

[REF]: Business Carbon Footprint  
NPg(N)  
2014

Emission		Units
<b>Buildings energy usage</b>	Buildings - Electricity	tCO2e
	Buildings - Other fuels	tCO2e
	Substation Electricity	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Operational Transport</b>	Road	tCO2e
	Rail	tCO2e
	Sea	tCO2e
	Air	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Business Transport</b>	Road	tCO2e
	Rail	tCO2e
	Sea	tCO2e
	Air	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Fugitive Emissions</b>	SF6	tCO2e
	Gases Other	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Fuel Combustion</b>	Diesel	tCO2e
	Gas Natural	tCO2e
	Fuels Other	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Total BCF (excl. losses)</b>		<b>tCO2e</b>
<b>Losses</b>		<b>tCO2e</b>
<b>TOTAL BCF (incl. losses)</b>		<b>tCO2e</b>

2010 DPCR4	2011	2012	2013 DPCR5	2014	2015	Total DPCR5
1,969	2,127	1,915	1,953	1,808		<b>7,803</b>
58	73	63	66	74		<b>276</b>
4,539	4,266	4,203	4,093	3,787		<b>16,349</b>
-	-	-	-	-		<b>-</b>
<b>6,566</b>	<b>6,466</b>	<b>6,181</b>	<b>6,112</b>	<b>5,669</b>	<b>-</b>	<b>24,428</b>
8,046	8,992	6,599	5,052	9,909		<b>30,552</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
<b>8,046</b>	<b>8,992</b>	<b>6,599</b>	<b>5,052</b>	<b>9,909</b>	<b>-</b>	<b>30,552</b>
1,244	1,170	1,169	1,242	1,313		<b>4,894</b>
16	16	20	30	27		<b>93</b>
-	-	-	-	-		<b>-</b>
29	48	42	161	89		<b>340</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
<b>1,289</b>	<b>1,234</b>	<b>1,231</b>	<b>1,433</b>	<b>1,430</b>	<b>-</b>	<b>5,328</b>
955	1,160	963	855	912		<b>3,890</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
<b>955</b>	<b>1,160</b>	<b>963</b>	<b>855</b>	<b>912</b>	<b>-</b>	<b>3,890</b>
3,942	5,545	5,330	21,956	5,448		<b>38,279</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
-	-	-	-	-		<b>-</b>
<b>3,942</b>	<b>5,545</b>	<b>5,330</b>	<b>21,956</b>	<b>5,448</b>	<b>-</b>	<b>38,279</b>
<b>20,798</b>	<b>23,397</b>	<b>20,304</b>	<b>35,408</b>	<b>23,368</b>	<b>-</b>	<b>102,477</b>
511,440	515,461	516,434	464,264	464,464		<b>1,960,623</b>
<b>532,238</b>	<b>538,858</b>	<b>536,738</b>	<b>499,672</b>	<b>487,832</b>	<b>-</b>	<b>2,063,100</b>

[REF]: Business Carbon Footprint  
NPg(Y)  
2014

Emission		Units
<b>Buildings energy usage</b>	Buildings - Electricity	tCO2e
	Buildings - Other fuels	tCO2e
	Substation Electricity	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Operational Transport</b>	Road	tCO2e
	Rail	tCO2e
	Sea	tCO2e
	Air	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Business Transport</b>	Road	tCO2e
	Rail	tCO2e
	Sea	tCO2e
	Air	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Fugitive Emissions</b>	SF6	tCO2e
	Gases Other	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Fuel Combustion</b>	Diesel	tCO2e
	Gas Natural	tCO2e
	Fuels Other	tCO2e
	<b>Total</b>	<b>tCO2e</b>
<b>Total BCF (excl. losses)</b>		<b>tCO2e</b>
<b>Losses</b>		<b>tCO2e</b>
<b>TOTAL BCF (incl. losses)</b>		<b>tCO2e</b>

2010 DPCR4	2011	2012	2013 DPCR5	2014	2015	Total DPCR5
1,572	1,644	1,542	1,460	1,456		<b>6,102</b>
8	9	8	5	10		<b>32</b>
7,650	8,024	7,905	7,699	7,124		<b>30,752</b>
-	-	-	-	-		-
-	-	-	-	-		-
<b>9,230</b>	<b>9,677</b>	<b>9,455</b>	<b>9,164</b>	<b>8,589</b>	-	<b>36,885</b>
11,625	13,174	8,251	9,939	9,250		<b>40,614</b>
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
<b>11,625</b>	<b>13,174</b>	<b>8,251</b>	<b>9,939</b>	<b>9,250</b>	-	<b>40,614</b>
1,288	1,202	1,222	1,291	1,273		<b>4,988</b>
16	16	16	20	24		<b>76</b>
-	-	-	-	-		-
29	48	20	46	162		<b>276</b>
-	-	-	-	-		-
-	-	-	-	-		-
<b>1,333</b>	<b>1,266</b>	<b>1,258</b>	<b>1,357</b>	<b>1,459</b>	-	<b>5,340</b>
3,944	3,375	2,308	2,202	1,998		<b>9,883</b>
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
<b>3,944</b>	<b>3,375</b>	<b>2,308</b>	<b>2,202</b>	<b>1,998</b>	-	<b>9,883</b>
5,913	8,317	3,092	5,523	5,198		<b>22,130</b>
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
-	-	-	-	-		-
<b>5,913</b>	<b>8,317</b>	<b>3,092</b>	<b>5,523</b>	<b>5,198</b>	-	<b>22,130</b>
<b>32,045</b>	<b>35,809</b>	<b>24,364</b>	<b>28,185</b>	<b>26,495</b>	-	<b>114,853</b>
846,983	887,811	767,556	729,021	667,073		<b>3,051,461</b>
<b>879,028</b>	<b>923,620</b>	<b>791,920</b>	<b>757,206</b>	<b>693,568</b>	-	<b>3,166,314</b>

# 2013 Business Carbon Footprint Reporting for Northern Powergrid (Northeast) and Northern Powergrid (Yorkshire)

## Commentary and Methodology

This document records the methodology and calculations used to determine the Business Carbon Footprint for Northern Powergrid (Northeast) and Northern Powergrid (Yorkshire) for the calendar year 2013.

### ***Estimates and exclusions***

- Figures are reported by calendar year. As a result, figures included in the accompanying Ofgem templates for the regulatory year ending 2014 are for calendar year 2013.
- All figures relate solely to the activities of the regulated business. Most data is collected in a form where it is attributed to one of the licensed distribution businesses. Corporate categories are allocated 50:50 as indicated in the category-specific commentary that follows.
- Business travel by bus, taxi and ferry has not been included, but is believed not to be material.
- Refrigerant gas loss from air conditioning units has not been included. The amount is not believed to be material.
- Own energy use at substations has been estimated (see below).
- Our information on contractors' fuel use continues to improve year-on-year. In 2013 we have conducted an audit of the contractors' data to help us identify an improvement plan. We have started to put this plan in place, and continue to do so this next regulatory year (see below).
- The company is audited on a yearly basis to ensure compliance with the ISO 14064-1:2006 standard. This tests the management, reporting and verification of our greenhouse gas inventory.

### ***Building energy usage***

- Data from electricity and gas bills relating to all the licensee's non-operational properties is collated by the facilities department. For non-half-hourly metered bills, the amount included is that billed in the quarter even if based on an estimated reading. A small number of buildings that are owned by a landlord are excluded. For gas the conversion factor for gross calorific value has been used. The company is subject to the CRC Energy Efficiency Scheme on the metered supply.
- Own use at substations has been estimated. The figures have been built bottom up from the various components (heating, lighting, etc.), although the contribution of each component is an engineering judgement rather than a direct or sample measurement. There is, therefore, significant scope for error.

## ***Operational Transport***

- Data is collected from company fuel card use. Separate figures are collated for petrol, diesel, gas oil and LPG (when used). Some of the fuel purchased is used in generators. Data on contractors' usage is compiled from returns sent in response to a request. The contractors have estimated a split between licensees which is only an approximation. See comments under Contractors.

## ***Business Transport***

### ***Business transport - road***

- Data is collected from business miles claimed by staff monthly on their expense claim forms. The data is split between diesel and petrol according to the information provided on the claim forms. Corporate staff mileage is split 50:50 between licensees (to reflect the fact that such travel is undertaken on behalf of both licensees equally).

### ***Business transport – rail and air***

- Staff wishing to make a business journey by train or air must complete a "Request for Travel" form. Data from these forms is transferred to a spreadsheet where the mileage for each journey is calculated and then collated according to rail, domestic flights, short-haul international, and long-haul international. As mentioned above, the figures are attributed 50:50 between licensees.

## ***Fugitive Emissions***

- The data used is that collected for provision to Ofgem in the licensee's SLC45 returns, although collated for this purpose by calendar year.

## ***Fuel combustion***

- These figures relate to fuel use in generators during work performed by our contractors.

## ***Losses***

- This data stream uses the figures derived under the Balancing and Settlement Code arrangements and reported regularly to Ofgem.

## ***Contractors***

- Our information on contractors' fuel use continues to improve year-on-year. In 2013 we conducted an audit of the contractors' data to help us identify an improvement plan. We have started to put this plan in place, and continue to do so this next regulatory year. We have had returns from 22 out of 32 key contractors, representing 96% of the contractors' business (by value) we include in our reporting scope. Accordingly, and in order to obtain the best estimate of overall consumption we have adjusted

the volume of emissions associated with fleet fuel usage by contractors by 4%. Fuel for generator use by contractors is considered to be essentially complete.

- This estimation of contractors' fuel use is responsible for much of the volatility in the annual figure and care must therefore be taken not to infer too much meaning from year-to-year variances in the carbon footprint for transport-related emissions (including fuel combustion).

## Appendix 1 – Carbon footprint of Northern Powergrid (Northeast)

The Conversion factors are the DEFRA values appropriate to the date of energy use. The calculation in the table below includes rounding edits.

<b>Building energy usage</b>	Tonnes CO2	Data source	kWh	Conversion factor	Greenhouse Gas Protocol
Electricity	1,808	Energy bills collated centrally - Measured	3,738,612	0.00048357	Scope 2&3
Gas	74	Energy bills collated centrally - Measured	401,741	0.000184973	Scope 1
Substation usage	3,787	Estimated	7,831,416	0.00048357	Scope 2
<b>Total</b>	<b>5,669</b>				

<b>Operational transport</b>	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
Own fleet – diesel	3,046	Fuel cards collated centrally Measured	1,139,137	0.002669	Scope 1
Own fleet – petrol	12	Fuel cards collated centrally Measured	5,305	0.002299	Scope 1
Own fleet – onsite supply diesel	64	Invoices Measured	23,950	0.002669	Scope 1
Contractors – diesel	6,782	Data does not give complete coverage and has been increased by 10% to provide a best estimate.	2,540,710	0.002669	Scope 3
Contractors - petrol	6	Data does not give complete coverage and has been increased by 10% to provide a best estimate.	2,501	0.002299	Scope 3
<b>Total</b>	<b>9,909</b>				

<b>Business transport</b>	Tonnes CO2	Data source	Miles	Conversion factor	Greenhouse Gas Protocol
Road - diesel	947	Expense claims	3,341,275	0.00028518	Scope 3
Road - petrol	366	Expense claims	1,103,217	0.00032329	Scope 3
Rail	27	Expense claims	505,214	0.00021022	Scope 3
Air– long haul	75	Expense claims	334,403	0.00016625	Scope 3
Air – medium haul	10	Expense claims	53,102	0.00029316	Scope 3
Air - domestic	3	Expense claims	10,086	0.00028518	Scope 3
<b>Total</b>	<b>1,430</b>				

<b>Fugitive emissions</b>	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
SF6	912	Operational records	38	23.9	Scope 1

<b>Fuel combustion</b>	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
Mobile Generators (contractors, diesel)	5,448	Data sought from contractors. Some of this data has been estimated by the contractor.	2,041,168	0.002669	Scope 3

<b>Losses</b>	Tonnes CO2	Data source	MWh	Conversion factor	Greenhouse Gas Protocol
Electricity	464,464	Settlement data	960,490	0.48357	Scope 2&3

## Appendix 2 – Northern Powergrid (Yorkshire)

Footprint calculated using CEMARS online reporting and calculation tool. Conversion factors are the DEFRA values appropriate to the date of energy use.

Building energy usage	Tonnes CO2	Data source	kWh	Conversion factor	Greenhouse Gas Protocol
Electricity	1,456	Energy bills collated centrally - Measured	3,011,132	0.00048357	Scope 2&3
Gas	10	Energy bills collated centrally - Measured	52,202	0.000184973	Scope 1
Substation usage	7,124	Estimated	14,731,560	0.00048357	Scope 2
<b>Total</b>	<b>8,589</b>				

Operational transport	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
Own fleet – diesel	2,816	Fuel cards collated centrally Measured	1,139,137	0.002669	Scope 1
Own fleet – petrol	11	Fuel cards collated centrally Measured	5,305	0.002299	Scope 1
Own fleet – onsite supply diesel	64	Invoices Measured	23,950	0.002669	Scope 1
Contractors – diesel	6,339	Data does not give complete coverage and has been increased by 10% to provide a best estimate.	2,374,819	0.002669	Scope 3
Contractors - petrol	21	Data does not give complete coverage and has been increased by 10% to provide a best estimate.	9163	0.002299	Scope 3
<b>Total</b>	<b>9,250</b>				

Business transport	Tonnes CO2	Data source	Miles	Conversion factor	Greenhouse Gas Protocol
Road - diesel	936	Expense claims	3,302,123	0.00028518	Scope 3
Road - petrol	337	Expense claims	1,014,156	0.00032329	Scope 3
Road - Hybrid	0.37	Expense claims	1,128	0.00019256	Scope 3
Rail	24	Expense claims	451,114	0.00021022	Scope 3
Air– long haul	142	Expense claims	630,560	0.00016625	Scope 3
Air – medium haul	11	Expense claims	54,935	0.00029316	Scope 3
Air - domestic	9	Expense claims	27,850	0.00028518	Scope 3
<b>Total</b>	<b>1,459</b>				

Fugitive emissions	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
SF6	1,998	Operational records	84	23.9	Scope 1

Fuel combustion	Tonnes CO2	Data source	Litres	Conversion factor	Greenhouse Gas Protocol
Mobile Generators (contractors, diesel)	5,198	Data sought from contractors. Some of this data has been estimated by the contractor.	1,847,379	0.002669	Scope 3

Losses	Tonnes CO2	Data source	MWh	Conversion factor	Greenhouse Gas Protocol
Electricity	667,073	Settlement data	1,379,476	0.48357	Scope 2&3