Communicating with customers in case of blackouts
Communicating power outages

European power supply is among the most reliable in the world. Nevertheless, unplanned power interruptions do occur – for instance in extreme weather situations. In those cases, keeping those affected informed and updated is crucial.

In spring 2014, EURELECTRIC carried out a survey among industry associations and distribution system operators (DSOs) from 11 EU countries – DE, ES, FI, FR, GR, LV, NL, PL, PT, SE, UK – and Norway asking how DSOs communicate on unplanned power cuts.

This leaflet first highlights some of the main survey results. The second part showcases best practice examples from around Europe, showing how DSOs are communicating to make sure that, while the power is interrupted, customers are not left in the dark.

Serving customers

Good customer service is crucial. Customers need to be well-informed, in particular as they move centre-stage in tomorrow’s smart energy system. Providing detailed and useful information is just as important as the fast reconnection of customers as a means of increasing customer satisfaction.

Targeted communication

DSOs have a legal obligation to inform, but can choose which tools to use. Our research shows that European DSOs are going beyond their legal obligations and adapting to evolving customer needs, by moving from more traditional communication (TV, radio, press, phone calls) to tools such as social media and mobile phone apps. A growing number of DSOs also deploy targeted communication for specific subcategories of customers and stakeholders.

Going digital

With European societies and economies highly reliant on electricity, unplanned interruptions can translate into high costs. Smarter grids and greater digitisation can reduce the risk of unplanned interruptions. Going digital is also a way for DSOs to optimise operating costs. Regulatory authorities should allow DSOs to increase their expenditure for special tools to communicate with customers in case of unplanned power interruptions.
Electricity suppliers and DSOs are both in contact with electricity consumers, albeit for different purposes.

Suppliers are the main point of contact for issues such as energy supply offers, real-time consumption data and pricing.

DSOs are the central point of customer contact on grid issues. As such, they are also in charge of communicating with customers during unplanned power interruptions.

In these cases DSOs also deploy targeted communication channels for specific categories of customers and stakeholders. These include, for example, vulnerable customers, public institutions, and large commercial and industrial facilities.

Depending on the country, each category can include different groups. For instance public institutions can include local authorities, but also ministries and civil protection authorities, and sometimes also politicians and media. Targeted communication towards ‘vulnerable customers’ is in most cases a legal obligation, which explains why this is the category most respondents ticked.

Who is responsible for communicating with customers?
Which customers receive targeted communication?

Which groups are the target of your personalized communication efforts, if any?

<table>
<thead>
<tr>
<th>Groups</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>special stakeholders</td>
<td>46.46%</td>
</tr>
<tr>
<td>vulnerable customers</td>
<td>81.82%</td>
</tr>
<tr>
<td>industrial sites</td>
<td>63.64%</td>
</tr>
<tr>
<td>commercial facilities</td>
<td>36.36%</td>
</tr>
</tbody>
</table>

Total Respondents: 11
How do DSOs choose the right communication channel?

The DSO communication toolbox for informing customers is determined at national level. It includes both mandatory and voluntary communication channels.

In some countries, e.g. Greece, all communication is voluntary. In others, like Norway, it is mandatory for the DSO to inform customers, but the means are up to the DSO. In the Netherlands, the size of the outage determines the choice of communication channel.

Every power outage is different. It is therefore important that companies are able to tailor their communication to the individual context. This will allow them to best meet their customers’ needs – whether dealing with a large-scale outage caused by an extreme event or a smaller one resulting from an isolated system fault.

As illustrated, a diversification of voluntary communication means is taking place: DSOs in different countries are moving from more traditional tools to more digital and personalised ones.

Almost all respondents to our survey use a call centre with a dedicated hotline for customers and make information available on their company website. These channels are usually mandatory.

One third of respondents use a dedicated phone call. In France, for instance, a phone call to customers with a grid connection above 2 MW is mandatory.

Almost all respondents also use television, radio and press to spread all relevant information. These are the traditional channels used voluntarily by the DSO. Nearly half of respondents also voluntarily use smart phone applications and social media such as Twitter and Facebook to inform customers.
The type of information provided to customers in case of unplanned outages can vary from one country to the next. However, a basic set of information identified includes the expected duration as well as the location and the cause of the outage (e.g., natural disaster).

In all countries that responded to the survey, DSOs regard explaining the cause of the outage as a priority.

As illustrated, the most shared information is therefore the reason of the outage, followed by the geographical location and the estimated waiting time before power restoration. But the type of information communicated can go far beyond that: one respondent – from the UK – even provides pictures showing the extent of damage.

### Which type of information do you provide to customers regarding the outage?

<table>
<thead>
<tr>
<th>Information Provided</th>
<th>Percentage</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate waiting time before power is back/estimates restoration back</td>
<td>86.67%</td>
<td>11</td>
</tr>
<tr>
<td>Reason of the outage</td>
<td>100.00%</td>
<td>13</td>
</tr>
<tr>
<td>Geographical location of the outage</td>
<td>93.33%</td>
<td>0</td>
</tr>
<tr>
<td>Precautionary/safety measures to take in case of power cuts</td>
<td>60.00%</td>
<td>6</td>
</tr>
<tr>
<td>Assessment of damage</td>
<td>20.00%</td>
<td>6</td>
</tr>
<tr>
<td>Description of effort put into restoration</td>
<td>40.00%</td>
<td>7</td>
</tr>
<tr>
<td>Thank you for patience message</td>
<td>46.67%</td>
<td>6</td>
</tr>
<tr>
<td>Pictures showing the extent of the damage</td>
<td>6.67%</td>
<td>12</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>20.00%</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Respondents: 15
In practice: smartphone app and communication for specific customers

Vattenfall Distribution, Sweden

In Sweden, Vattenfall Distribution has developed a special application for smartphones to be downloaded for free by customers.

This app gives information on the outage, including a map and the estimated time when electricity should be back. It also mentions when the black-out started, how many customers are affected, what caused the outage (if possible), and of course gives the company's apologies. The app also enables customers to receive an automatic SMS when an outage happens, guides them through the process of reporting an outage, and outlines the compensation to which they are entitled. To date, over 10,000 customers have downloaded the app.

Vattenfall Distribution also has a specific policy for large customers such as industrial facilities. They receive:

- a priority number to reach the call centre;
- a dedicated phone call to make sure that they are informed about the outage; and
- an e-mail within 20 minutes of the start of the disruption, including detailed information such as which line, station and breaker were affected or the voltage level.

Vattenfall Distribution constantly works to better estimate the waiting time until service is restored. Today, the estimated waiting time is given within 20 minutes after the start of the black-out.
In April 2014, Netz Leipzig launched a free application for Android and iOS based mobile devices.

The app provides information about outages regarding the electricity and natural gas distribution systems as well as district heating infrastructure. It gives indications about how to react in case of an outage and includes the contact information of all relevant stakeholders. Customers can contact the grid control centre or a hotline in order to report interruptions. Registered outages are shown either in a list or embedded into a map using open source maps of the OpenStreetMap project. In both formats, specific information about the location, reason and expected duration of the outage is provided. For planned interruptions of supply, the information is communicated three days in advance and app users can save them in their mobile device's calendar as upcoming events.

Another implemented but not yet activated feature allows users to monitor certain locations of interest. A planned or unplanned interruption in that location would trigger a push message on the user’s device. Due to requirements of the Federal Data Protection Act (BDSG) for capturing and storing user data, this function has not been enabled yet.
Ile-de-France is a French region which includes Paris and its suburbs, representing 2 million customers. ERDF divisions in this region are using Twitter to maximise, customise and speed up customer communications.

Twitter has proved to be a very effective tool to reach out to ERDF customers in a more personalised and reactive way. More specifically, Twitter enables a two-way communication between ERDF and its customers, thus illustrating ERDF's commitment to greater proximity and reactivity.

In case of large-scale outages, customers can send direct messages to the national ERDF Twitter account or to one of the ERDF regional division accounts for Ile-de-France (@ERDF_IDF_Ouest; @ERDF_IDF_Est; @ERDF_Paris).

ERDF can also inform its followers, and the followers of a specific ERDF regional division account, about all measures taken to solve the power cut, and if feasible, about the estimated waiting time for power to be restored.

On a national and local level, ERDF also proactively monitors Twitter in order to track occurrences of keywords such as “coupure” (outage), “panne” (breakdown or failure) or “électricité” (power), so it can react as quickly and effectively as possible.

During the latest large-scale power outage in Paris, in September 2013 (60000 customers without electricity for more than 24 hours), ERDF responded to 300 tweets directly addressed to the @ERDFOfficiel account and to 1000 tweets not specifically addressed to ERDF but containing #coupure (outage) or any of the above-mentioned keywords. Those responses were frequently re-tweeted to their initiators’ network of followers, thus reaching a much wider audience.

Twitter is one of several channels of communications towards customers and stakeholders that ERDF uses to maximise the impact, outreach, audience and reactivity of its communication. Twitter complements but does not replace the other conventional means of communications towards ERDF's customers.

The Twitter accounts of the ERDF Regional division have fostered dynamic communication towards power customers and local authorities, the latter being a key stakeholder as they are the legal owner of the distribution grid operated by ERDF.
In practice: powercheck mobile phone app and lessons learned from storm Darwin
ESB Networks, Ireland

In 2012, ESB Networks launched the Powercheck app. Available on smart phones and on the ESB website, the app is linked to the ESB Outage Management System and provides up-to-date information on outages and restoration times. The use of the app has continued to grow, with significant increases during major outages. In 2013, ESB Networks also began using Twitter to provide information on outages and restoration times. ESB also found it very useful to tweet advance weather warnings to remind customers to charge their phones, have torches available and to give safety messages.

Storm Darwin, which resulted in over 260,000 customers without electricity, clearly showed that customer information and communication is a critical element in managing extreme events on top of ESB carrying out repairs to restore power. In extreme situations such as these, where damage to the networks is extensive, the most vital information for customers is ‘when will my electricity be restored’. However in case of severe damage, it is not always possible to provide restoration times or geographical information on faults to customers until a full damage assessment has been carried out. It is therefore important to give customers as much other information as possible on the state of restoration work, especially if it is that supply may not be restored for several days. This is why, on top of regular updates via all radio stations, ESB put in place significant additional communication channels such as a blog which provided information on the restoration work, including photos of crews at work and a personalised table on the website where customers could get their restoration day/time according to their area. These communication measures reduce repeat calls and customer frustration.

Graph 2 – Growth in Twitter followers after Storm Darwin (12th to 27th Feb 2014),
Source: ESB Networks
In the UK, where energy networks regularly face challenging weather conditions, DSO communication policies are a key aspect of customer service.

The extreme weather over the winter period of 2013/14 caused some of the most severe damage to the electricity distribution network in decades, and in some cases it was considered that communications with customers could have been better. As part of a review of this period, the industry has held workshops to share experiences and develop best practice guides, and companies are now implementing action plans to improve future efforts.

The use of alternative channels such as social media has also grown substantially in recent years both for business-as-usual events and during storms. As part of a recent exercise DSOs stress-tested their social media capabilities and found their ability to respond was amongst the highest of any service-based industry that experiences high volumes of customer contact during interruptions.

Most customers are not aware of the numbers to call their DSOs during a power outage. DSOs are therefore working together through the Energy Networks Association to deliver a single emergency number that will be used to report damage to infrastructure, outages and safety issues.

Throughout the escalating stages of an outage or incident it is recognised that different messaging is required and the method of communicating will also need to adapt.

Business-as-usual interruptions are hard to predict, but companies are able to respond quickly and will communicate their regret at the loss of supply, where possible explain the cause and when practical provide an estimated time of restoration.

During storm events the approach is different: the build-up allows time to explain the resilience of infrastructure and the potential causes of damage, as well as provide important safety information. Companies use websites and social media extensively to give practical advice and warnings.

UK network operators generally use a number of methods to ensure effective and comprehensive communications. These include dedicated telephony systems receiving as well as placing outbound calls, reactive and proactive SMS alerts, mobile apps, online communications through websites and social media, as well as using local media. The effective regulatory framework in the UK has also supported significant work to improve telephony systems. One DSO has an average call answering time of just over 2 seconds and answers 99.8% of power outage calls within 20 seconds.
In practice: SMS services, outage maps, smartphone applications and specific media communication - Caruna, Finland

Finnish DSOs have been taking steps to improve their outage information services over the past years. SMS services and outage maps are widely used. They are the most important information channels both during small-scale and large-scale interruptions.

DSOs automatically send a text message to all customers when the outage starts. The customer is therefore informed that the DSO is aware of the outage and has started to work on it. The DSO also provides an estimated waiting time. New text messages are sent in case the situation or timeframe changes.

Outage maps locate the outage area, providing the customer with real-time updated information on the situation in the distribution grid.

Some DSOs have taken it even further and introduced new smart phone app services. Twitter and Facebook are also used to provide information to customers and media during outages.

Cooperation with local media (radio, newspapers, etc.) has also been found to be an important information channel, especially in rural areas.

After a certain threshold of affected customers is reached, Caruna informs the media, rescue authorities (such as fire departments) and communal spokespersons. Information is also published on the DSO webpage, Facebook and Twitter.

The company also has a special media hotline that is available during working hours, and a fault service line that is open 24/7. In exceptionally large interruptions, the media hotline is expanded and receives more staff.
On the morning of 24 December 2013, tropical cyclone Dirk affected the high, medium and low voltage power distribution network in Spain, producing a total of more than 650 incidents (e.g. trees falling on overhead lines). Union Fenosa Distribucion deployed field staff to restore the damaged network. Network operation centre and call centre staff worked together to respond to the massive number of phone calls from affected customers.

In this kind of unplanned interruptions, personalised information is available for vulnerable consumers, public institutions, commercial facilities, and industrial customers.

In terms of communication with public institutions, the Ministry of Industry and the National Energy Commission are informed. In the case of storm Dirk, they received a detailed report on the incidents as well as on the number of customers affected. Other public institutions that work closely with the DSO in these cases are the civil protection forces, municipalities and regions affected by the event.

Communication towards media (press, radio, television) is also crucial in order to make sure that customers are aware of all recent developments. In the case of Dirk, one Spanish television channel joined the Union Fenosa Distribucion North Network Operation Centre for a live report.

It is however important that communication efforts do not disturb the most pressing task: restoring power. This is why Union Fenosa Distribucion is working on revising and updating its crisis management guidebook to better handle the new online communication channels. Another project for the future is to provide an online platform with real-time information updates, which would also allow stakeholders to select the information most relevant for them.
The Union of the Electricity Industry—EURELECTRIC is the sector association representing the common interests of the electricity industry at pan-European level, plus its affiliates and associates on several other continents.

In line with its mission, EURELECTRIC seeks to contribute to the competitiveness of the electricity industry, to provide effective representation for the industry in public affairs, and to promote the role of electricity both in the advancement of society and in helping provide solutions to the challenges of sustainable development.

EURELECTRIC's formal opinions, policy positions and reports are formulated in Working Groups, composed of experts from the electricity industry, supervised by five Committees. This “structure of expertise” ensures that EURELECTRIC's published documents are based on high-quality input with up-to-date information.

For further information on EURELECTRIC activities, visit our website, which provides general information on the association and on policy issues relevant to the electricity industry; latest news of our activities; EURELECTRIC positions and statements; a publications catalogue listing EURELECTRIC reports; and information on our events and conferences.

EURELECTRIC pursues in all its activities the application of the following sustainable development values:

**Economic Development**
- Growth, added-value, efficiency

**Environmental Leadership**
- Commitment, innovation, pro-activeness

**Social Responsibility**
- Transparency, ethics, accountability