



Department
of Energy &
Climate Change

Sub-national electricity and gas consumption statistics analysis tool

User guide

February 2015

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URN: 15D/077

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Any enquiries regarding this publication should be sent to us at EnergyEfficiency.Stats@decc.gsi.gov.uk.

This document is also available from our website at www.gov.uk/decc.

User guide

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Contents

Summary.....	6
How to use the tool	7
Title page.....	7
Step 1 Selecting local authorities	8
Step 2 Local Authority Tables.....	9
Step 3 Individual Local Authority Graphs.....	10
Step 4 Fixed Year Graphs	11
Annex (Sub-national publications)	11
Caveats and limitations of the tool	12
Local authority boundary changes in 2010	12
Gas consumption data for some local authorities.....	12
ANNEX A An example for selected LAs in Greater London	14
Example: Selecting nine Local Authorities.....	14
Local Authority Tables	14
Local Authority Graphs	15
ANNEX B Sub-national Publications	18

Summary

The sub-national electricity and gas analytical tool has been produced to help local authorities (LAs) and other users of DECC's sub-national data to better understand changes in consumption over time.

The data presented in the tool comes from DECC's sub-national gas and electricity consumption estimates¹ for Great Britain. These datasets present total consumption, number of meter and average consumption estimates at an LA level.

The tool enables comparisons to be made with other LAs and can be split into two distinct sections of analysis:

1. LA data as a time series in order to identify trends and significant changes.
2. Comparison of a selected LA with up to eight other LAs for a given year.

The following variables are available for analysis and/or for comparisons with other LAs:

Fuel	Sector	Comparator
Gas	Domestic	Total consumption
Electricity	Non-domestic	Total number of meters
		Average consumption per meter

The remainder of this guide describes and illustrates the use of the tool.

¹ The complete sub-national electricity and gas consumption datasets can be accessed from the following locations:
<https://www.gov.uk/government/statistical-data-sets/regional-and-local-authority-electricity-consumption-statistics-2005-to-2011>
<https://www.gov.uk/government/statistical-data-sets/gas-sales-and-numbers-of-customers-by-region-and-local-authority>

How to use the tool

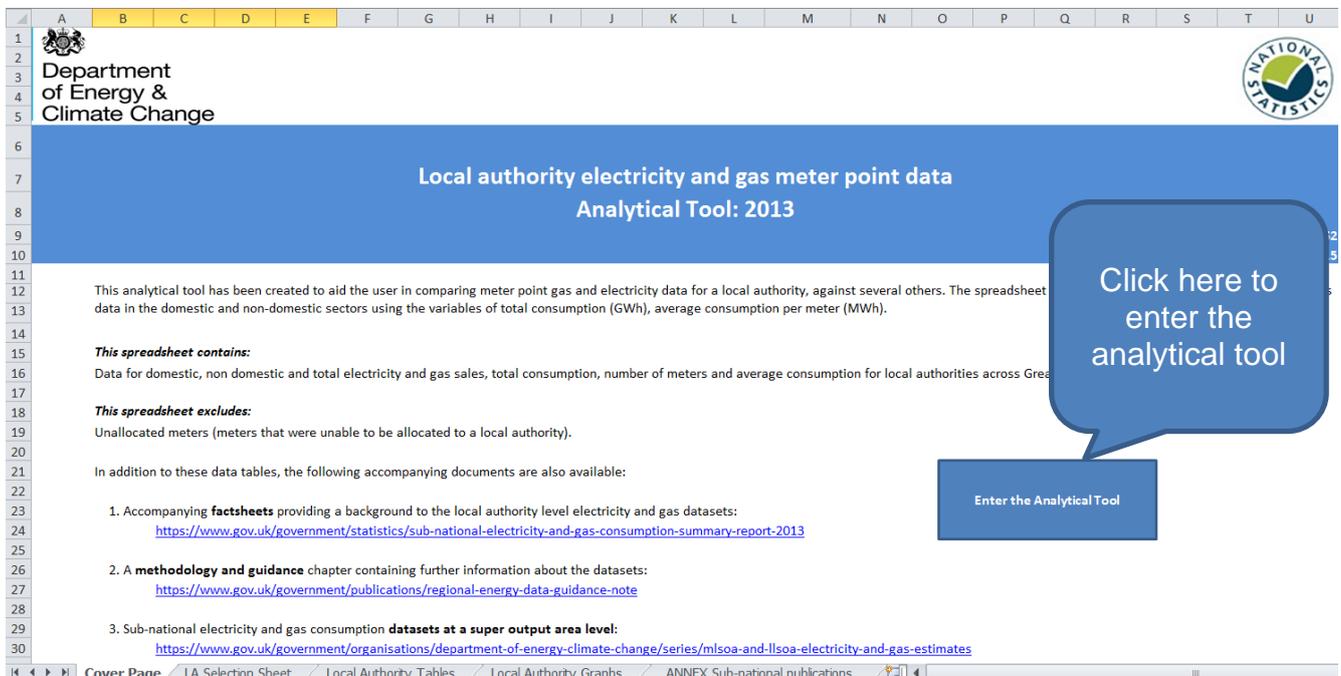
Instructions for using the tool have been provided within the workbook. However, further information has been provided in this document in order for the user to make best possible use of the tool.

The workbook contains 6 worksheets, discussed in greater detail below.

Title page

On opening the workbook you will be presented with the front page (see diagram 1 below) displaying a brief overview of the tool, an explanation of what data is included and links to related publications.

Diagram 1 Cover Page

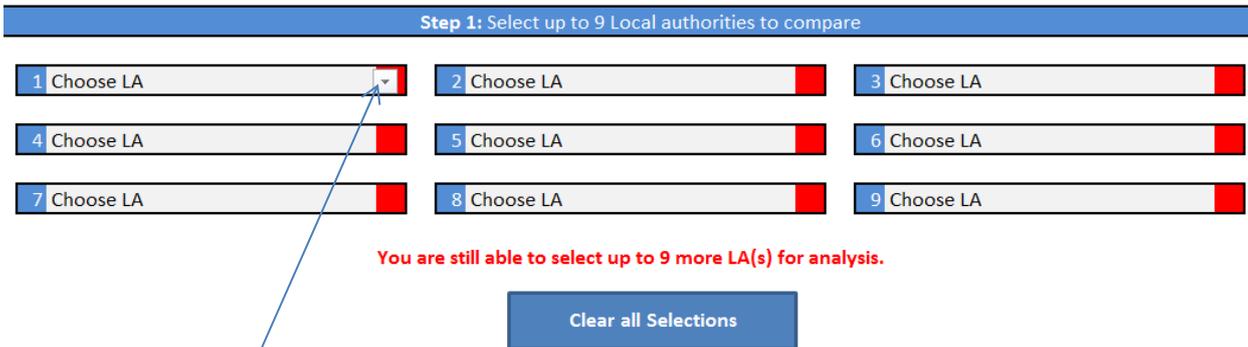


To begin using the tool, navigate to the second tab by clicking the 'Enter the Analytical tool' button or the 'LA selection sheet' tab at the bottom of the workbook.

Step 1 Selecting local authorities

The tool also uses drop down menus to select the LAs that the user wishes to analyse. The process is the same as in selecting variables, and is illustrated in diagram 2 below.

Diagram 2 Selecting local authorities



Click on the drop down arrow to view the list of Local Authorities. When a valid choice has been made the red box will turn green.

Click on one of the cells that contain, "Choose LA". This will reveal a drop down arrow, where you can select a local authority of your choosing. When a local authority has been selected, the cell to the right will turn from red to green. There are nine cells, where you can select an LA. When you click the clear all sections button, this will return these nine cells back to their "Choose LA" setting.

When you have chosen all of the Local authorities that you wish to analyse, you can then use the navigation buttons to move through the analytical tool:

Diagram 3 Navigation Buttons



These buttons are available on each of the tabs, where you can make a decision about the data they wish to analyse. They are hyperlinked so that you will be able to easily navigate between menus, should you wish to change your mind about which data you wish to observe. Equally, you will be able to navigate using the tab bar at the bottom of the worksheet, as you would normally on an excel workbook.

Step 2 Local Authority Tables

This tool uses drop down menus for variable selection. These dropdown menus will allow you do observe certain energy sectors from the local authorities you have selected. It will display this data as a table below. A demonstration on how to use this is set out in diagram 4 below.

Diagram 4 Selecting variables

Step 1: Which form of energy would you like to observe?

Step 2: Which energy sector do you wish to observe?

Step 3: Which estimator do you wish to use?

Step 4: Which statistic would you like to measure?

Criteria
None
None
None
None

You will be given a list of options that you must fill in order to generate a table. When an option box has been completed it will turn green, incomplete option boxes will remain red. In addition to this, the criteria table will update to show the specification of your table. The options that are available to you are as follows:

Decision	Options available
Step 1: Which form of energy would you like to observe?	Electricity Gas
Step 2: Which energy sector do you wish to observe?	Domestic Non-domestic
Step 3: Which estimator do you wish to use?	Total consumption Total number of Meters (Thousands) Average consumption per meter
Step 4: Which statistic do you wish to measure?	Value Annual Change Annual percentage Change

Note: Until all four compulsory variables are selected, the boxes to the right of the drop down list boxes will remain red. This reminder will disappear once all four selections have been made. If you wish to reset your selections, you can click the 'Clear All Selections' button at the right side of the sheet.

Step 4 will allow you to choose a statistic that you wish to observe. "Value" will give you the figure observed for each year, "Annual Change" will give you the difference in value between two consecutive years and "Annual percentage Change" will give the percentage difference between two consecutive years.

Diagram 5 Criteria Box

Criteria
Electricity
Domestic
Total Consumption
Value

When these criteria have been filled, a table of data will be computed for you (diagram 5). Below in diagram 6, is a screenshot for the Local authorities: Westminster, Tower Hamlets and Richmond upon Thames.

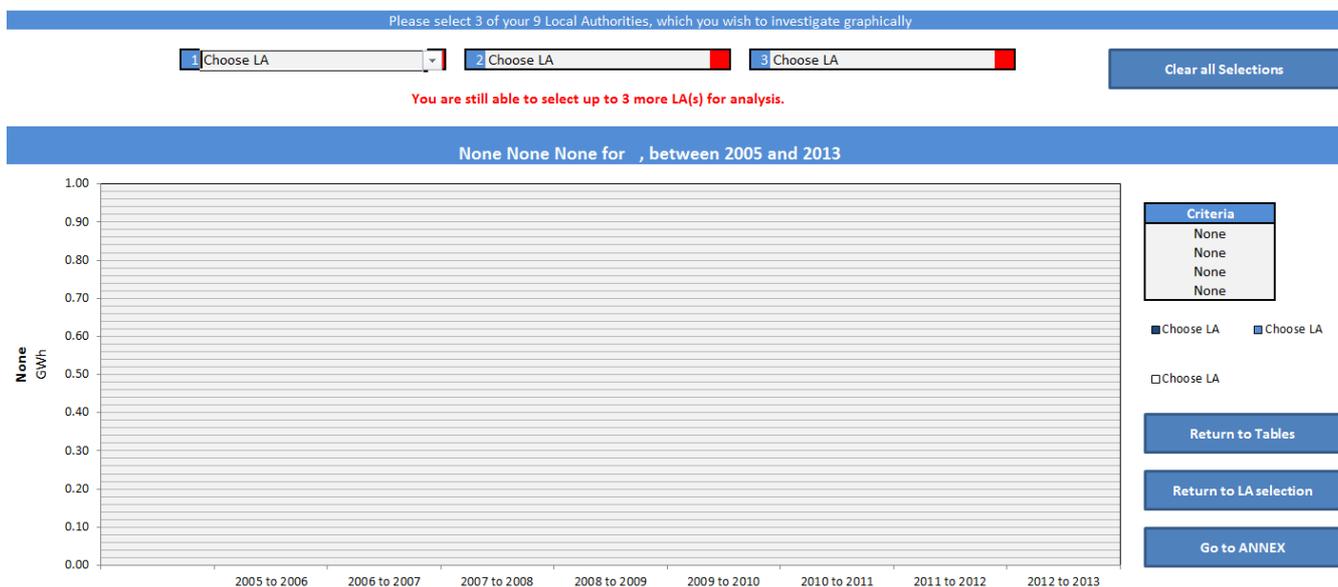
Diagram 6 Data table for Westminster, Tower Hamlets and Richmond upon Thames

Local Authorities	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 Westminster	507.44	500.56	504.97	496.14	504.06	510.81	500.83	503.71	493.09
2 Tower Hamlets	371.31	365.58	377.55	382.84	393.98	402.68	401.72	409.35	399.39
3 Richmond upon Thames	368.38	365.76	363.87	354.04	353.03	355.84	353.69	352.10	347.84
4 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Choose LA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Step 3 Individual Local Authority Graphs

The worksheet of the workbook; 'Local Authority Graphs' gives a detailed analysis of up to three Local Authorities of interest (please see diagram 7 below). You will need to indicate at the top of the sheet which three (or less) of the nine Local authorities you wish to analyse on this sheet. This can be done by using the drop down list boxes. These will turn green when a local authority has been selected. You may select 1, 2 or 3 Local authorities for analysis. Again there is a "Clear all selection" button which will return the drop down list to their original settings.

Diagram 7 The individual local authority analysis page

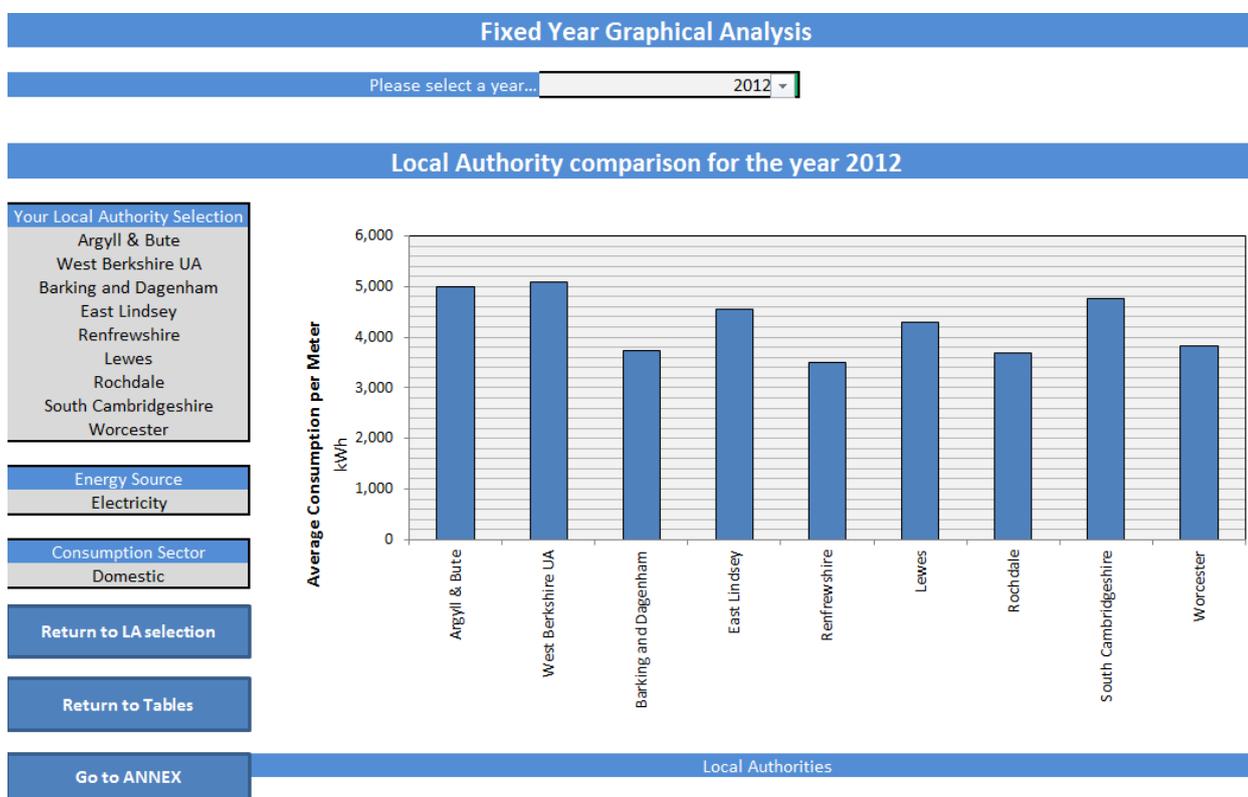


The “Criteria” box will match the criteria which you have selected in the tables; if you wish to change the criteria then you can use the navigation buttons or equivalently the worksheet tabs to go back the “Local Authority Tables” section, where you can change the criteria.

When you are happy with the specification for your graph and you have all of the Local Authorities selected that you wish to analyse, the graph will automatically update. The data, title, axis and axis labels will also update automatically.

Step 4 Fixed Year Graphs

Diagram 8 Fixed Year Graphical Analysis



This page will allow you to make comparisons with the nine local authorities that you have selected for a given year. You will be able to change the year by using the drop down box at the top of the page. In order to change your selected local authorities you will need to return to the ‘LA selection’ and if you would like to change the criteria of the graph you will need to return to the ‘Tabular analysis’ tab. The energy source and consumption sector are displayed on the left with a list of your chosen local authorities.

Annex (Sub-national publications)

This spreadsheet within the tool contains links to all of the sub-national consumption datasets that DECC currently has available, along with a link to the sub-national methodology and guidance booklet.

Caveats and limitations of the tool

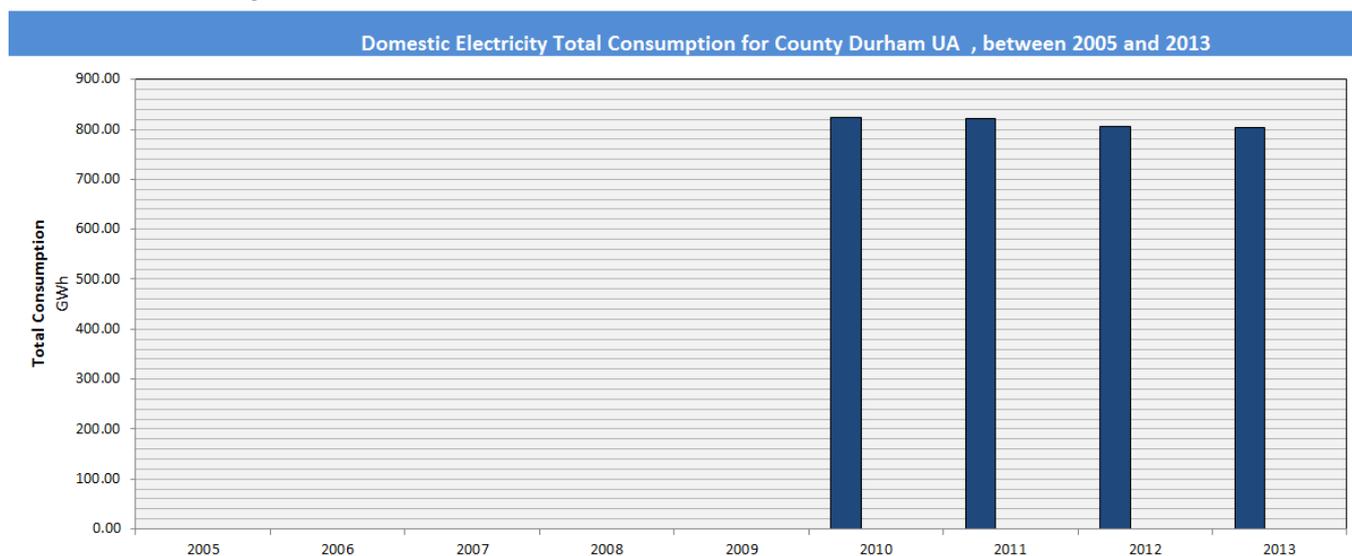
There are a few limitations to the tool which the user should be aware of. There will be instances with certain LAs which will appear to have missing or incomplete data. This section will explain the reasons for some of the most common issues that users may encounter.

Local authority boundary changes in 2010

There were some changes made to LA boundaries (and the names of some LAs) in 2010. These changes involved LAs being split or merged to form new areas. These new boundaries cannot be compared to earlier years and hence data is only available for these LAs between 2010 and 2012.

An example of an LA where this occurs is County Durham. In these cases, the charts and tables will be returned in a similar way to the below diagram. In these cases, it is advised that the user only conducts analysis between 2010 and 2013.

Diagram 9 Results from the analytical tool for an LA with data between 2010 and 2013 only



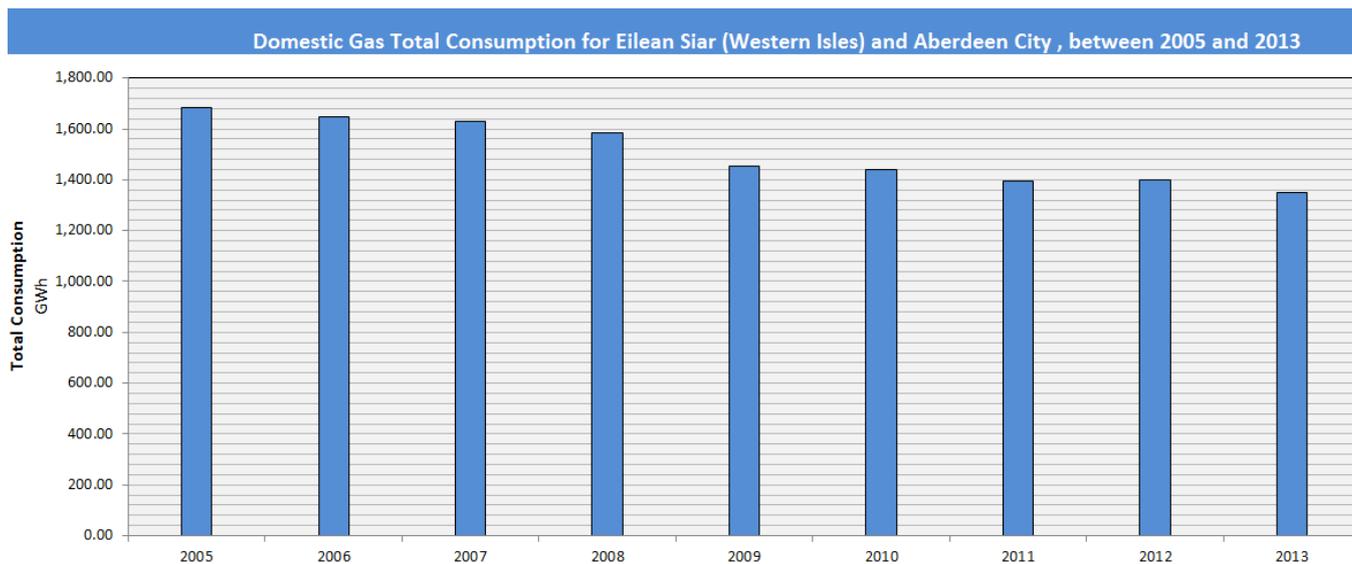
Gas consumption data for some local authorities

The LAs of Eilean Siar (Western Isles), Orkney Islands, Shetland Islands and Isles of Scilly are not included in the sub-national gas consumption datasets due to limitations in access to gas for these regions. As a result of this there is no gas consumption data for these local authorities included in the tool, and charts will be reflected to show this. Some examples of how this can affect the outputs of the tool are shown in diagram 10 below.

Note: Electricity consumption data are published for these local authorities, so the analytical tool can be used to analyse electricity consumption in these local authorities.

Diagram 10

Examples of LAs with no gas consumption data



As you can see there is gas information for Aberdeen City, however, there is no gas information for Eilean Siar (Western Isles).

Further information about the compilation of the gas and electricity datasets (including the caveats and limitations) are detailed in the Sub-national methodology and guidance booklet, which can be accessed here:

<https://www.gov.uk/government/publications/regional-energy-data-guidance-note>.

ANNEX A An example for selected LAs in Greater London

In this part of the guide, selected LAs in Greater London have been chosen to illustrate the tool in action. This example will look at average gas consumption per meter in the domestic sector for the following LAs: Westminster, City of London, Kensington and Chelsea, Southwark, Lambeth, Hammersmith and Fulham, Wandsworth, Islington and Hackney.

Example: Selecting nine Local Authorities

Firstly you must select up to nine Local Authorities. The following example uses nine Local Authorities found in London. The variables and LAs that are inputted into the 'LA selection sheet' are shown in diagram 11 below:

Diagram 11 Illustration of the selection of LAs used in this example

Local Authority Selection

Step 1: Select up to 9 Local authorities to compare

1 Westminster	2 City of London	3 Kensington and Chelsea
4 Southwark	5 Lambeth	6 Hammersmith and Fulham
7 Wandsworth	8 Islington	9 Hackney

[Clear all Selections](#)

Step 2: To view statistical analysis of your chosen Local Authorities, please follow the links below

To view your Local Authority selections in a table, please click the this button... [Tabular Analysis](#)

To return to the cover page, please click the following button... [Back to Cover Page](#)

To visit the ANNEX, please click the following button... [Go to ANNEX](#)

[Click here to visit the Analysis tool webpage...](#)

You can now progress to the tabular analysis for your chosen Local Authorities. To navigate to this tab, click the “Tabular Analysis” button.

Local Authority Tables

For the local authorities that have been selected I will now set the criteria to, domestic electricity average consumption per meter and for the first example I will choose the statistic to be “Value”.

Diagram 12 Illustration of the criteria for the LAs used in this example

Local Authority Tabular Analysis

Step 1: Which form of energy would you like to observe?

Step 2: Which energy sector do you wish to observe?

Step 3: Which estimator do you wish to use?

Step 4: Which statistic would you like to measure?

Clear all Selections Go to Graphical Analysis

Criteria
Electricity
Domestic
Average Consumption per Meter
Value

Return to Cover Page
Go to ANNEX

Gas and electricity data has been taken from the Sub-national annual electricity and gas surveys. See ANNEX for more information.

Local Authorities	2005	2006	2007	2008	2009	2010	2011	2012	2013
1 Westminster	4.29	4.20	4.23	4.14	4.17	4.21	4.13	4.13	4.03
2 City of London	4.65	4.43	4.44	4.45	4.47	4.56	4.42	4.50	4.24
3 Kensington and Chelsea	4.45	4.33	4.33	4.31	4.33	4.37	4.34	4.37	4.31
4 Southwark	3.92	3.78	3.78	3.70	3.66	3.67	3.62	3.57	3.47
5 Lambeth	3.74	3.62	3.57	3.49	3.43	3.42	3.39	3.35	3.30
6 Hammersmith and Fulham	3.84	3.71	3.70	3.64	3.63	3.59	3.54	3.51	3.45
7 Wandsworth	4.02	3.92	3.93	3.85	3.79	3.81	3.75	3.74	3.65
8 Islington	3.60	3.47	3.46	3.39	3.36	3.38	3.29	3.24	3.17
9 Hackney	3.74	3.64	3.60	3.52	3.48	3.52	3.50	3.40	3.34

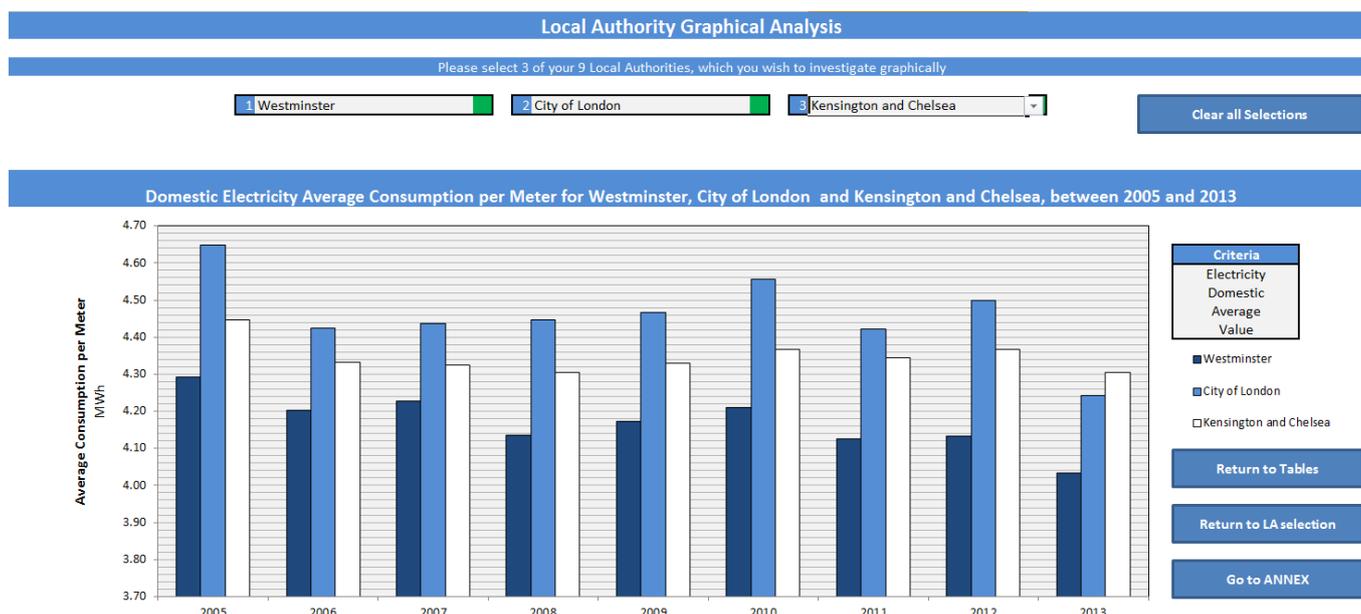
As you can see, once the drop down list boxes have been filled the Criteria box, automatically updates, as does the data in the table.

By clicking the “Go to Graphical Analysis” button, you will be navigated to the Local Authority Graphs tab.

Local Authority Graphs

Of the nine local authorities that were selected, I will now chose to represent Westminster, City of London and Kensington and Chelsea, graphically. To do this I will select these three local authorities in the drop down list boxes.

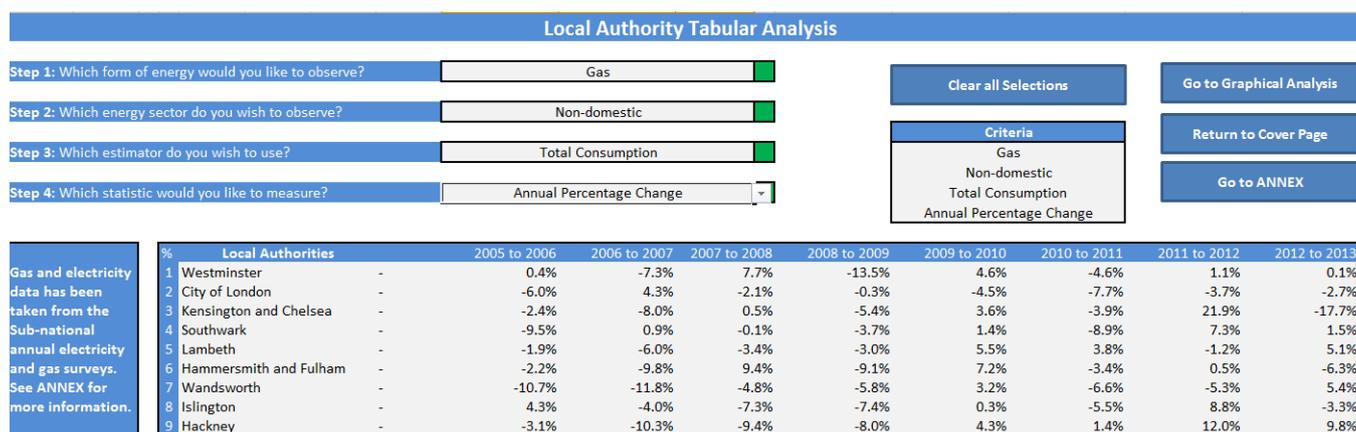
Diagram 13 Illustration of the selection of Las for graphical analysis used in this example



As you can see, the title, axis, axis labels and criteria box have all updated along with the information on the graph.

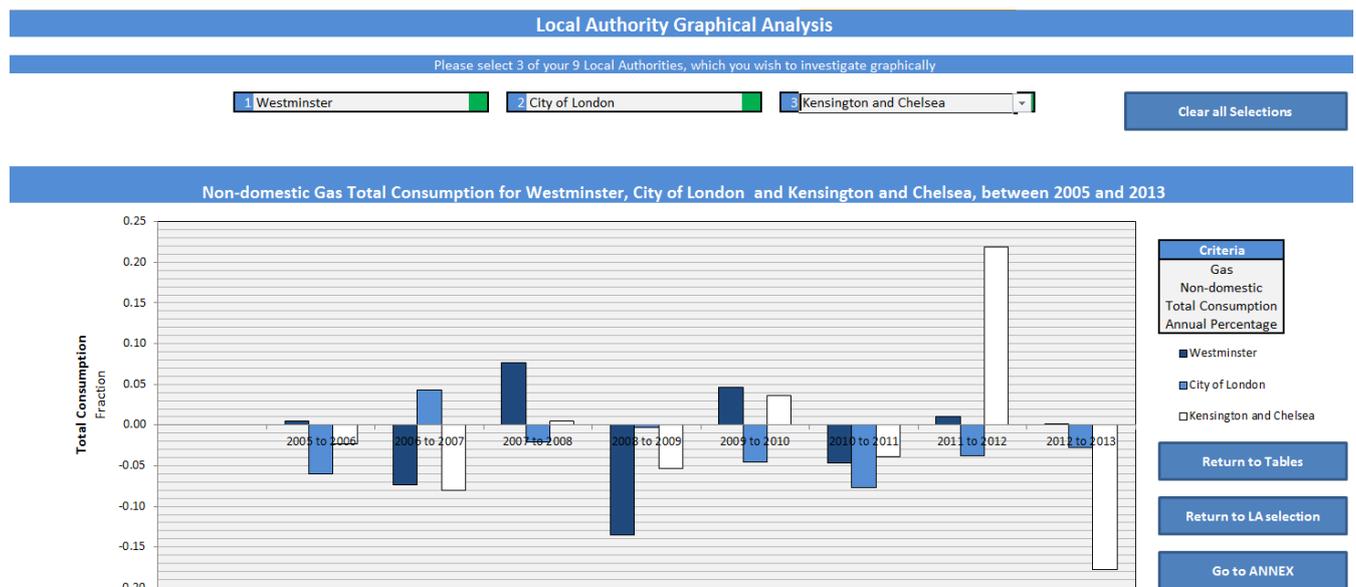
As an alternative example, this time let's choose the criteria for the chart to be as follows: Non-domestic Gas Total consumption Annual percentage change. To do this return to the "Local Authority Table" tab and change the drop down list boxes so that the criteria abides to the above.

Diagram 14 Illustration of a change in criteria used in this example



As you can see, the formatting for the table has switched to percentages. By clicking on the "Go to Graphical Analysis" button you can navigate to view the table in graphical format.

Diagram 15 Illustration of annual percentage change for LAs used in this example



From diagram 15 (above), you can observe how the axis scaling and axis titles have changed to accommodate the new data. **Note** that for "Annual Percentage Change" on the graphs the unit are measured as percentages, due to the limitations of excel.

Diagram 16

Illustration of Fixed Year Graphical Analysis

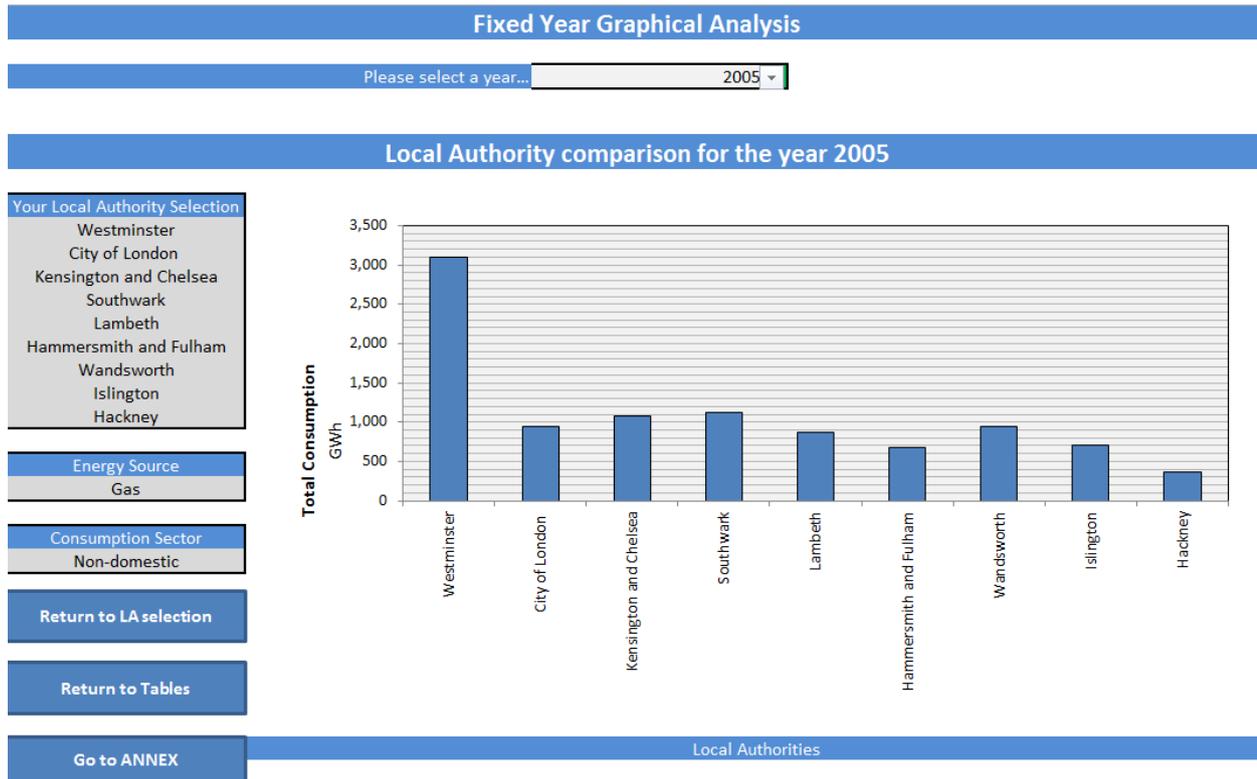


Diagram 16 shows the total consumption for all non-domestic gas meters for all nine local authorities. To change the year you simply have to change the year drop down list box and the graph will automatically update for that year.

ANNEX B Sub-national Publications

Here you will find a list of links, which you might find beneficial, should you had any other queries, regarding sub-national statistics. The areas which are available for further reading are:

- Electricity consumption statistics for Great Britain
<https://www.gov.uk/government/collections/sub-national-electricity-consumption-data>
- Gas consumption statistics for Great Britain
<https://www.gov.uk/government/collections/sub-national-gas-consumption-data>
- Road transport consumption statistics for the United Kingdom
<https://www.gov.uk/government/collections/road-transport-consumption-at-regional-and-local-level>
- Residual fuel for the United Kingdom
<https://www.gov.uk/government/collections/sub-national-consumption-of-other-fuels>
- Total final energy consumption for Great Britain
<https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level>

There is also a link to the detailed Sub-national methodology and guidance notes, which can be found on this link: <https://www.gov.uk/government/statistics/regional-energy-data-guidance-note>

These notes offer a summary of what each of the above fuel sectors include, when the data is available and where the data has been collected.

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