



## DEBATE PACK

Number CDP 2016 - 0133, 4 July 2016

# Regional differences in energy network charges

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## Summary

This Debate pack has been prepared ahead of the Westminster Hall debate on **Regional differences in energy network charges** initiated by **Ian Blackford MP** on Tuesday 5 July 2016, 2.30pm - 4.00pm.

The Energy and Climate Change Committee reported on [Energy Network Charges](#) in February 2015 and recommended that “the Government and Ofgem publish an evidence-based analysis of the advantages and disadvantages of introducing national tariffs for transmission and distribution network charges.”

Following this recommendation, Ofgem published their report [Regional Differences in Network Charges](#) in October 2015.

Subject specialist: Edward Potton (x1665)

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# 1. Summary

The Energy and Climate Change Committee reported on Energy Network Charges in February 2015.<sup>1</sup> They recommended that “the Government and Ofgem publish an evidence-based analysis of the advantages and disadvantages of introducing national tariffs for transmission and distribution network charges.”

Following this recommendation, Ofgem published their report [Regional Differences in Network Charges](#) in October 2015.<sup>2</sup> This set out the background of gas and electricity network charges, comparisons between the charges in each region, an assessment of how UK-wide charges would impact on consumers and an overview of the approach to network charges in other countries. Their conclusions are reproduced below.

In a recent PQ, and following the Ofgem report, the Government stated:<sup>3</sup>

Electricity network charges vary by region and reflect the costs of running the network in that area and the number of consumers that those costs are spread over. The Government does not plan to move to national network charging, as the current cost reflective approach helps to ensure efficient use of the network and keeps overall costs down for bill payers across Great Britain. In contrast, national pricing risks an overall increase in network costs by weakening each network company’s local accountability to its customers, as well as making charges less transparent. On 23 October 2015, Ofgem published a report on the regional differences in network charges, which found no compelling case from a regulatory perspective to move to a national network charge. The report is available at:

<https://www.ofgem.gov.uk/publications-and-updates/regional-differences-network-charges>.

The Government will continue to consider any evidence that is presented.

The Minister (Andrea Leadsom MP) gave evidence to the Energy and Climate Change Committee on 26 April 2016 when she commented on the issue<sup>4</sup>

The Minister gave further detail in [her letter to the Committee](#) on 1 July 2016.

## 1.1 What are Network Charges

Ofgem provide an overview of how energy networks are set up:<sup>5</sup>

Networks are divided into the high voltage/high pressure transmission networks which take electricity and gas around Great Britain and the lower voltage/lower pressure distribution networks

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<sup>1</sup> HC Energy and Climate Change Committee, [Energy network costs: transparent and fair?](#), HC 386, Sixth Report of Session 2014–15, 10 February 2015

<sup>2</sup> Ofgem, [Regional Differences in Network Charges](#), 23 October 2015

<sup>3</sup> [HC Deb 11 Apr 2016 PQ 32443](#)

<sup>4</sup> Energy and Climate Change Committee [oral evidence Q359](#) 26 April 2016

<sup>5</sup> Ofgem, p10

which connect customers to the national transmission networks. National Grid owns and operates the national gas transmission network, and operates the national electricity system (it owns the network in England and Wales and Scottish Power and Scottish and Southern Energy (SSE) own the networks in Scotland). There are 14 electricity distribution network operators (DNOs) and eight gas distribution networks (GDNs) whose number and geographical position reflect legacies from the pre-privatisation electricity and gas boards.

Charges are regulated under a price control framework.

Electricity transmission charges are based on location; neither electricity generation nor consumption are distributed evenly across the UK (generation is often located away from large areas of population, such as London, while consumption is driven by the more heavily populated areas), so the amount the transmission network is used will vary according to end location and generator location (generators also pay). The charges are intended to create incentives for generators to locate close to demand.

National Grid Electricity Transmission (NGET) also recovers revenue for its role in balancing the electricity system but these charges do not vary by region.

Electricity distribution charges are set regionally based on the cost of efficiently running the network across the region. These charges vary between regions as the cost of distribution varies considerably (due to geography, infrastructure and population density). Charges vary within regions according to the type of supply taken (voltage and number of rates).

Gas transmission charges are recovered from all customers, and while it has a regional element, Ofgem's analysis suggests that differences between regions are small and probably absorbed by suppliers. Gas distribution network charges are levied on gas shippers and based on the distribution costs in their regions. A small number of gas customers in Wales and Scotland are connected to small gas networks, with the costs of these shared across the UK.<sup>6</sup>

### **Hydro Benefit Scheme**

The Hydro Benefit Replacement Scheme was introduced in 2005 and supports the distribution network in the north of Scotland. There is a per kWh levy on each electricity unit sold across the UK raising around £57 million in 2015-16 which is then passed onto the North Scotland DNO (Scottish Hydro Electric Power Distribution), reducing the annual distribution cost to households in the Scottish Hydro area by around £41.<sup>7</sup>

## **1.2 Differences between regions**

The Ofgem report contains charts and tables comparing the network and total costs of energy supply in each UK energy area, which

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<sup>6</sup> For more detail on this section see Ofgem paper, pages 11-17

<sup>7</sup> Ofgem, p16

demonstrates the locational differences. The table below is taken from the Ofgem report and is based on typical consumption levels rather than actual average consumption levels in each area. Average electricity consumption is highest in the North Scotland area (but this is not reflected in the table below).

	North Scotland	South Scotland	North East England	North West	Yorkshire	Merseyside / N Wales	East Midlands	West Midlands	Eastern England	South Wales	Southern England	London	South East England	South West England
<b>Current bills and charges</b>														
<b>Electricity charges breakdown</b>														
<b>Typical single rate consumption (3100 kWh/y)</b>														
Transmission charges	21	21	26	30	32	34	32	33	34	32	37	37	35	35
Distribution charges	122	95	87	84	77	116	76	80	76	96	80	66	86	107
Retail bill less network charges	369	354	365	373	364	363	359	366	356	370	359	372	358	361
<i>Total</i>	<i>512</i>	<i>469</i>	<i>478</i>	<i>487</i>	<i>473</i>	<i>514</i>	<i>466</i>	<i>479</i>	<i>466</i>	<i>498</i>	<i>476</i>	<i>474</i>	<i>479</i>	<i>503</i>
<b>Typical Economy 7 consumption (4300 kWh/y)</b>														
Transmission charges	29	30	36	42	45	48	44	46	47	45	51	51	49	49
Distribution charges	134	95	88	75	78	118	79	77	77	92	74	67	91	106
Retail bill less network charges	446	427	426	441	419	416	413	427	413	429	417	418	403	416
<i>Total</i>	<i>609</i>	<i>552</i>	<i>550</i>	<i>558</i>	<i>542</i>	<i>582</i>	<i>537</i>	<i>550</i>	<i>536</i>	<i>566</i>	<i>542</i>	<i>537</i>	<i>543</i>	<i>570</i>
<b>Gas charges breakdown</b>														
<b>Typical gas consumption level (12,500 kWh/y)</b>														
Transmission charges	5	5	6	14	7	14	7	10	7	6	12	10	11	17
Distribution charges	126	126	145	136	130	127	125	133	132	136	150	156	142	145
Retail bill less network charges	438	440	417	424	435	435	440	435	438	435	429	426	432	411
<i>Total</i>	<i>568</i>	<i>571</i>	<i>568</i>	<i>575</i>	<i>573</i>	<i>576</i>	<i>571</i>	<i>579</i>	<i>578</i>	<i>577</i>	<i>591</i>	<i>592</i>	<i>585</i>	<i>573</i>

Source: taken directly from Ofgem, [Regional Differences in Network Charges](#), Appendix 1

The Ofgem analysis considered the effect of national transmission and distribution charges (see the conclusions below).

### Ofgem Conclusions<sup>8</sup>

What we found

1. Electricity distribution charges are higher than average in North Scotland, Merseyside & North Wales and the South West of England and lower in London and Eastern England. In contrast, electricity and gas transmission charges are higher in the south of England and lower in Scotland while gas distribution charges are higher in London and the south of England and lower in Scotland and the north east of England.
2. There are differences in the combined network charges (electricity and gas, transmission and distribution), in different parts of Great Britain. Electricity distribution charges account for the largest proportion of the differences – they vary between £66 and £122 per year for a household (see paragraph 2.11). For typical Great Britain-wide household consumption, the regional differences in combined charges are generally lower than electricity distribution alone, as transmission charges are lower in many of the regions where electricity distribution charges are at their highest.
3. Suppliers generally reflect the fact that there are regional differences in gas or electricity network charges in their corresponding tariffs for households. This is more the case for electricity than gas and sometimes after a delay.
4. Our illustration of the effect of a move to national network charges shows that:

<sup>8</sup> Ofgem, part of Executive Summary, p5-6

a) approximately 16 million households would face higher bills, while around 11 million would see reduced bills under such an approach. In most cases the increase or decrease would be small. In Scotland, 1.8 million households would face higher bills and 0.7 million households would see reductions. It is harder to estimate the numbers for England and Wales separately because the distribution networks which serve Welsh households also operate across the border into England;

b) there are many people who are elderly, disabled and chronically sick, on low incomes or vulnerable in other ways, in both areas which would face bill increases and those which would experience reductions. There does not appear to be any clear justification for national network charges in terms of regional concentration of vulnerability;

c) for a household with typical electricity and gas consumption, there would be an increase or decrease to the network charge element of a bill of less than £20 per year in most distribution network areas (Figure 8); but

d) there would be more significant changes in three electricity distribution regions: South West England (down £38), Merseyside and North Wales (down £26) and East Midlands (up £27) (Figure 8);

e) the potential impact is different if we reflect the fact that households in some areas have higher than average consumption of electricity, particularly where significant numbers of households are off gas grid and/or use electricity as their primary heating source. For example, households in the North of Scotland who use electricity for heating would benefit from reductions of about £60 (paragraph 5.12);

f) where companies exceed service standards or fail to invest adequately in their network, the current arrangements mean their customers see changes in their bills through regulatory rewards and penalties.

5. It is legally possible to introduce national network charges but the change from the current approach would need to be justified against various criteria in European law, particularly on cost reflectivity. There are international (including European Union) examples, both of systems like ours and ones more akin to national network charges.

6. There are potentially significant implications for the regulatory framework and incentives we have implemented or will be implementing to encourage energy efficiency on the networks, if we were to move away from a cost reflective approach.

7. There are regulatory advantages in charges that broadly reflect the costs that different users place on the system. For example, charging generators different costs for using the transmission system in different locations (as they have different impacts on the transmission system as a result) leads to a better outcome for consumers in the long term. From a regulatory perspective, we also found no compelling case to move to a national network charge. Given the nature of the policy issues raised, the Government would have to play a leading role in a decision to change from the current approach.

8. Instead of introducing a national network charge, targeted help to those off gas grid might be an option to consider further. We identified non-gas households as a priority area for our

Vulnerability Strategy. We have been taking and continue to take action to extend gas networks to help the fuel poor and customers in vulnerable situations, and we are focussing on the experience of electric heating customers.

## 1.3 Other reports and changes

### **Competition and Markets Authority recommendations**

The recent review of the Energy Market by the Competition and Markets Authority (CMA) proposes remedies around locational charging for transmission losses. A small amount of electricity is lost as it moves around the transmission grid and these contribute towards a consumer's bill through the calculation of transmission losses.<sup>9</sup>

### **Generator Tariffs**

Project TransmiT was launched in September 2010 by Ofgem<sup>10</sup> to review transmission charging arrangements. The conclusions were implemented in April 2016 and charging arrangements for 2016/17 can be found on the National Grid website.<sup>11</sup>

### **Energy and Climate Change Committee Report**

In June 2016 the Energy and Climate Change Committee published a report on [Low Carbon Network Infrastructure](#); when considering the electricity transmission system they concluded:

Cost-reflective charging should account for the reality that many renewable-energy sources are location-specific and distant from demand sources, particularly as UK transmission charges remain high by EU standards. DECC should investigate the disadvantage UK generators may consequently face against other European generators as Great Britain becomes more interconnected, and the impact this may have on development of domestic renewable generation.

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<sup>9</sup> CMA [Energy Market investigation Final report](#) P208

<sup>10</sup> [Project TransmiT webpage](#) [accessed 4 July 2016]

<sup>11</sup> See: <http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/Approval-conditions/Condition-5/>

## 2. Press Articles

The Daily Telegraph

June 17, 2016

[\*\*Strip Grid of managing role, say MPs\*\*](#)

Emily Gosden

The Guardian

June 17, 2016

[\*\*National Grid needs overhaul, say energy committee MPs;\*\*](#)

The Telegraph

May 29, 2016

[\*\*Households could be charged annual 'insurance premium' for access to electricity grid\*\*](#)

Emily Gosden

FT.com

November 8, 2015

[\*\*Demands grow for overhaul of UK energy policy\*\*](#)

Christopher Adams and Kiran Stacey

Press and Journal

21 August 2015

[\*\*UK Government faces renewed calls for national electricity market\*\*](#)

Utility Week

16 June 2015

[\*\*SSE boss calls for transmission charges to be 'flattened out'\*\*](#)

## 3. Press releases

### **Ofgem**

12 May 2016

#### **Ofgem opens mid-period review into price controls for National Grid Electricity Transmission and National Grid Gas Transmission**

Ofgem set the price controls for energy transmission and gas distribution in 2013. As part of this, provision was made for a mid-period review of the outputs companies have to deliver for customers if there were material changes in Government policy, or changes in the needs of consumers and network users. A mid-period review is not intended to re-open the price control (for example change key financial aspects such as the allowed cost of capital).

Following our consultation in November, Ofgem has today decided to launch a mid-period review into the 2013-2021 price controls which will be limited to National Grid Electricity Transmission and National Grid Gas Transmission.

Ofgem will consult on proposals for any changes to outputs and associated revenues this summer. A decision on the proposals will be made in late autumn 2016. Any changes would take effect from 1 April 2017.

Ofgem has not identified any issues to justify a mid-period review for the 2013-2021 electricity transmission price controls of SP Transmission and Scottish Hydro Electric Transmission, or for the 2013-2021 gas distribution price control.

We are also taking forward parallel work which will seek to ensure more effective output accountability of network companies.

*Notes to editors:*

Ofgem's [decision document on the mid period review launch](#) published today.

Ofgem's November 2015 [consultation on the potential for a mid-period review](#).

### **Ofgem**

23 October 2015

#### **Ofgem report on regional differences in network charges**

Ofgem has today published [a report on regional differences](#) in the way costs for transporting energy are recovered from bills.

This follows the previous Energy and Climate Change Select Committee's inquiry into energy network costs. The report provides information for the Committee and other stakeholders as to why energy consumers in different parts of Great Britain pay different electricity and gas distribution network charges.



## 4. Parliamentary Questions

### [Electricity: Prices](#)

#### **Asked by: Chope, Mr Christopher**

To ask the Secretary of State for Energy and Climate Change, if she will make it the policy of the Government that electricity customers across the UK should pay the same for electricity transportation.

#### **Answering member: Andrea Leadsom | Department for Energy and Climate Change**

Electricity network charges vary by region and reflect the costs of running the network in that area and the number of consumers that those costs are spread over. The Government does not plan to move to national network charging, as the current cost reflective approach helps to ensure efficient use of the network and keeps overall costs down for bill payers across Great Britain. In contrast, national pricing risks an overall increase in network costs by weakening each network company's local accountability to its customers, as well as making charges less transparent. On 23 October 2015, Ofgem published a report on the [regional differences in network charges](#), which found no compelling case from a regulatory perspective to move to a national network charge. The report is available at:

The Government will continue to consider any evidence that is presented.

**11 Apr 2016 | Written questions | House of Commons | 32443**

### [Electricity: Scotland](#)

#### **Asked by: Chope, Mr Christopher**

To ask the Secretary of State for Energy and Climate Change, what the cost per kilowatt hour is of electricity transportation charged to consumers in (a) Orkney, (b) the north of Scotland and (c) the south of Scotland.

#### **Answering member: Andrea Leadsom | Department for Energy and Climate Change**

Ofgem published an analysis of [regional differences in network charges](#) on 23 October 2015 which is available at:

Based on data contained in this report, the typical cost of electricity transmission and distribution in 2015/16 for a standard domestic tariff in the north of Scotland was 4.6 pence per kilowatt hour, and 3.7 pence per kilowatt hour for the south of Scotland (excluding VAT). There is no difference in electricity transmission and distribution charges between consumers in Orkney and the rest of the north of Scotland.

**11 Apr 2016 | Written questions | House of Commons | 32398**

[Electricity: Distribution](#)

**Asked by: Blackford, Ian**

To ask the Secretary of State for Energy and Climate Change, if she will take steps to (a) end the 14 regional markets for electricity distribution and (b) introduce a national market for electricity distribution.

**Answering member: Andrea Leadsom | Department for Energy and Climate Change**

Electricity distribution network charges vary by region and reflect the costs of running the network in that area and the number of consumers that those costs are spread over. The Government does not plan to move to national electricity distribution charging, as the current cost reflective approach helps to ensure efficient use of the network and keeps overall costs down for bill payers across Great Britain. In contrast, national pricing risks an overall increase in network costs by weakening each network company's local accountability to its customers, as well as making charges less transparent. On 23 October 2015, Ofgem published a report on the [regional differences in network charges](#), which found no compelling case from a regulatory perspective to move to a national network charge. The report is available at:

The Government will continue to consider any evidence that is presented.

Whilst the Government believes that, in general, cost reflective charging represents the right approach, it is right to consider intervention if one region has markedly different charging levels to any other. This forms the rationale for our Hydro Benefit Replacement Scheme, which protects consumers in the North of Scotland from the very high electricity distribution charges that would otherwise occur. The scheme is providing an annual assistance amount of £57m in 2015/16, which equates to £41 per household in the North of Scotland. The cost of providing this discount is recovered from consumers across the whole of Great Britain.

**14 Jan 2016 | Written questions | House of Commons | 21705**

[Electricity: Scotland](#)

**Asked by: Monaghan, Dr Paul**

To ask the Secretary of State for Energy and Climate Change, pursuant to the Answers of 6 July 2015 to Question 4511 and 12 October 2015 to Question 10567, if she will request that OFGEM explain what its justification is for allowing a higher charge for supply in the north of Scotland.

**Answering member: Andrea Leadsom | Department for Energy and Climate Change**

Electricity supplied to consumers in the North of Scotland region is produced by a range of generation types traded in a competitive market across GB. The electricity price paid by consumers in any given region is

not therefore determined by the predominant generation type in that region.

Ofgem does not regulate energy prices - these are set by energy suppliers in competition with each other and so matters relating to the pricing of tariffs are a matter for each individual company.

Ofgem addressed the differences in electricity charges between regions at paragraph 2.5 of their recent report on [‘Regional Differences in Network Charges’](#). This stated that the differences observed are not a ‘surcharge’, but reflect the different network costs in the region when shared out between customers consuming energy in that area. They also saw “no compelling case” to change these arrangements, from a regulatory perspective.

The report also noted that electricity distribution charges in the north of Scotland are already cross-subsidised to an extent through the Government’s Hydro Benefit Replacement Scheme. It is currently worth around £41 per annum per household in the north of Scotland, and means that consumers face lower network charges than they otherwise would.

**10 Nov 2015 | Written questions | House of Commons | 14513**

[Energy: Scotland](#)

**Asked by:** Blackford, Ian | **Party:** Scottish National Party

To ask the Secretary of State for Energy and Climate Change, if she will take steps to merge the 14 regional markets for energy distribution to create a national energy market for electricity distribution and reduce the price paid by consumers and businesses in the Highlands and Islands.

**Answering member:** Andrea Leadsom | **Party:** Conservative Party | **Department:** Department for Energy and Climate Change

Electricity distribution network charges vary by region and reflect the costs of running the network in that area and the number of consumers that those costs are spread over. Moving away from this ‘cost-reflective’ approach would weaken the local accountability of the network operator in ensuring expenditure is fully justified, in turn weakening downward pressures on network costs overall. In addition, a national price for electricity distribution would mean lower network charges in some areas, but increases in others. There are fuel poor consumers throughout GB, including in the areas that could be expected to see higher bills as a result of such a change.

Any decision on whether to pursue this further could therefore only sensibly be considered on the basis of robust and evidence-based analysis. Ofgem is currently working to inform the issue, and the Government will consider its analysis carefully. It will also be important to take full account of the final conclusions of the energy market investigation which is currently being undertaken by the Competition

and Markets Authority. Its provisional findings favour more locational transmission pricing.

To help protect domestic and business consumers in the North of Scotland specifically, Government has already introduced the Hydro Benefit Replacement Scheme. It provides an annual assistance amount of over £50m to consumers in the North of Scotland. The cost of providing this discount is recovered from consumers across the whole of Great Britain.

**15 Jul 2015 | Written questions | House of Commons | 6779**

### [Electricity Generation](#)

**Asked by: Miller, Mrs Maria**

To ask the Secretary of State for Energy and Climate Change, what process her Department has for deciding whether (a) additional electricity generation is needed in a local area and (b) that generation should be centralised or decentralised

**Answering member: Andrea Leadsom | Department for Energy and Climate Change**

The Government does not determine where new generation should connect to the network; this is a commercial decision for individual developers. The Department has, however, introduced the Capacity Market, which is designed to incentivise both new generation investment and maximise the use of existing assets to ensure that Great Britain as a whole has a secure, affordable and clean energy supply. On 6 May, Government announced that it would buy more capacity, earlier, and bring forward the start of the Capacity Market delivery period by a year to 2017/18.

The network charging regimes (through the locational price zones at the high-voltage transmission network or connection charging regime at the lower voltage distribution network) provide price signals that encourage developers to connect where it is economically efficient to do so, helping to limit costs passed through to consumers. The charging regimes are designed by the network industry in line with the requirement to be cost-reflective, and are approved by Ofgem.

New generation connecting above 132kv will connect to the transmission network, whereas at that level and below, it will connect to the local distribution network. In Scotland, 132kv also forms part of the transmission network.

**06 Jun 2016 | Written questions | House of Commons | 38403**

## 5. Useful links and further reading

### **Ofgem**

23 October 2015

[Report on regional differences in network charges](#)

### *Project TransmiT*

In September 2010 Ofgem launched Project TransmiT, an independent and open review of electricity transmission charging and associated connection arrangements. Further details are [here](#)

National Grid [Current Tariffs](#) sets out the final outcome of the project

### **Energy and Climate Change Committee**

23 February 2015

[Energy network costs: transparent and fair?](#)

Sixth Report of Session 2014–15, HC386

### **Competition and Markets Authority**

24 June 2016

[Energy market investigation – Summary of Final Report](#)

Locational adjustments to transmission losses (Summary page 17)

### **House of Commons Library**

24 June 2016

Briefing Paper [Energy Policy Overview](#)

### **USwitch**

[website](#)

Regional energy price differences

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