



#### DECC working group on community energy grid connections

Welcome and introduction from the Chair



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- Discuss issues around grid connections that are currently being faced by community energy projects, and identify the actions that can make a real difference to future projects.
- Focus on issues not currently being progressed by other fora.



## Proposed work plan

23 January	1 <sup>st</sup> working group meeting – identify priority issues and the parties and/or fora best placed to develop possible solutions
February/March	Possible solutions developed by identified parties/fora
27 March	2 <sup>nd</sup> working group meeting – discussion on emerging solutions
April/May	Further work on possible solutions by identified parties/fora
<b>4 June</b> (indicative)	3 <sup>rd</sup> working group meeting – discuss and agree recommendations
Summer 2014	Final recommendations sent to DECC SoS

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## Today's agenda

Welcome	10.00 - 10.05	
Presentations The Government's Community Energy Strategy, DECC RIIO incentives and connections charging policies, Ofgem Grid issues affecting community energy projects, Community Energy S A DNO perspective, Electricity North West	<b>10.05 - 11.20</b>	
Break - tea and coffee	11.20 - 11.30	
Agree Terms of Reference	11.30 - 11.45	
Break out discussions Priorities, possible solutions and fora for further work (50 minutes) Feedback and next steps (30 minutes)	11.45 - 13:05	
Lunch	13.05 - 13.25	
Closing remarks	13:25 - 13.30	
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# The Government's Community Energy Strategy

A presentation to the working group on community energy grid connections

23rd January 2014

Department of Energy & Climate Change

## Overview of presentation

- · An overview of what we mean by community energy
- · International examples
- · What has the Government been doing in the UK
- · The community energy working groups
- · Thoughts on how this working group can help

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# An overview of what we mean by community energy



## Community Energy in the UK

What is Community Energy?

• DECC has been using the following working definition, which was put together through discussion with stakeholders from the community energy sector:

"Community projects or initiatives focused on the four strands of reducing energy use, managing energy better, generating energy or purchasing energy. This includes communities of place and communities of interest. These projects or initiatives share an emphasis on community ownership, leadership or control where the community benefits."

• This definition includes supporting on-going energy related activities.

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# Community Energy in the UK

Why a Community Energy Strategy now?

- The advent of micro-generation has provided an opportunity for a variety of groups, including communities, to become active in the energy eco-system.
- For communities the Government recognised this in the coalition agreement:

"We will encourage community-owned renewable energy schemes where local people benefit from the power produced."

- Community energy has a large number of strands and we would like to help this sector to meet its full potential, and to help communities take more control of their energy they use.
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## Case Study: Aston Hayes



- · Ashton Hayes is a village of around 1000 people near Chester, in Cheshire.
- In 2006, it launched 'Ashton Hayes Going Carbon Neutral (AHGCN)', aiming to make the village of just over 400 homes carbon neutral.
- Domestic energy consumption has fallen by 20.9%, and carbon emissions overall (including homes and transport) by 23% up to £300 per household.
- AHGCN has also installed community owned solar PV arrays on public buildings.
- Through the Ofgem Low Carbon Networks Fund (LCNF), Ashton Hayes has partnered with SP Energy Networks for the Ashton Hayes Smart Village project.
- More information about the project is available in a short video: http://www.youtube.com/watch?v=wTG9M5\_tnDU

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## **International Examples**



## **Community Energy in Germany**

- By the end of 2010, 'community' energy made up 40% of Germany's total renewable energy capacity, largely through private citizens investing in energy cooperatives.
- A further 11% was owned by farmers and 14% by project developers.
- The 'Big Four' utility companies E.ON, RWE, EnBW and Vattenfall only controlled a 13.5% share of the market.
- Important to remember there are difference in the structure of the German system when compared to the UK.

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## **Community Energy in Denmark**

- The majority of wind turbines are wholly or jointly owned by citizens, communities, landowners and farmers.
- 150,000 households in Denmark owned or held shares in wind farm projects as far back as 2001.
- 29% of Denmark's total electricity generation capacity in 2010 was provided by wind turbines.
- In recent years the industry has become more 'professionalised' with the development of larger, more expensive turbines.
- Factors that led to Denmark's success include: a strong domestic market underpinned by incentives provided through feed-in regulation; capital support for early-stage projects; standardised rules for grid-connection; and tax advantages.

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What has the Government been doing in the UK?

# Examples of what Government has already done to help the sector

- · Feed-in Tariffs
- Competitions such as the Local Energy Assessment Fund (LEAF) and the Low Carbon Community Challenge (LCCC)
- The Rural Community Energy Fund (launched June 2013)
- Green Deal Communities
- Training 5,000 community organisers by 2015
- Renewable Heat Premium Payment (RHPP) Communities Scheme
- · Supporting oil buying groups and backing the Buy Oil Early campaign
- Green Open Homes network

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## Specifically related to the forthcoming Community Energy Strategy

- Community Energy Call for Evidence ran from June to August 2013 with over 300 responses
- Meeting with a range of stakeholders, including the Community Energy Contact Group and the Community Energy Coalition
- · Community energy finance round-table
- Setting up 3 community energy working groups
- · Additional activities to be announced within the strategy document
- Community energy planning & regulation round-table

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# The community energy working groups



# The working groups

Micro-Hydropower

Chaired by Barbara Hammond of Low Carbon Hub.

#### **Planning & Permitting**

• Chaired by Hugh Ellis of the Town & Country Planning Association (TPCA)

Grid Connections (electricity network connections)

- · Chaired by Sarah Harrison of Ofgem
- The Government's Community Energy Strategy A presentation to the working group on community energy grid connections



Thoughts on how this working group can help



## A need for dialogue

Unpicking the problems

- There are clearly issues for community groups that relate to grid connections.
- But which of these issues are 'general issues' and which are issues due to community groups being involved?
- How can DNOs and the community energy sector better work together going forward?
  - A good starting point may be the report <u>Overcoming grid connection</u> <u>issues for community energy project</u> by Cornwall Energy for Co-operatives UK and The Co-operative Group
- But DECC do not want to be prescriptive to any of the working groups so we will leave it to the chairs and the groups to decide how to take things forward.
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# What DECC would like from this group

- At the Planning & Regulation round-table the Secretary of State, when suggesting he working groups, requested that the report back to him with proposals to address the problems community groups face.
- We are asking that the groups report back by July 2014.
- If there is a cost involved, we would like to understand what these costs are.
- DECC will consider all the proposals and work with the working groups to understand which can be taken forward.

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## Any questions?





#### **Community Energy Working Group**

RIIO incentives and connection charging policies



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## Our role

- Our principal duty is to protect the interests of consumers, both present and future.
- promoting value for money
- promoting security of supply and sustainability, for present and future generations of consumers
- the supervision and development of markets and competition
   regulation and the delivery of Government schemes.

Tools	Outcomes	
POLICIES	•Charging for network connections & use of distribution system	
ENGINEERING RECOMMENDATIONS	P2/6, G83 & G59 to ensure the integrity of the network	
LICENCE CONDITIONS	<ul> <li>Requirement to offer a connection</li> <li>Timescales for issuing quotes</li> <li>Ability to recover costs for connection and Use of System</li> <li>Requirement to have charging methodologies</li> </ul>	
PRICE CONTROLS	•DPCR5 (2010 – 2015) •RIIO-ED1 (2015 – 2023)	
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### Background

· Recent growth in DG has highlighted difficulties in connecting to the network

#### Process & Service

-Lengthy and requires a lot of information/technical knowledge -Not designed around customer needs

#### **Provision of Information**

-Provision of network data would help developers know where to connect

#### Charges

-Connection costs too high

-Not transparent

- -Lack of strategic investment to release grid constraints
- -Requirement for upfront payment for full cost

#### Innovation

- Lack of creative thinking and willingness to explore alternative approaches

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#### Our response

- Alongside licence conditions, industry codes, charging methodologies we introduced range of measures at DPCR5 to improve performance
- Guaranteed Standards of Performance (GSOP) in connections. Maximum timescales for stages in the connection process, from issuing quotations through to energisation. Where a DNO fails to meet the standard it must make a payment to the affected customer.
- A broad measure of customer service that includes a customer satisfaction survey with connections customers. A DNO stands to receive financial penalties or rewards based on their performance.
- **Obligations on the DNOs** to produce a connection guide for distributed generation customers and publish Long Term Development Statements
- Incentives to open up connections market to Competition
- Gap remained in understanding. We instigated DG Forum events customers/DNOs to discuss issues and how to improve arrangements
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#### Outcomes

- Each DNO has developed (with customers), published and is delivering a workplan
  of improvements
- Already yielding results:
  - DNOs focussing more on specific needs of DG
  - Better information/guidance
  - Dedicated resource
  - Online database of wind turbines
  - Online capacity maps
  - Access to network diagrams & design standards
  - 'Fair' terms for deposits
  - More detail in connection offers
  - Simplified & standardised processes
  - Starting to identify what's possible. This is an ongoing process vital to understand what represents best practice? 27

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#### Our work

For the next price control (**RIIO-ED1, 2015-2023**) we will strengthen these arrangements. Introduce new mechanism to address customer issues -

Incentive of Connections Engagement. This will require DNOs to -

- submit evidence of how they have identified, engaged with and responded to the needs of their customers
- develop a forward-looking work plan of actions to improve performance (with associated delivery dates)
- demonstrate performance against their relevant performance indicators and progress against their work plan of actions
- A DNO that does not engage or respond to the needs of its customers will be subject to **financial penalties**
- Embedding DG Forum approach into regulatory framework with focus on outcomes



## **Connection Charging Policy**

- Policy is that an up-front charge (that reflects the cost of making that connection) is made to any customer connecting to the network – energy users AND energy producers
- All customers pay ongoing charges for use of system (20% of energy bill)
- Recognise that for new connections the most significant issue is cost particularly where reinforcement is required
  - Why are connection costs so high?
  - Why can't the costs be spread over longer time period
  - Why doesn't the DNO provide more network in anticipation of my needs?

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### **Connection Charging Policy**

- No silver bullet. Costs incurred need to be recovered and we have to protect interests of all customers
- Changes to arrangements might deliver benefits for new connections but have ramifications for others

Shallow connection boundary	Reinforcement for new connections recovered from other users (higher energy bills) & no incentive to connect where it is least expensive
Spread connection costs over life of asset	Other users carry the risk of project defaulting

#### Investing ahead of need

- Yes, if it delivers net benefits to all customers
- · Investing for new connections creates risk of stranded assets (and higher charges)
  - Imperfect knowledge (1 in 5 offers are accepted)
  - Changes in technologies, govt. policy etc
  - New capacity created consumed by others



## **Connection Charging Policies**

- There are options we expect DNOs to explore alternate arrangements that reduce connection costs
- We've invested over £30m of customer money funding innovative projects to release capacity/improve connections for generation

Flexible Plug and Play (UKPN) Low carbon hub (WPD) Active Network Management (SSE) Real time thermal rating (NPG) Accelerating Renewable Connections (ARC) (SP) FlexDGrid (WPD) Capacity to Customers (ENWL)

- Industry has mechanisms to propose changes to charging arrangements which we approve or reject - changes have to better meet relevant objectives
  - · Development, maintenance and operation of efficient, co-ordinated, and economical networks
  - The facilitation of effective competition
  - The efficient discharge obligations imposed in Licences
  - The promotion of efficiency in the implementation and administration of this Agreement
  - Compliance with relevant legally binding decisions of the European Commission and/or the Agency for the Co-operation of Energy Regulators.





## Grid issues and potential solutions-A Community Energy perspective

Presentation to DECC Community Grid Working Group

Felix Wight Community Energy Scotland

January 2014

# Outline

- Who we are
- Grid issues faced by communities
- Potential solutions
- Work underway
- Contacts



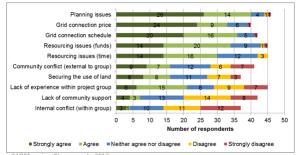
## **Community representatives**







# The scale of the problem

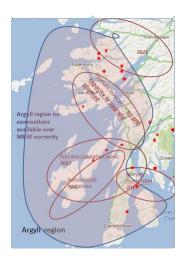


CARES review Changeworks 2013

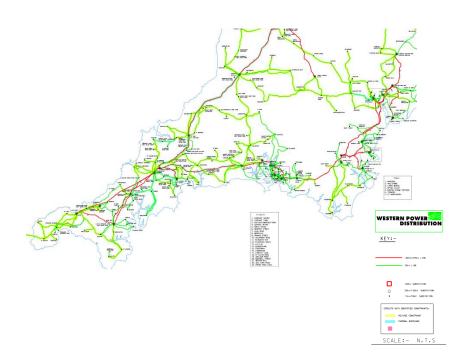
•Community groups frequently struggling with grid connection (both price 66% and schedule 77%)



## **The Connection Crunch**



- In many parts of the UK the grid is technically 'full'
- Multiple constraints at both D and T level
- Largely reactive investment process for distribution infrastructure means delays are inevitable



# **Connection costs**

Project Area	Size of project (MW)		tion £/MW connection VAT) feasibility stage	Connection timescale
		£	£	
1West Highland	0.182	950,000	5,219,780	2020
		£	£	
2North Highland	2.7	500,000	185,185	2020
		£	£	
3SW Scotland	0.5	1,300,000	2,600,000	-
		£	£	
4 West Highland	2	5,250,000	2,625,000	2018
5 West Highland	0.9		£	- 202
6 West Highland	0.9		£498,782	201
		£	£	
7 Argyll	0.3	200,000	666,667	201
		£	£	
8 Argyll	0.9	230,000	255,556	201
		£	£	
9Argyll	1.8	320,000	177,778	201
		£	£	
10Argyll	0.1	100,000	1,000,000	201
		£	£	
11 Argyll	0.5	3,720,000	7,440,000	201
		£	£	
12 Argyll	0.9	3,730,000	4,144,444	201

## **Customer service**

- Many community energy projects connecting for first time; processes not straightforward for nonspecialists
- No dedicated point of contact within DNO connection teams for community applicants
- Many communities have experienced slow/inconsistent communication from DNO's- but good examples too!



## **Application process**

- Lack of dialogue/ optioneering when requesting connections
- Lack of detailed publicly available information on grid capacity/ contracted generators
- Free connection application/ paid for feasibility encourages speculative applications

## **Distribution connected generators**

- Vast majority of community projects are connected at distribution level; however DG cannot request nonfirm access to the transmission network
- DG does not currently benefit from the improved cashflow offered by CMP192 by staggering payments for transmission level reinforcement
- DG is currently acknowledged to reduce some DNO costs through 'embedded benefits'- however these are under review by NG and new charging arrangements likely to increase costs



## **Barriers to grid innovation**

- FiT generators on export constrained connections cannot become fully commissioned without on-site load
- □ FiT generators can only accredit as either off grid or on-grid; this rules out innovative hybrid solutions
- Public funding for innovative technical and commercial solutions to grid constraints is availablehowever lack of clarity on FiT eligibility of grant funding for energy storage and private wire networks

## **Potential solutions**

Issue	Solutions	Lead
Connection timeframes	`Use it or lose it' clauses; Seasonal connection offers; ANM; <b>Strategic investment</b> ;	Ofgem DG/DNO working group
Connection costs	<b>Clustering/consortia</b> ; 'Pay as you Go' cost recovery post commissioning	DG/DNO working group
Application process	'Quote Plus'; heat maps; <b>fair deposits</b> ; queue transparency	DG/DNO working group
Customer service	Community energy <b>DNO lead contact</b> ; community engagement strategy	DNO's
DN/TN boundary	ANM for exporting GSP's; Amendment to CMP 192	DG/DNO working group
FiT issues impacting grid access	Amend/ clarify FiT guidance for innovation projects	Ofgem FiT's team
Access to funding for innovation projects	Increase the emphasis on <b>community participation</b> <b>in LCNF</b> projects	Ofgem; DNO's
Access to finance for application and deposit costs	Lender of last resort (e.g. REIF in Scotland)	DECC



## ....Aren't we already doing all this?

- To an extent- but needs to be speeded up
- Many of the issues are the same for commercial DG, but communities particularly impacted- locational and financial constraints
- Impact on local economies is significant; this is a social issue as well as an energy one

# **Changing the relationship**

•DNO's and community energy projects have a lot to offer each other: customer engagement, change management, technical advice

•How can that relationship be strengthened, in recognition of the specific needs of community customers and the Government's ambitions for community energy?

•How ambitious can we be in putting communities at the heart of network development and innovation?





## Contacts

Felix Wight

Merlin Hyman

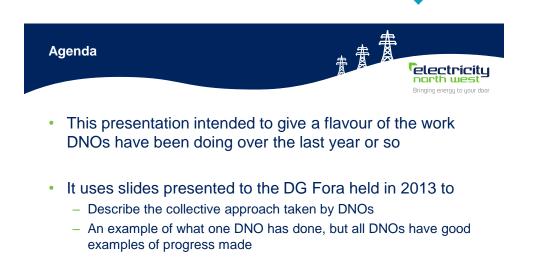
Pete Capener

John Malone

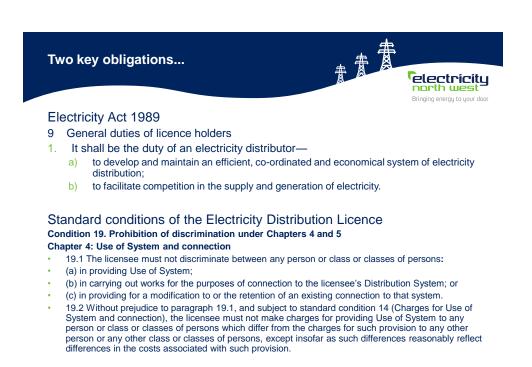








 It starts with a reminder of two of the obligations that shape some of our approaches...



Document title/author/date

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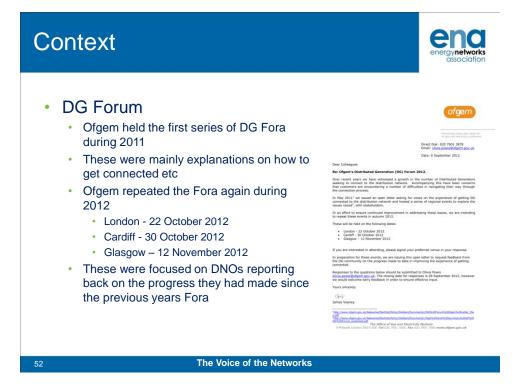
#### The Voice of the Networks



## Energy Networks Association

### **Review of progress**

Name	Brian Hoy
Position	Chair DG/DNO Steering Group
Date	17 October 2013





#### RenewableUK proposed Work Programme



	Suggestions	By When?
Customer service	monitor customer satisfaction     checklist of what customers can expect     account managers     recruitment of non-technical support	?
Application process	iterative process     database of turbine specs     option for extension of validity     contestable works part of same application	?
Information provision	information on LV network, voltage issues, and plans	?
Technical	innovation collation and roll-out     safeguards against unnecessary works     consistency in standards interpretation     use of legacy projects and strategic developments	?
Charging	<ul> <li>fair deposit</li> <li>itemised breakdown of costs, incl. contestable</li> <li>application fee</li> </ul>	?
Choice	address barriers to competition	?
Feedback	<ul> <li>risk-free appeals process</li> <li>customer feedback seminars</li> <li>issues log – also to capture new issues</li> </ul>	?

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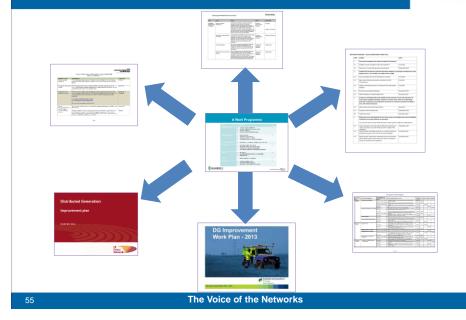
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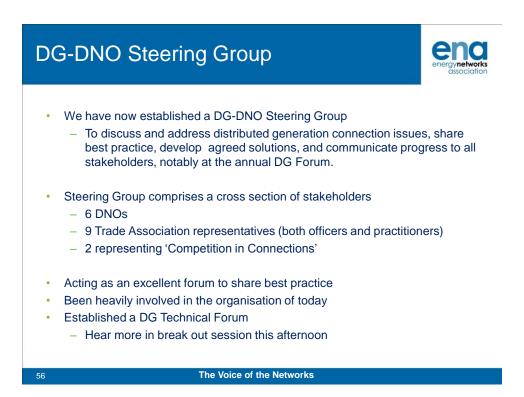
The Voice of the Networks



#### DNOs developed and published their plans...







## Summary

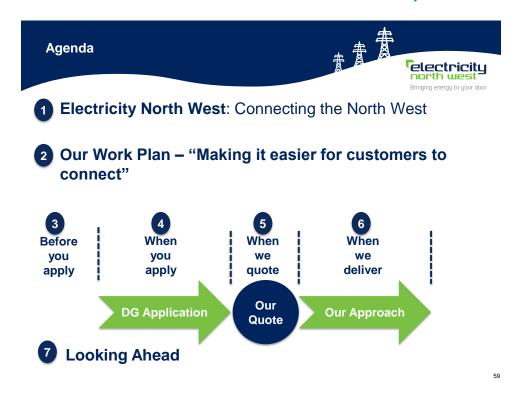


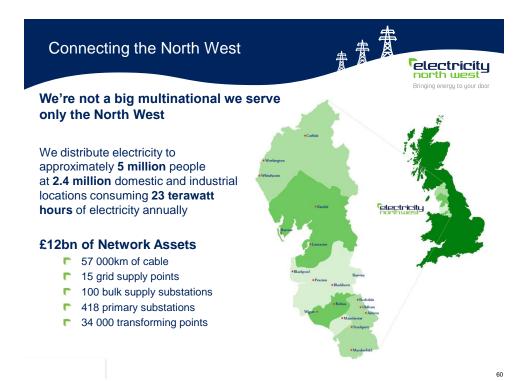
- Pleased that some demonstrative progress being made
- Pleased that the we have created a focal point and a collaborative way of working
- We are on a journey, but at least we now have a clear map of where we are trying to go

The Voice of the Networks



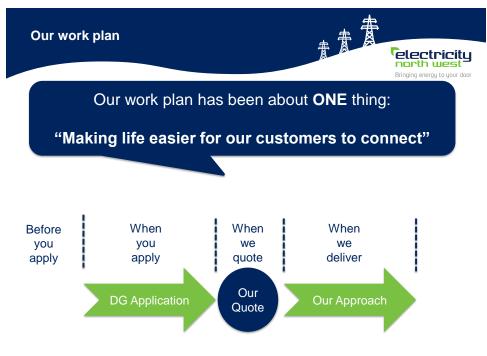


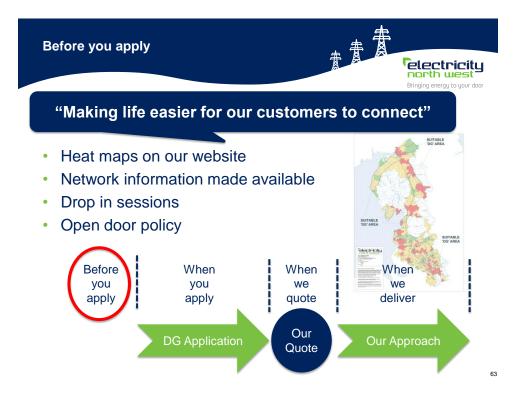


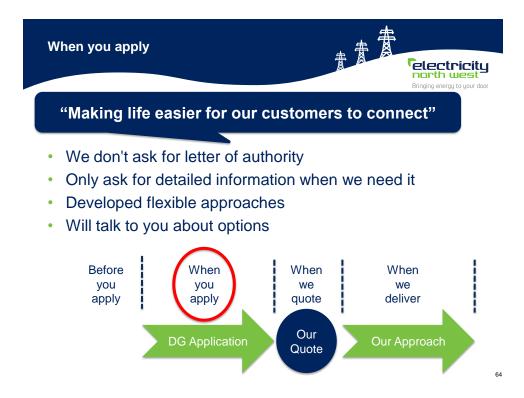




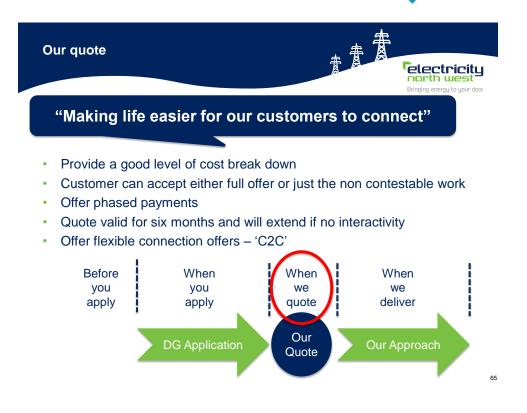


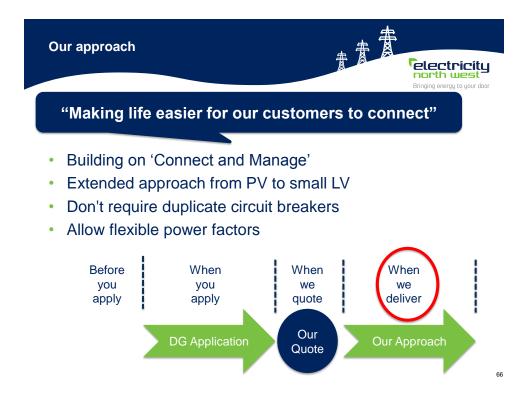














Looking Ahead

- Protection Improvements facilitating increased DG
- HV switchgear replacement to increase Fault Level capacity
- Actively involved in Innovation projects
- Ongoing committed to customer engagement







DECC working group on community energy grid connections Discussion on priorities, possible solutions and fora for further work



ofgem Making a positive difference for energy consumers Key questions

- 1. Which issues should be prioritised by this working group?
- 2. What are possible options for resolving these issues?
- 3. Which parties/industry groups are best placed to identify and take forward possible solutions to these issues?





DECC working group on community energy grid connections Closing remarks



	Proposed work plan
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Summer 2014	
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