customers were never without electricity for more than 18 hours. In light of our significant improvement in this area, and following feedback from our stakeholders, we went one step further and pledged to dramatically reduce the number of customers who were without power for 12 hours.



Our performance against all these standards in 2012/13:

Company Fuse Failure If a customer loses supply due to the operation of their main fuse, we'll visit within 3 hours on weekdays and 4 hours at weekends. If we fail to do so, we'll pay the customer £22.	**100% success**
Electricity Supply Failure If our supply network fails we'll restore supplies within 18 hours of the fault being reported, during normal weather. (If 5,000+ properties are affected we'll restore it within 24 hours of becoming aware.) If we fail to do so, we'll pay the customer £54 (£108 for non-domestic customers). We'll pay a further £27 for every additional 12 hours that a customer is without electricity.	**100% success**
Electricity Supply Failure – Severe Weather If our supply network fails during severe weather we'll restore supplies within 24 or 48 hours of the fault being reported. If we fail to do so, we'll pay the customer £27. We'll pay a further £27 for every additional 12 hours that a customer is without electricity, up to a maximum of £216.	**100% success**
Appointments If we visit a customer for any reason, they'll be offered an appointment during the morning or afternoon or within a two-hour time band. If we fail to make or keep that appointment we'll arrange for the customer to receive a £22 payment.	**100% success**

Notice of Planned Interruption to Supply If we need to interrupt a supply for testing or maintenance, we'll give the affected customers at least 2 days' notice. If we fail to do this, customers can claim £22 (£44 for non-domestic customers).	**99.99% success**
Voltage Complaints If a customer contacts us about a problem with their supply voltage, we guarantee to reply to the enquiry within 5 working days or make an appointment to visit and investigate within 7 working days. If we fail to do so, We'll pay £22.	**100% success**
Multiple Interruptions If a problem on our system causes a customer to be without power for three hours or more, on four or more occasions in a year (from 1 April), they're entitled to a £54 payment. Customers can claim within three months of the end of the year.	**100% success**

New connections

Customers who require a new electricity supply need to obtain a new connection to our network. This includes all demand connections (to use electricity), generation connections (such as solar panels or small scale wind turbines) and unmetered connections (typically street lighting). The provision of a quotation and the delivery works are all covered by Guaranteed Standards of Performance.

WPD West Midlands	2012/13	2011/12
Connection enquiries handled	13894	14529
Enquiries resulting in an offer	4634	6052
Applications for demand connections	10597	11002
Applications for generation connections	997	2819

WPD East Midlands	2012/13	2011/12
Connection enquiries handled	15042	14902
Enquiries resulting in an offer	4703	5643
Applications for demand connections	10307	10375
Applications for generation connections	1455	3691

WPD South Wales	2012/13	2011/12
Connection enquiries handled	7691	6776
Enquiries resulting in an offer	2244	2224
Applications for demand connections	5168	5171
Applications for generation connections	923	521

WPD South West	2012/13	2011/12
Connection enquiries handled	15920	19533
Enquiries resulting in an offer	4810	4945
Applications for demand connections	10442	10975
Applications for generation connections	2724	2407

We operate to minimum standards of service for connections. We pay compensation payments if we fail to meet the standards.

Other Connections Guarantee Failures

Competition in Connections – Four failures to provide a quotation for non-contestable works only. All HV quotations. (Standard: demand quotations 20 working days, generation quotations 50 working days, £100 per working day late).

Unmetered Supplies – One failure to remove immediate danger to the public, (Standard: £50 one off payment for failure to arrive on site within 2 hours).

Performance against metered connections 2012/2013

Service	Type of connection	Timescale	Failure payment	Our performance
Make payment	All	10 working days	£50 one off	1 failure
Provision of budget estimate	Less than 1MVA	10 working days	£50 one off	1 failure
	1MVA or more	20 working days	£50 one off	
Provision of quotation	Demand LV single service/ meter move	5 working days	£10 per working day late	1 failure
	Demand LV small project	15 working days	£10 per working day late	
	Demand LV other	25 working days	£50 per working day late	
	Generation LV	45 working days	£50 per working day late	
	Demand HV	35 working days	£100 per working day late	
	Generation HV	65 working days	£100 per working day late	
	Demand EHV/132kV generation EHV/132 kV	65 working days	£150 per working day late	1 failure
Make contact with the customer to schedule dates	Demand LV single service/ demand LV small project	7 working days	£10 per working day late	
	Demand LV other	7 working days	£50 per working day late	
	Generation LV	7 working days	£50 per working day late	
	Demand HV or generation HV	10 working days	£100 per working day late	
	Demand EHV/132kV generation EHV/132kV	15 working days	£150 per working day late	
Commence works on agreed date		**Failure payment**		0 failures
	Demand LV other	£20 per working day late		
	Generation LV	£20 per working day late		
	Demand HV or generation HV	£20 per working day late		
Complete works on agreed date	Demand EHV/13kV generation EHV/132kV	£20 per working day late		0 failures
	Demand LV single service/ demand LV small project	£25 per working day late		
	Demand LV other	£100 per working day late		
	Generation LV	£100 per working day late		
	Demand HV or generation HV	£150 per working day late		
Energise on agreed date	Demand EHV/13kV generation EHV/132kV	£200 per working day late		
	Demand LV other	£100 per working day late		0 failures

Whatever the weather

Our teams work around the clock to restore supplies in all weather and, as long as it is safe to do so, make every effort to restore supplies as quickly as possible.

Extreme weather wreaked havoc on areas served by WPD during 2012/13 as our pictures show.

3.5 Social obligations

Improving our services for vulnerable customers

This year we have continued to work closely with organisations including the RVS (Previously the WRVS), the British Red Cross, Age UK, National Energy Action (NEA), and Action on Hearing Loss to promote awareness of WPD, and to let vulnerable customers know what help and advice they can get from us. We also work closely with oxygen providers and the Local Resilience Forums to assist customers during severe weather.

In 2012/13 we established a Social Obligations Strategy which informed our business plan and highlighted areas we are committed to strengthening for the coming years as we enter the RIIO-ED1 period (2015-2023). These include;

- providing help to vulnerable customers during power cuts;
- sending out 'crisis packs' to vulnerable customers through the British Red Cross – containing items which might be useful in a power cut such as flasks, hand warmers and gloves;
- building on existing relationships with Local Resilience Forums to share information on support for vulnerable customers when extreme events, such as widespread flooding, occur;
- continuing our projects with the NEA and EST (Energy Saving Trust) to provide help address fuel poverty; and
- providing bespoke training to frontline staff to allow them to identify key warning signs of fuel poverty and refer customers for appropriate help.

Louder than Words

IIn 2013 we retained the Action On Hearing Loss (AOHL) Louder Than Words deaf awareness Charter Mark for the fifth consecutive year.

An enduring partnership with AOHL, who are members of our Customer Panel, has led to practical changes to services and processes. AOHL have also directly influenced our Business Plan and social obligations proposals.

Customer Service Excellence

Our excellent customer service is recognised by the Customer Service Excellence Award (CSE). The award covers best practice in over 100 elements of customer service for both public sector and private sector companies.

WPD were independently assessed and provided evidence of:

- a comprehensive and up to date stakeholder engagement strategy;
- clear processes of engagement using a variety of mechanisms;
- senior manager-buy-in; and
- acting on feedback from stakeholders and achieving positive outcomes.

In March 2013 we were re-accredited for the twenty first consecutive year, demonstrating that we continue to meet high standards of customer service across all four businesses.

Inclusive Service Provision – Identifying and Responding to Consumer Vulnerability

We achieved compliance with this standard in 2013. The standard was recommended by Ofgem as part of their vulnerable customer strategy work. The associated evidence has been also externally reviewed by the CSE assessor.

The areas assessed include:

- Board commitment to inclusive services.
- Knowledge & sharing of best practice.
- Policies that identify and meet the needs of disadvantaged people.
- Stakeholder engagement used to identify improvements.
- Appropriate, clear & jargon free information, in accessible formats.
- Surveys of vulnerable consumers for feedback on services provided.

keen to be green

keen to be green

During 2012/13, we have supported a broad range of 'keen to be green' initiatives. Sponsorship and donations meant that we supported a variety of causes to the tune of £60,000. This included

- establishing relationships with many Wildlife Trusts and then funding projects that benefitted 1500 children
- support for tree schemes that led to the planting of 7000 trees and shrubs, and
- the donation of 500 Owl Energy Monitors through our partner charities.

Over 300 children from Gloucester and Llanelli got to visit a Wildfowl & Wetlands Trust's (WWT) centre near their school as part of the Trust's Inspiring Generations appeal.

Following a donation from WPD, the WWT centre launched the Inspiring Generations appeal with the aim of encouraging children to become interested and get hands-on with nature, and have fun doing it.

The passionate and enthusiastic WWT staff guided the children around the centre, showing off flamingos, pond life and the different species of bird that live there.

Neil James, Distribution Manager for Gloucester is pictured with pupils from Finlay primary school.

Simon Shirley, Taunton Team Manager and pupils from Cutcombe school get to know Beau the owl.

Children at Cutcombe First School, in Wheddon Cross, enjoyed a visit from Beau the barn owl as part of Somerset Wildlife Trust's Community Barn Owl Project to get a nest box in every parish in the county.

WPD's support enabled an additional 20 visits to Somerset schools to teach children about barn owl conservation.

The three-year project, which extends to including volunteers from the wider community, has already visited 52 schools across the county, with over 1,000 children learning about owls and habitats with visits from Beau, pellet dissection and box building workshops.

In total 335 nest boxes will go up with more than 140 already put in place by Somerset farmers and landowners.

A very sleepy hedgehog joined children at St Michael's Primary School in Bath thanks to financial support from WPD.

Working in partnership with Avon Wildlife Trust, funding has enabled the Trust to provide 12 free sessions in schools across Bristol and Bath.

Julie Doherty who co-ordinated the project for the trust said: "Hedgehogs are popular animals but have been sadly declining over the last 60 years. Loss of habitat in gardens and the use of slug pellets have contributed to this. Going into schools and explaining the reasons behind this decline may help improve the numbers of these lovely creatures once again."

Children from St Michael's up close with the sleepy visitor.

A new home was found for an old redundant printer destined for the scrap heap – proving that one person's rubbish really can be another's treasure.

It had previously been used by our GIS Data Team but was replaced with a modern version and heading for landfill.

The charity Furniture Re-use Network, which provides support to households who cannot afford furniture, sells office items – so the printer was carefully loaded onto the back of a van and taken to a new home – raising money for the charity, recycling the printer and reducing the waste WPD sends to landfill.

Roger Beacham and Rhydian Rees get the printer ready for collection.

Community Support

WPD provided funding for two Alphasmart word processors for youngsters with disabilities living in South Wales.

The Sparkle appeal, which led to the building of the Serennu Children's Centre, near Newport opened its doors last year, and over 1,200 children, young people and their families have been able to make use of its facilities.

Occupational Therapist James Marshman, said the centre is providing treatment, care, information, consultations and leisure services under one roof.

Yolande Hillman, WPD Team Support is pictured with ten-year-old Cameron Johnson from Cwmbran, who showed off his skills on the new processor.

Schoolchildren from South Wales took part in a WPD Engineering Challenge designed to test their creative and problem solving skills

It also introduced them to the world of science and technology in a fun and educational way, and WPD apprentices have mentored the youngsters by helping them to develop, build and design models using K'nex pieces.

Organised by Careers Wales' Education Business Partnership, pupils from 10 schools worked on building a design solution to a specific problem. They began by drawing their ideas and then made a solution, adapting initial designs as they learn what works. They also learn the importance of team-work and effective communication.

Cardiff Distribution Manager, Ian Lawrence, praised the skills and enthusiasm of the children taking part. "It has been a pleasure for us to support this initiative. The children were very excited and came up with fantastic ideas. The models they have built have been quite remarkable."

The finalists won a trophy and K'nex set worth £250 for school and each received a goodie bag, K'nex set and certificate.

Pictured from left Penywaun Primary School, Aberdare, are Michelle Common (EBP) WPD's Ian Lawrence and Eileen Leadley. Front, WPD's Sean Thomas, winners Kieron Dillon, and Ben Fairman, and WPD's David Harris (right).

3.6 Stakeholder engagement

Ofgem's Broad Measure of Customer Satisfaction

The quality of WPD's engagement with stakeholders is assessed annually as part of Ofgem's Stakeholder Engagement Incentive Scheme. An Ofgem-appointed Panel of independent experts assess all UK DNOs to see how well we are listening to customers and using feedback to drive improvements and shape future plans.

For the second consecutive year, WPD have been assessed as the top performers for the industry.

In 2012/13 the judging panel was impressed by both our written submission and presentation to the panel and we were awarded the highest score – 8.4 out of 10 - of all the competing DNOs.

We received praise from the panel for demonstrating that stakeholder engagement is embedded in our business, and there is clear evidence of Board-level commitment in the business-wide stakeholder engagement programme.

Ofgem's judging panel awarded us a top score of 8.4 out of ten for our stakeholder engagement award entry.

"Western Power Distribution (WPD) was the first DNO to adopt open and enduring stakeholder engagement, long before RIIO-ED1. They have led the way by giving stakeholders a clear say and involvement in strategic decisions for the future of the business.

WPD's Customer Panel was the first of its kind and currently enables us to regularly meet the senior company managers, see the company at work and learn more about what WPD is doing, where and when. The transparent and open approach affords us the opportunity to comment on policy and feedback concerns and suggestions to management and key decision makers directly.

Collectively the professional experience and knowledge of the invited members have enabled consideration of the outputs proposed by WPD for RIIO-ED1 in order to submit a plan that would be most beneficial for stakeholders and customers. WPD respect both positive and negative response and address issues accordingly.

WPD's approach to engagement is transparent, genuine and well thought out, using a wide range of methods. Meetings are a worthwhile use of our time as we see our suggestions implemented to ensure customers continue to receive the best possible overall customer service."

Joint statement from WPD's Customer Panel - 2013

Our customer panel

Chaired by our Chief Executive, our quarterly customer panel meetings allow a diverse mix of customers and stakeholders to help shape our thinking and future priorities.

There are 25 permanent members from a variety of stakeholder groups including the British Red Cross, Energy Saving trust, B&Q, The Co-operative, The Police, Parish Councils and Severn Trent Water.

Members are asked to review and influence our strategy and key decisions. Last year they helped to review and refine our Business Plan for 2015-2023.

Key outcomes from WPD's Customer Panel

- We now manage our business to a 12 hour restoration standard.
- We have voluntarily doubled guaranteed standard failure payments to customers.
- The Panel helped design new planned shutdown notifications, leading to a 10% increase in satisfaction.
- The Panel signed off WPD's stakeholder strategy and co-wrote our new social obligations strategy.
- We have introduced free phone numbers for mobile phone users.

Stakeholder workshops

Understanding and acting on the views of stakeholders has been a vital part of the process as we built our business plans for the future. During 2012/13 we consulted with people from a wide range of organisations and representative bodies, including local authorities, parish councils, vulnerable customer groups, other utility companies and major energy users.

We used handheld voting technology to enable stakeholders to vote for their preferred investment option, "build their own bill" and indicate the appropriateness of our business plan outputs. It gave a real-time insight into the consensus view of stakeholders in the room.

Engagement is embedded in our business and over 50 operational Distribution Managers facilitated our workshops in 2012/13.

Of the 390 stakeholders who attended our workshops, 99.7% found them useful, 96% felt they had sufficient opportunity to express and discuss their view and 97% felt we covered the right topics.

We also hosted expert-led surgeries (with the corresponding author of the business plan) on:

- Use of System charging.
- Low carbon innovation scenarios.
- Social obligations.
- Connections

For further information about our 2015-23 Business Plan, please go to our website at: www.westernpower.co.uk under the Stakeholder section.

4 Innovation

A number of low carbon technologies are emerging that place new requirements on our network. These include electric vehicles, solar panels, wind farms and heat pumps. Such technologies could significantly increase the loading of our cables and substations, and change the way power flows around the network.

We will continue to operate a safe, reliable network and deliver excellent customer service. With the emergence of new technologies and innovation, the way we do this has changed through the years. The core network of poles and cables remains, but we have always added new technologies where they provide a benefit. It's our job to keep developing and make the best use of innovation in everything we do, to help us rise to the challenges brought about by a low carbon future.

Innovation must always provide a value for money solution for our customers. We will make maximum use of various funding mechanisms, including Ofgem's Low Carbon Networks Fund (see below) to trial innovations and establish the benefits of different solutions.

We will share our results with others and will aim to make our solutions easily transferable across the UK electricity infrastructure.

Installation of network monitoring

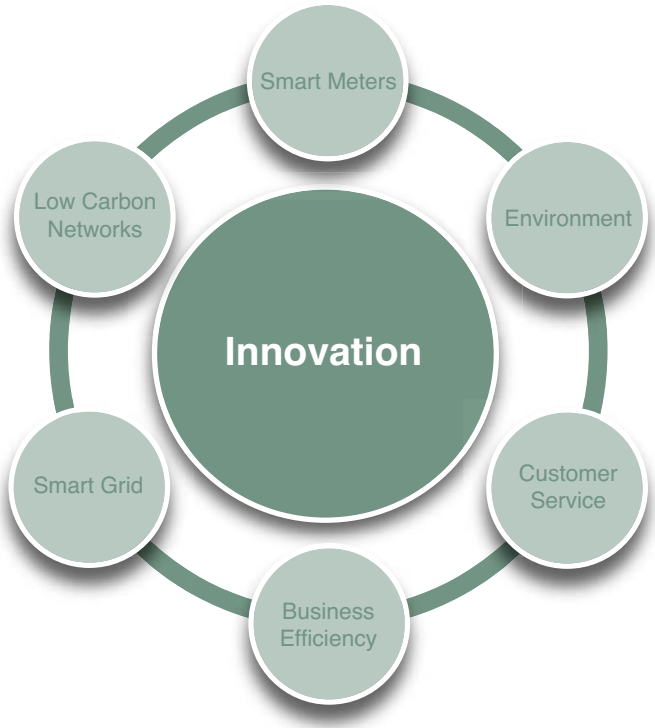
Some of the areas we are focusing on:

Our innovation developments can be described across six broad areas;

- Low carbon networks - supporting future electricity demand and generation requirements.
- Smart meters - maximising the benefits from more detailed network data.
- Smart grids - developing new techniques and utilising enhanced data to help develop more dynamic network control.
- Environment - reducing our business impact on the environment and reducing technical losses.
- Customer service - developing smarter ways of delivering better customer service.
- Business efficiency - searching out better processes, equipment and technology that ensure we continue to be efficient.

These areas of work are interdependent and progress in one area will often help to enhance innovation development in another.

We have an existing portfolio of innovation projects that are already shaping how we are thinking about the future. We will continue to innovate and carry out new projects that will build upon what we have already learnt from the projects we and other DNOs have carried out.



Low Carbon Networks Fund (LCNF)

In 2010, Ofgem announced the creation of a £500m funding mechanism called the LCNF. It allows operators like us to test innovative ways of getting the local electricity network ready for mass adoption of low carbon technologies by customers, such as solar panels, heat pumps and electric vehicles. The majority of the money is available for projects selected through an annual £64 million competition.

Installing a Smart Node as part of a community energy monitoring project in Hook Norton

LCN Fund
Low Carbon Networks

Some of the projects we are currently working on

Lincolnshire Low Carbon Hub

The Lincolnshire Low Carbon Hub is a renewable energy connection project. Drawing on Lincolnshire's role at the forefront of new renewable projects, the project will allow WPD to improve and increase the connection of a wide range of renewable energy projects to the electricity distribution network using innovative techniques.

The Low Carbon Hub has six main techniques to allow more generation to connect to an existing network.

Network enhancements –were increasing the network capacity & installing optical fibre to explore if these enhancements provide useful functionality to networks in the future.

Dynamic voltage control – this technology allows us to operate the network flexibly to accommodate both load & generation.

Dynamic system ratings - rather than using fixed seasonal averages, we'll be rating the maximum capacity of the 33kv overhead line based on real time weather conditions.

33kV active network ring – traditionally our network runs in straight spurs. Instead this dynamic ring network design will provide operational flexibility and allows for a greater amount of power to be distributed.

Flexible AC Transmission System (FACTs) Device – the additional of generation to the network can create voltage fluctuations, the FACTs Device is a relatively new technology which will be installed to provide voltage stability.

Commercial agreements - Active connections will be offered as an alternative to passive "Fit and Forget" connections, generators will agree to curtail their generation at times of network constraint.

FACTs system being lowered into place at Trusthorpe

The Low Carbon Hub will enable us to increase the amount of renewable generation that can connect to the distribution network, by designing and operating the network more efficiently using new innovative techniques.

Growing interest from medium and large sized organisations looking to develop distributed generation facilities in the area means that we have to develop our network in innovative ways to help meet the changing needs of our customers - including those who want to generate their own energy.

WESTERN POWER DISTRIBUTION
LOW CARBON HUB

Project Falcon

Project FALCON (Flexible Approaches for Low Carbon Optimised Networks is a £16.2m scheme aiming to investigate how new 11kV network intervention techniques work in practice. By simulating their use in different scenarios, we will determine the best ways to manage network problems expected to arise from increased low carbon technologies and generation. The project can broadly be divided into two main parts:

• The technique trials which involve installing equipment, creating commercial frameworks and operating the techniques on our network in the Milton Keynes area. These trials consist of new and improved techniques for WPD to use with the support of key technology partners.

• The simulation tool and the supporting elements, to calculate the likely load increases, determine constraints on the network and model the result of applying the possible techniques - known as the SIM.

This project will use innovative technologies and modelling techniques to enable more efficient management of the network.

WESTERN POWER DISTRIBUTION
FALCON

Sola Bristol

Sola Bristol is an alternative method to enable high density photo voltaic solar generation to connect to the low voltage network more efficiently through using an in home battery and variable tariffs.

We are using batteries to store solar energy in selected customers' homes & offices.

Domestic battery storage installation

The project aim is to address the technical constraints that DNOs expect to arise on Low Voltage networks as a result of the adoption of solar PV panels. The trial uses in-home battery storage to provide benefits to customers and aid the DNO with network management. Thirty houses, and an office will have solar PV and a battery installed. The solar PV will be connected directly to the battery using a DC connection. The AC lighting circuits in the premises will also be converted to DC to enable customers to run small appliances on DC directly from the PV/battery. The battery will be "shared" between the customer and the DNO. The customer will be provided with a variable tariff to encourage electricity use at times of high PV generation and to use electricity stored by the battery when the network is heavily loaded. The DNO will be able to communicate with the battery to charge and discharge it to help with network management.

WESTERN POWER DISTRIBUTION
SOLA BRISTOL

FlexDGrid

FlexDGrid is a £17 million project which will revolutionise the power network in Birmingham, utilising ground breaking solutions to accommodate more low carbon generation The connection of low carbon generation directly to urban electricity networks can increase fault level. In order to overcome fault level issues, over the next four years this project seeks to explore the potential benefits arising from trials of three complimentary methods:

Enhanced Fault Level Assessment - This involves enhancing computer simulation processes to calculate and predict short-circuit currents more accurately.

Real-time Management of fault Level - This monitors the electricity network in a greater level of detail than has happened before.

Fault Level Mitigation Technologies - This method installs new technologies that can limit the flow of short-circuit currents when faults occur on the electricity network.

This will support the integration of further electricity generation within the city.

WESTERN POWER DISTRIBUTION
FLEXDGRID

5 Network investment

In 2012/13, we invested £430.9 million to improve the electricity networks in West Midlands, East Midlands, South Wales and South West. This included the replacement of overhead lines and switchgear, as well as the introduction of new technologies. In the three year period since the beginning of the current planning period (beginning on 1st April) 2010 we have invested £1,017 million to improve the electricity network.

Between 2013 and 2015, we will be spending a further £858 million, taking our total network investment during the current five year planning period to over £1,870 million. This is needed to maintain and upgrade the network to meet increased demands from customers and new generation, and to protect it against the impact of climate change and security risks

Reported expenditure in 2012/13 against allowances (£m)

	Capital investment spend	Maximum capital investment	Percentage of allowance spent
West Midlands	£134.8	£147.4	91%
East Midlands	£162.4	£157.0	103%
South Wales	£61.8	£56.7	109%
South West	£71.9	£84.4	85%
Total	**£430.9**	**£445.6m**	**97%**

How the money has been invested in the Network 2012/13 (£m)

Investment within scope of ex ante allowance	Investment driver	West Midlands	East Midlands	South Wales	South West	WPD
New Connections	Provision of new connections to domestic and non domestic properties associated with projects that had started prior to 1st April 2010. Installation of additional capacity to the distribution network in order to accommodate customer specific increase in electricity demand. Less any payments made by customers towards the provision of new connections and customer specific reinforcement.	3.0	6.0	0.5	0.4	9.9
Diversions & Easements	Rerouting or repositioning of distribution network assets driven by external factors	12.4	7.0	3.7	4.0	27.2
General Reinforcement	Installation of additional capacity to the distribution network in order to accommodate general increase in electricity demand	13.4	33.9	3.1	2.0	52.4
ESQCR	Modification of overhead lines as a consequence of changes to the Electricity Supply, Quality and Continuity Regulations	1.4	1.5	1.5	4.1	8.4
Asset Replacement	Replacement of assets that have reached the end of their operational life	86.9	91.6	42.8	52.8	274.1
Operational IT & Telecomms	Installation of new and replacement of IT and Telecommunication assets that are used in the real time operation and control of the distribution network	10.6	10.8	0.6	0.9	22.9
Legal & Safety	Enhancing the physical security at major substation in order to deter and prevent unauthorised access. Safety improvements	0.9	1.5	2.4	1.2	6.0
Theft of Assets	Remedial works necessary to reinstate network as a result of theft of network assets	0.2	0.3	0.0	0.1	0.5
QOS	Reduction in the quantity and duration of customer interruptions experienced by customers	4.1	2.9	2.4	3.9	13.3
Flooding	Enhancements to flood defences at major substations at the highest risk of flooding	0.0	2.6	1.8	1.2	5.7
BT 21st Century	Installation of telecommunication circuits, used in the protection of distribution assets, to replace existing BT circuits that will have reduced specification in the near future	0.7	0.7	1.8	0.1	3.3
Environmental	Reduction in the environmental risk of leaks and emissions from distribution network assets	0.6	3.0	0.9	1.2	5.7
Total investment within scope of ex ante allowance		**134.1**	**161.7**	**61.6**	**71.9**	**429.3**

Investment outside scope of ex ante allowance	Investment driver	West Midlands	East Midlands	South Wales	South West	WPD
Critical National Infrastructure	Enhancement to the security of supply at key economic points	0.0	0.0	0.0	0.0	0.0
Black Start	Field trials of prototype equipment that enhances the resilience of the distribution network control systems during very widespread loss of generation infeed	0.0	0.0	0.2	0.0	0.2
Undergrounding in Areas of Outstanding Natural Beauty	Enhancement to the security of supply at key economic points	0.6	0.6	0.0	0.0	1.2
Quality of Supply - Worst Served Customers	Reduction in the number of supply interruptions experienced by customers that suffer 15 or more interruptions in a three year period	0.1	0.1	0.0	0.0	0.2
Total investment outside scope of ex ante allowance		**0.7**	**0.7**	**0.2**	**0.0**	**1.6**

TOTAL INVESTMENT		**134.8**	**162.4**	**61.8**	**71.9**	**430.9**

Network outputs: our Health Index (HI) and Load Index (LI)

Health indices update

A high proportion of our current network dates back to the 1950s and 1960s, meaning that some equipment is approaching the end of its serviceable life. It is important that we keep the network in the best condition we can, by removing equipment that is in the poorest condition and installing new assets.

Whenever we maintain and inspect our equipment, we record details of the condition of critical components. These condition scores are grouped into five Health Index (HI) categories, ranging from 'HI1' for equipment that is in excellent condition, to 'HI4' and 'HI5' for equipment that is fast approaching the end of its life. Sometimes, it is practical to replace assets earlier than this, for example if we replace all the equipment at a substation at the same time rather than individual items over a few years, because it is more efficient and minimises the disruption for customers.

Overall our asset replacement activity is ahead of schedule. **Of the work that took place in the three year period between 2010/11 and 2012/13, the table on the next page shows the percentage of assets that were classed as 'HI4' or 'HI5' and in greatest need of replacement.**

	Percentage asset replacement activity (of the total activity forecast to take place in the 5 year period to 2015)				Percentage of assets removed classed as high Health Index over the first 3 years of the 5 year planning period
	2010/11	2011/12	2012/13	Total	
Low Voltage (LV) Overhead Line - Poles	10%	21%	24%	56%	78%
High Voltage (HV) Ground Mounted Switchgear	16%	12%	29%	57%	90%
HV Ground Mounted Transformers	20%	19%	30%	69%	76%
HV Overhead Line - Poles	14%	26%	22%	62%	61%
Extra High Voltage (EHV) - Ground Mounted Switchgear	28%	38%	46%	112%	89%
EHV Ground Mounted Transformers	23%	39%	34%	97%	98%
EHV Overhead Lines - Poles	8%	14%	14%	36%	65%
132kV Circuit Breakers	38%	19%	14%	71%	97%
132kV Transformers	24%	41%	37%	102%	96%

Load indices

The amount of electricity supplied from each of our substations is determined by the number of customers connected and the amount of electricity they use, known as 'demand'. The amount of electricity supplied varies throughout the year, with the highest amount supplied known as the 'maximum demand', which will usually occur in early evenings during winter weekdays. For short periods, substations can operate at a level of demand in excess of their rating. The Load Index (LI) of a substation is determined by combining the maximum demand as a percentage of the substation's overall capacity, and the length of time the demand can exceed the rating of the transformer at the substation.

There are five load indices, ranging from 'LI1' for substations where the maximum demand is much lower than the overall capacity, to 'LI5' where the maximum demand is close to, or exceeds, the overall capacity.

We can increase the capacity of a substation by carrying out work that we call general reinforcement. Our objective is to ensure that the quantity of substations categorised as being within LI4 and LI5 is maintained at low levels.

In 2012/13 the percentage of major primary substations categorised as either LI4 or LI5 was 5%:

	LI1	LI2	LI3	LI4	LI5
2012/13	47%	31%	18%	3%	2%

Case study

Substation plan is a Master stroke

A 12-year project in Bristol to update 20 Master substations is steaming forward – more than two years ahead of schedule.

Master substations were a popular choice in the 1940s and '50s for major cities like Bristol, as they were a cost-effective way of supplying high customer numbers without establishing a Primary Substation which required large expensive transformers. Instead, Master Cable Feeders brought in sufficient power for the area.

Lodge Causeway, is the most recent substation to benefit from an investment of £150,000 to replace problematic switchgear. It serves many customers from the surrounding areas of Fishponds to Staple Hill and the Kingswood borders.

So far we have completed eight of these refurbishments. Although the old equipment has served us well for decades, this type of switchgear is increasingly difficult to maintain and is becoming more unreliable in its operation. With a strong focus on customer satisfaction, and in particular the speedy restoration of supplies following a fault, the existing equipment simply was not fit for a modern, flexible distribution system.

In 2004, Glenfrome Road was the first Master substation to be changed and it provided the design template for all those that followed. "They have all done a great job in helping WPD improve its operational abilities and satisfy the Health Index targets set (known as HI 5 targets)," said Bob Morgan, WPD Team Manager.

As with all refurbishment work, potential flood levels need to be considered, so the new switchgear and transformers may need to be elevated; reducing the risk of disruption caused by flooding in the future. As well as improving reliability and creating flexibility for switching, the new kit is also easier to maintain and comes equipped with improved safety features.

Pictured: The old switchgear at Lodge Causeway and new switchgear on elevated platforms to protect it from potential flooding.

Stakeholder consultation

If you have any questions, or you would like to take part in future stakeholder consultations;

Call us: free on 0845 724 0240

Email: awilkes@westernpower.co.uk

Write to us: Alex Wilkes, Stakeholder Engagement Manager, Western Power Distribution, Pegasus Business Park, Herald Way, Castle Donington, DE74 2TU

You will also find more information on our website at www.westernpower.co.uk under “Our Stakeholders”.

Reporting a power cut

If you experience a power cut, please call us on:

West Midlands	0800 3281111
East Midlands	0800 0568090
South Wales	0800 0520400
South West	0800 365900

Making a complaint

We are committed to providing you with excellent customer service, first time every time. However, sometimes things can go wrong. We want to know when this happens so we can sort out any problems as quickly as possible. Here is all the information you need to use our complaints procedure.

To make a complaint:

Telephone: please call us free on 0800 0556833

Email: complaints@westernpower.co.uk

On our website: at http://www.westernpower.co.uk/Contact-us/Complaints

Write to us: Tony Taylor, Information Centre Manager, Western Power Distribution, Avonbank, Feeder Road, Bristol BS2 0TB

Please tell us your address and postcode with a contact telephone number.

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