

Regional stakeholder forum

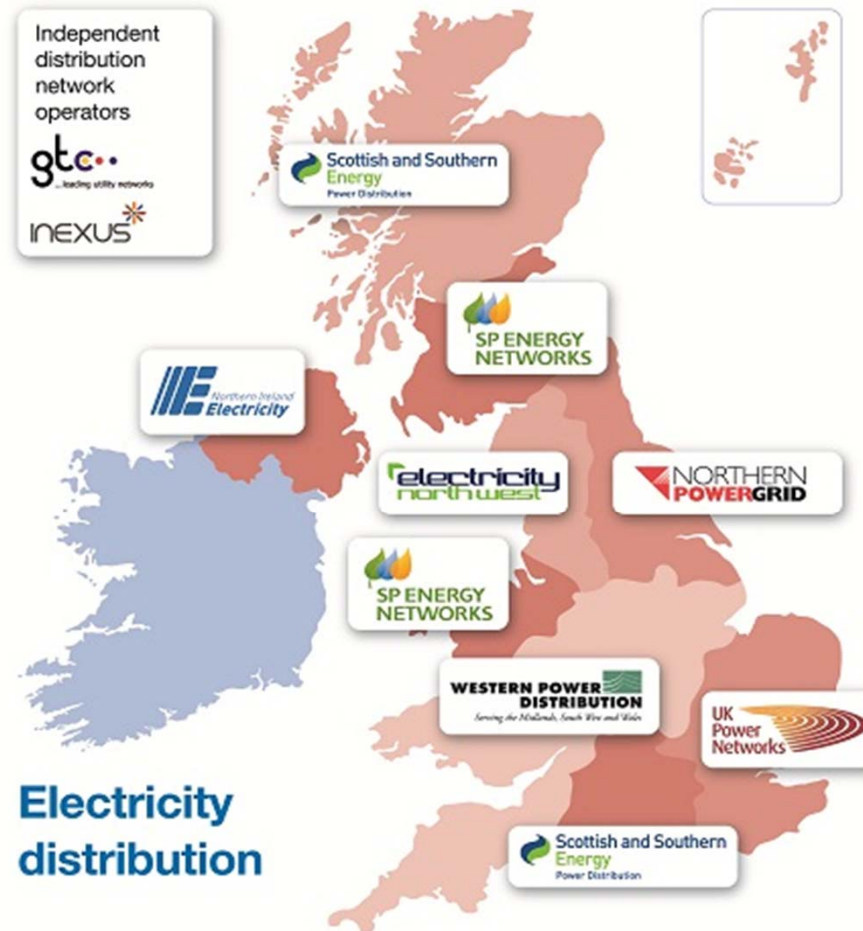
*6 March 2012
Durham*



 Customer-Led Network
Revolution

 **NORTHERN
POWERGRID**

New name, same company



Source: Energy Networks Association

Today's objectives

- Provide update on CLNR project and seek views of forum on key issues:
 - Customer scarcity
 - Community engagement
- Input into Northern Powergrid business plan, particularly on environmental issues

Agenda

1. Project update
 - Update
 - How we have used your feedback
 - Customer scarcity
2. Community engagement
 - Principles and best practice
 - Our clusters and proposed plan
 - Discussion
3. Lunch
4. Northern Powergrid business plan
 - Environmental issues and priorities
5. Meeting review and close

Role of the regional stakeholder forum

- Experts to advise on design of the project
 - How to deliver authoritative results?
- Influence the direction of our work
 - What can we learn from others?
 - What to prioritise?
- Leverage the existing low-carbon agenda leadership from the Northeast and Yorkshire
- Collaborate and co-ordinate our work – avoid confusing customers
- Disseminate our learning

Learning delivered is highly replicable across GB

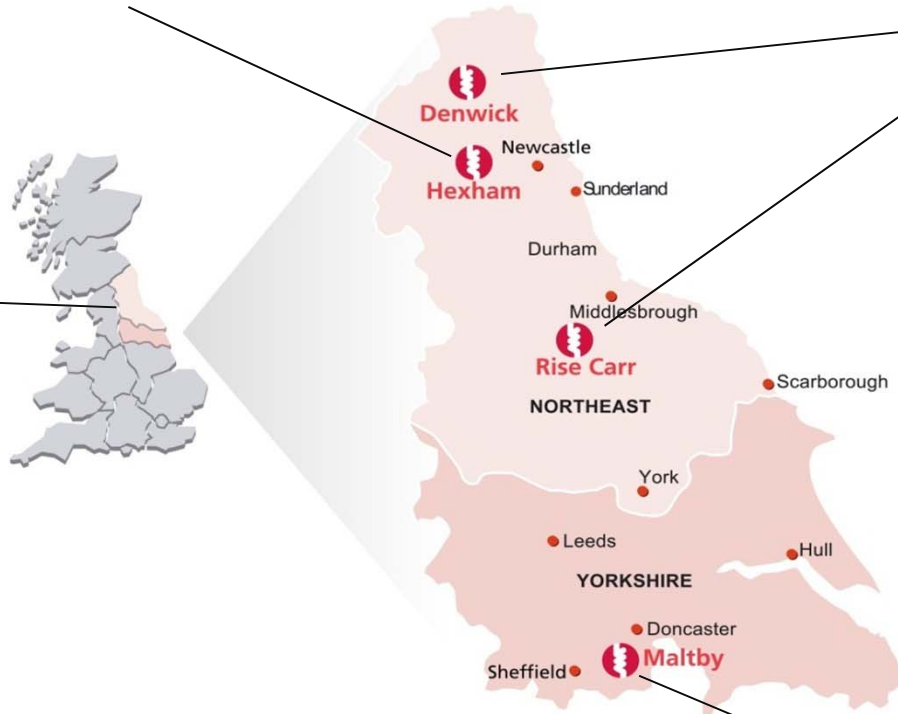


Heat pump cluster

National smart meter data offers baseline electricity profiles

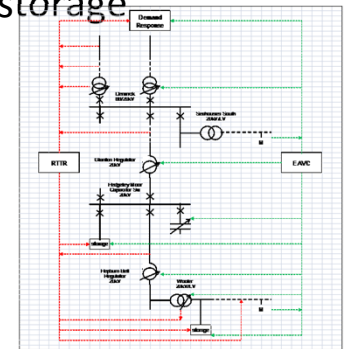


Analysis of new loads and generation
Active customer participation to minimise electricity costs through flexibility



Focused integrated network technology on rural and urban network:

- Enhanced automatic voltage control
- Real-time thermal rating
- Electrical energy storage



PV generation cluster

Learning outcomes

- **Learning Outcome 1 - Monitoring:** What are current, emerging and possible future customer (load and generation) characteristics?
- **Learning Outcome 2 – Customer flexibility:** To what extent are customers flexible in their load and generation, and what is the cost of this flexibility?
- **Learning Outcome 3 – Network flexibility:** To what extent is the network flexible and what is the cost of this flexibility?
- **Learning Outcome 4 – Optimum solutions:** What is the optimum solution to resolve network constraints driven by the transition to a low carbon economy?
- **Learning Outcome 5 – Effective delivery:** What are the most effective means to deliver optimal solutions between customer, supplier and distributor?



Our key partners



- Largest energy supplier in UK
- UK leader in deployment of smart meters
- Industry-leading customer sales
- Extensive experience in innovation



- Extensive knowledge of distribution networks, microGen, heat pumps, demand-side management
- Broad experience of practical trials
- Creation of implementation strategies and tools



- Internationally recognised academics
- Multi-discipline approach
- Customer analysis
- End-to-end monitoring and analysis
- Smart campus test site in Durham

The three-year project plan

	H1 2010	H2 2010	H1 2011	H2 2011	H1 2012	H2 2012	H1 2013	H2 2013
Bidding and planning			Bid result					
Customer monitoring		Project starts						
Create network headroom and solutions			Specification					
Test customer flexibility								
Conclude and final knowledge dissemination								

Customer-facing trials

Test cell no	Description	Customers	
		Original	Revised
1a	Residential - basic profile	9000	9000
1b	Business - basic profile	2250	2250
2a	Residential - enhanced profile	600	150
2b	Business - enhanced profile	150	150
3	Heat pump - flat-rate	600	600
4	Micro-CHP - flat-rate	20	20
5	Photo Voltaic - enhanced profile	150	150
6	Electric vehicles - enhanced profile	150	250
7	Business (I&C)- impact 2010 tariff reform		
8	Distributed generation - basic profile		
9a	Residential - time of use	600	600
9b	Business - time of use	150	150
10a (HW)	Residential - hot water (restricted hours)	600	300
10a (WWG)	Residential - wet white goods (restricted hours)		75
10b	Business - restricted hours	150	150
11a (HW)	Residential - hot water (direct control)	600	300
11a (WWG)	Residential - wet white goods (direct control)		75
11b	Business - direct control	150	150
12	Heat pump - time of use	600	400
13	Heat pump - restricted hours	150	50
14	Heat pump - direct control	150	50
15	Electric vehicles - time of use	50	0
16	Electric vehicles - restricted hours	50	50
17	Electric vehicles - direct control	50	0
18a	Business (I&C) - ancillary service (fast reserve)		
18b	Distributed generation - ancillary service (fast reserve)		
19	Distributed generation - ancillary service (voltage support)		
20 (Auto)	Photo voltaic - automatic within premises balancing	600	150
20 (IHD)	Photo voltaic - IHD within premises balancing		150

Industrial & commercial: demand response trials - winter 2011/12



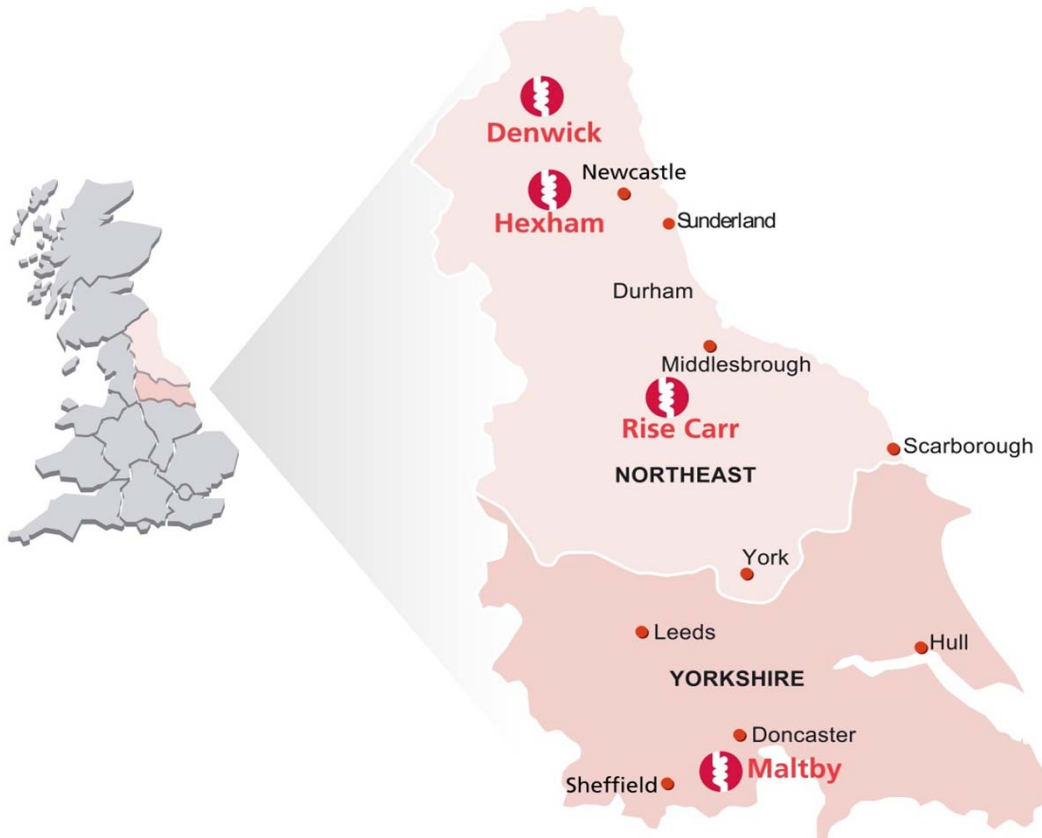
- Customer 1: *Mining*
- Contracted DR: 2 MW
- DR Type: CHP Generation
- Availability: 3pm – 6pm, Weekdays
- Response Time: 15 minutes
- Season: January – February 2012



- Customer 2: *Refrigeration*
- Contracted DR: 0.75 MW
- DR Type: Load Reduction
- Availability: 3pm – 7pm, Weekdays
- Response Time: 20 minutes
- Season: January – February 2012



Network trials: The test cell areas



Integrated network technology

Denwick (Northumberland)

20kV rural network serving a sparse area, with a load curve dominated by storage heating and a consumption peak after midnight.

Rise Carr (County Durham)

6kV dense urban network, with a classic mixed load curve and an early evening peak.

Technology clusters

Hexham (Northumberland)

20kV rural network containing 3 distribution substations with clustered consumers with heat pump technology.

Maltby (South Yorkshire)

Cluster of new PV generation customers on 11kV network. To assess and control voltage excursions due to generation.

Technical specifications being developed under the project

<ul style="list-style-type: none"> EES1 Electrical Energy Storage System (nominal 2.5MVA/5MWh) 	<ul style="list-style-type: none"> Enhanced Automatic Voltage Control (EAVC 3) using HV in-line regulators
<ul style="list-style-type: none"> EES2 Electrical Energy Storage System (nominal 100kVA/200kWh) 	<ul style="list-style-type: none"> Enhanced Automatic Voltage Control (EAVC 4) of a Ground Mounted HV Switched Capacitor Bank
<ul style="list-style-type: none"> EES3 Electrical Energy Storage System (nominal 50kVA/100kWh) 	<ul style="list-style-type: none"> Enhanced Automatic Voltage Control (EAVC 5) of LV Feeders
<ul style="list-style-type: none"> Overhead Line Real-time Thermal Rating System 	<ul style="list-style-type: none"> Network monitoring of Primary substations (M1)
<ul style="list-style-type: none"> Primary Transformer Real-Time Thermal Rating System 	<ul style="list-style-type: none"> Monitoring of HV Feeders (M2)
<ul style="list-style-type: none"> Secondary Transformer Real-time Thermal Rating System 	<ul style="list-style-type: none"> HV Industrial & Commercial Customer Monitoring Equipment (M3)
<ul style="list-style-type: none"> RTTR (Real Time Thermal Rating) of Underground cables 	<ul style="list-style-type: none"> Network monitoring of secondary substations (M4)
<ul style="list-style-type: none"> Enhanced Automatic Voltage Control (EAVC 1) of a primary transformer and an On-Load Tap Changer 	<ul style="list-style-type: none"> LV Feeder Monitoring Equipment
<ul style="list-style-type: none"> LV In-Line Regulator Enhanced Automatic Voltage Control (EAVC 2) Scheme 	<ul style="list-style-type: none"> Grand Unified Scheme (GUS) CLNR Data warehouse

Customer-Led Network Revolution



leading the way to lower energy bills and a low-carbon world

The UK's biggest smart grid project is in the forefront of the move towards a low-carbon economy. 14,000 homes and businesses in the North East and Yorkshire will be involved in this innovative £54 million project, helping us to find ways for customers to reduce both their energy costs and carbon emissions in the years to come.



Why are we doing this?

What is in it for you?

Knowledge zone

Industry zone



Last year's feedback and resulting actions

Comment	Action
List of low-carbon projects	Useful guide for targeting customers
Comments on customer engagement	Customer engagement plan approved by Ofgem Community engagement plan drafted Tariffs designed Customer contact to be initiated through trusted intermediary – no cold calling Focus on SMEs
Data privacy and security	Data protection strategy approved by Ofgem Vulnerable customers protection in place



Customer scarcity

Jon Bird

Northern Powergrid

6 March 2012

Durham

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Customer-facing trials

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Seeking solutions to customer scarcity

- *Off- gas networks and renters (fuel poor)*
 - Using BG national customer data
 - Existing data (e.g. EDRP and Irish trials)
 - Targeted engagement through existing relationships (e.g. BG CESP, National Energy Action)
 - Other projects – e.g. Energy Saving Trust and Elexon
- *Heat pumps*
 - Engaging with BG customers nationally
 - DECC funding
 - BG CESP in and out of region (any supplier)
 - Existing Northeast installations
 - Other projects (e.g. SP, UKPN)
- *Electric vehicles*
 - Engaging with BG customers nationally
 - Regional schemes (e.g. plugged in places, switch EV)
 - Other projects (e.g. UKPN, SSE)

Way forward on customer scarcity

- We have ways of solving the issue, but some of them are costlier than others
- Any suggestions for access to relevant data would be very welcome

Community engagement: Principles and best practice

Gareth Powells
Durham University

6 March 2012

Durham

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2 Over-Arching Objectives for CLNR

- **Recruitment**
 - Reaching the range of participants required for the study
 - Fairly and effectively communicating the benefits of the trial
 - Overcoming inertia
 - Overcoming concerns about disruption/installation
 - Overcoming lack of trust in the organisations involved
- **Retention**
 - Preventing attrition.
 - Sustaining interest in the propositions and technologies

Considerations

- **Priority of Place:**
 - Wooler, Rise Carr, others
 - Full range of data types (survey, qualitative visits, meter data, network data)
- **Understanding the Bias issue:** The degree to which any strategy for customer engagement will introduce bias in the results is not a problem for CLNR. Indeed, part of the study is to find out which forms of engagement are most effective.
- **Awareness and Consent:** A related issue is that of awareness and consent.
- **Recruitment and Retention:** Should secure both the initial agreement to participate as well as the on going participation of individuals in very different contexts and for whom participation means different things.

A Multi-Faceted Approach

- **One size does not fit all**
- **Diversity** in the stakeholder and community groups
 - Access to technology / connectivity
 - Use of different channels
 - Community, mass media, social media, schools, print, telephone
 - Timing of events to fit various lifestyles
 - Equal Opportunities – overcoming barriers
- **Diversity** in the test cells
 - LO1 vs LO2, degrees of engagement
- **Diversity of objectives**

Objectives for Engagement

The Ladder of Engagement

- **Inform**
 - Raise awareness
- **Consult**
 - Collect feedback and use it to inform planning
- **Engage**
 - Build and sustain relationships with **stakeholders** and **customers**

Evidence reviews suggest that achieving these requires CLNR to :

- **Deliver personal benefits**
 - Real - financial or other value
 - Virtual (games, leagues tables etc)
- **Deliver shared benefits**
 - Community
 - Environment
- **Build Trust**

Achievement of Objectives by Using a Range of Techniques

Inform	Engage Customers	Engage Stakeholders	Consult
Local news, local TV, leaflets, basic website, ...	Social media, free phone, drop in sessions, school activities, interactive website, ...	Email, telephone, workshops, networking events, exhibition stands, social media, ...	Quantitative feedback, qualitative feedback, consultations, ...

Key Early Tasks

- **Stakeholder Mapping**
 - in advance of trial commencement the CLNR team develops a stakeholder map of the communities, identifying key players and places such as community groups, shops and meeting places as well as third sector and public sector bodies at work in the area.
 - Will enable Stakeholder Engagement as gateway to customer engagement
- **Develop Bespoke and Multi-faceted Engagement Strategy**
- **Engagement Log**
 - All outgoing and incoming communications from the clusters should be recorded in a log to enable effective tracking of customer interaction.

Evaluating Engagement

- **Evaluation of Process**
 - Assessment of design and implementation in reference to best practice
- **Evaluation of Outcomes**
 - Was awareness raised, and to what extent was this informed awareness?
 - Does the community feel that it can benefit from CLNR collectively?
 - Do individuals in the community feel they can benefit from CLNR?
 - Do individuals and / or the community trust CLNR and its constituent organisations?
 - Did community engagement have an impact on energy consumption / network performance?

Clusters and proposed plan

Jon Bird

Northern Powergrid

6 March 2012

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Local clusters

- Wooler/Rise Carr
 - No customer LCTs
 - Network interventions (visible)
 - No direct customer engagement with non-BG customers
 - BG customers to be invited to take part with installation of LCTs or for direct control
- Hexham (+ one)
 - Customers with heat pumps
 - Network interventions (largely invisible)
 - BG customers to be invited to take part in TC12-14
 - Or if not, BG customers to take part in whole house monitoring for TC3
- Maltby
 - Customers with PV
 - Network interventions/ interruption
 - Installation of storage
 - No direct customer engagement
- Other heat pump clusters (still to be identified)
 - No network interventions
 - BG customers invited to take part in TC12-14
 - Non-BG customers to take part in whole house monitoring for TC3

Key stage	Regional stakeholder forum	Key stakeholders	Community	Network activity	Involved customers (dependencies)
Preparatory (Feb-Mar 2012)	Review engagement plan	List Assign ambassadors Prepare material Contact key stakeholders Identify stakeholder who can support and lead	Identify leaders Meeting with local stakeholders to review engagement plan Prepare material and develop messages Assign ambassadors		Customer engagement plan Data protection strategy Clear engagement material
Initial contact (Apr-May 2012)		1-to-1 meetings Meet school Identify stakeholder events	Local open meeting Press release		Opt in letter Further dialogue
Ongoing dialogue (June 2012 – June 2013)	Newsletter	Newsletter Take part in stakeholder events Further 1-to-1s	Develop school project Develop visual impact project Web-based material Community updates/ events Twinning meetings	Visible work and outages (Aug- Sep 2012) Ribbon-cutting event Press release	Monitoring
Feedback/measurement	Process: - Independent Evaluation Consultations	Process: - Independent Evaluation Consultations Outcome: - Contact Log Analysis - Feedback Sheets - Web Analytics - Social Media Analytics - Feedback Sheets	Outcome: - Contact Log Analysis - Feedback Sheets - Web Analytics - Social Media Analytics - Street or Door to Door Survey	Outcome: - Contact Log Analysis - Web Analytics - Social Media Analytics	Outcome: - Contact Log Analysis
Close-out	Feedback	Newsletter	Community meeting		

Discussion

- Open forum:
 - Have we adopted the right approach? What suggestions do you have for additions/ changes?
- Table discussion:
 - Take four items from the plan and explore the idea in more detail. Suggested topics:
 - School project
 - Ribbon-cutting event
 - Social media
 - Twinning event

Northern Powergrid Business plan: Stakeholder engagement

Siobhan Barton
Northern Powergrid

6 March 2012

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Northern Powergrid: Our business planning process

- Northern Powergrid is a regulated monopoly
- Plans developed through consulting and engaging with stakeholders
- Final business plans set and agreed with regulator
- These plans are scrutinised regularly by Ofgem
- Regulatory change to RIIO (Revenue = Incentives + Innovation + Outputs)
- Much greater emphasis placed on stakeholder engagement in planning process
- A high proportion of the business plan is determined by our statutory and licence requirements. However, there are many areas of flexibility, particularly on environmental and social issues.

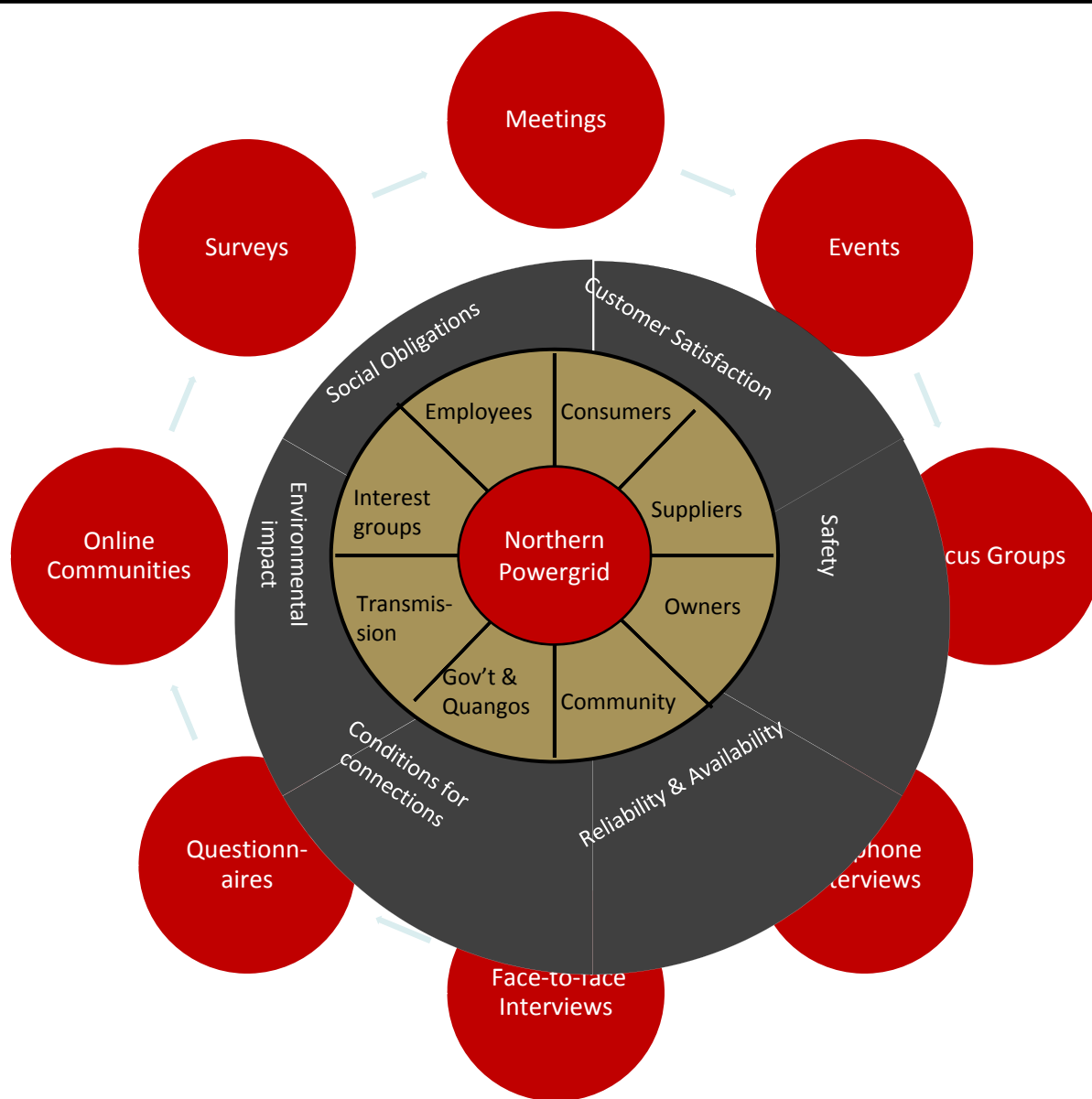


Guiding Principles:

Inclusiveness:	Ensuring that the views of all interested parties are sought during the process, using a wide range of methods;
Transparency:	Transparency of the process adopted to raise awareness of the opportunities to engage;
Accessibility:	Targeted Information will be available and accessible to facilitate discussions at meetings/workshops and during primary research;
Control:	Stakeholders will be able to indicate to us the specific issues that they are particularly keen to discuss;
Responsive:	To take a flexible process to engagement, responding to the information revealed as the review progresses;
Accountability:	Demonstrate how information has been used to shape plans
Taking views seriously:	Appropriate governance of process to ensure all views considered
Impact:	Demonstrate impact of engagement – clearly demonstrate in plans
Evaluation	Assess success of SE activity and improve upon future engagement processes

Stakeholder Engagement

- Many stakeholder groups
- Varying degrees of interaction
- Varying interest levels
- Output areas define phase 1 discussions
- Multiple techniques to engage with each stakeholder group
- Phase 2 will test / review the initiatives we develop



The start of the process

- Customer focus groups
- In depth stakeholder interviews
- Strategy events with the leadership team
 - 28 March 2012, Gateshead
 - 18 April 2012, Sheffield
 - 19 April 2012, York
- Other established forums and events (such as today)



Your views really do count . . .



How to get involved

Website:

www.northernpowergrid.com/stakeholders

Stakeholders

Our online community

Recent engagement activity

Forthcoming engagements

Have your say

Register for stakeholder events


Stakeholders

Electricity is a central part of everyone's life and we are proud of our role in delivering a secure electricity supply to our customers. This is your invitation to take part in a Stakeholder engagement programme to help shape our future investment plans and we want to hear your views

There are six categories we are initially engaging on, these focus on:

- 01 Customer satisfaction**
We know how important electricity is to people and we aim to respond to customers' needs with speed and care. How are we doing?
- 02 Reliability and availability**
A secure electricity supply is something that can often be taken for granted – until there is a power cut. Are we meeting your needs?
- 03 Safety**
Electricity can be dangerous if mis-handled. Are we doing enough to protect the public and our employees?
- 04 Connecting to our network**
We aim to provide a high quality service to customers needing a new or changed service connection. Are we meeting your needs?
- 05 Environmental impact**
Our activities range from connecting microgeneration to reducing transformer oil leaks and fitting bird diverters on power lines. Have we got our priorities right?
- 06 Social obligations**
We aim to go the extra mile for people who are particularly affected by our operations, such as the vulnerable. Are we getting this right?

Your thoughts and opinions on these areas are important to help us develop our programme of consultation with stakeholders. If you would like to be involved, fill out our short questionnaire. [Get involved >](#)



Online Community

HELLO EMMA
NEED HELP? | LOGOUT

Help | About Us | Good Blogging Guide | Terms & Conditions | Legal Information | Contact Us

HOME TOPICS DISCUSSION SURVEYS POLLS

Topics

- Developing your online community**
The aim of the online community is to enable us to engage with customers on a variety of subjects. The community has been built for you, to give you a voice and allow you to connect with other people to discuss topics, share ideas and suggest improvements on things that matter to you most. [CONTINUE READING...](#)
- Our recent interactive website services**
In 2011, we began to introduce new interactive services onto our website in order to provide our customers with an alternative channel of doing business with us for some of our key services. [CONTINUE READING...](#)
- Online Connections Service**

Latest Topics

- Developing your online community [CONTINUE READING...](#)
- Our recent interactive website services [CONTINUE READING...](#)
- Online Connections Service [CONTINUE READING...](#)
- How can tree trimming improve the reliability of your power supply? [CONTINUE READING...](#)

[VIEW ALL TOPICS](#)

YOUR HOME PAGE

MY ACCOUNT

ACTIVITIES

- Topics
- Discussion Forum
- Survey
- Calendar
- Polls
- Logout

Online Community:

www.northernpowergrid.com/community

Environmental issues and priorities

Jon Bird

Northern Powergrid

6 March 2012

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Environmental issues

- Pollution and emissions
 - Fluid-filled cables
 - Transformer oil leaks
 - SF6
 - Carbon footprint
 - System losses
- Amenity
 - Street works
 - Overhead cables
 - State of substations
 - Bird diverters
 - Tree trimming
- Climate change
 - Connecting low carbon technologies
 - Smart meters
 - Smart grids

Discussion

- Open forum:
 - Are these the issues you consider important for us to tackle?
 - What others?
- Table discussion:
 - Take four environmental issues and explore what initiatives we might take forward, bearing in mind there will be a cost attached. Suggested topics:
 - Street works
 - Overhead cables
 - Community energy projects
 - Cross-utility projects

Over to you!

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Meeting review and close

Jon Bird

Northern Powergrid

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Today's objectives

- Launch the forum with an agreed understanding of what it is trying to achieve
- Provide an update on progress
- Seek your views on two important topics
- Establish a network for communication

Regional stakeholder forum

Thankyou

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