

ELECTRICITY CONSUMPTION AND RENEWABLE GENERATION IN NORTHERN IRELAND: YEAR ENDING DECEMBER 2016

This publication presents information on Renewable Electricity Generation for Northern Ireland. It details information on the percentage of electricity consumption in Northern Ireland that was generated from renewable sources as well as information on the type of renewable generation. This publication aids reporting on performance against the 2011-15 Programme for Government target which is to “Encourage achievement of 20% of electricity consumption from renewable sources by 2015” and the Executive’s 2010-20 Strategic Energy Framework which includes a target to achieve 40% of electricity consumption from renewable sources by 2020.

Issue No: 6

Date of Publication:

9 March 2017

Theme:

Energy

Issued by

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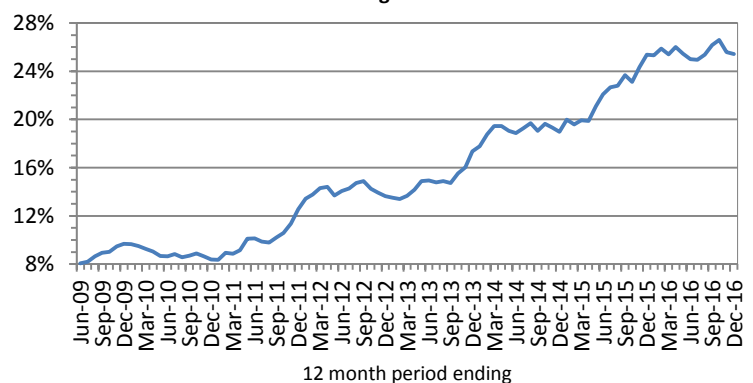
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Key Points

- For the 12 month period January 2016 to December 2016, 25.4% of total electricity consumption in Northern Ireland was generated from renewable sources located in Northern Ireland. This represents no change on the previous 12 month period (January 2015 to December 2015).

Rolling 12 month Average % of Total Electricity Consumption
Generated from Indigenous Renewable Sources



- Of all renewable electricity generated within Northern Ireland over the 12 month period January 2016 to December 2016, 82.6% was generated from wind.
- In December 2016, 36.3% of total electricity consumption in Northern Ireland was generated from renewable sources located in Northern Ireland. This is higher than the corresponding figure for the previous month (20.8% in November 2016) and lower than the corresponding figure for the same month one year ago (38.4% in December 2015).

Reader Information

Purpose	Report on renewable electricity generation as a percentage of electricity consumption in Northern Ireland.
Authors	Sean Donnelly
Publication Date	9 March 2017
Reporting Period	January 2016 to December 2016
Publication Issue	6
Statistical Quality	Information contained in this publication has been sourced from Northern Ireland Networks Ltd (NIE Networks) and the System Operator for Northern Ireland (SONI).
Target audience	Department for the Economy (DfE), elected representatives, academics, the media and general public.
Further copies from	sean.donnelly@economy-ni.gov.uk
Internet address	https://www.economy-ni.gov.uk/articles/electricity-consumption-and-renewable-generation-statistics
Price	Free
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Technical Notes

This statistics release is the sixth of a bi-annual data series presenting information on renewable electricity generation in Northern Ireland. This publication aims to provide a consistent and regular means for disseminating information on renewable electricity generation in Northern Ireland.

Data Collection

The information presented in this bulletin is derived from data provided to DfE on a monthly basis by Northern Ireland Networks Ltd (NIE Networks). The monthly renewable electricity generation data is derived by aggregating output from renewable electricity generators who are connected to the transmission and distribution network using a combination of data held by NIE Networks and SONI. The renewable electricity generation data details the total amount of renewable electricity generated by such generators in Northern Ireland, by type of generation, for each month excluding any transmission and distribution losses.

Electricity produced by those who generate their own electricity (mainly for their own use but some of which may 'spill' onto the distribution network) is excluded as information about such 'micro generation' or consumption is not available to NIE Networks.

Taking into account that there are a growing number of micro generators of renewable electricity, the data presented in this bulletin therefore represents the minimum amount of renewable electricity generation in Northern Ireland.

It is also worth noting that some imported electricity that is consumed in Northern Ireland will have been generated from renewable sources outside Northern Ireland. However, the full extent of this is unknown and therefore cannot be reported separately.

Electricity consumption data is calculated by NIE Networks by aggregating actual and estimated meter readings across both domestic and non-domestic sectors in Northern Ireland. The NIE Networks electricity consumption data includes all electricity consumed in Northern Ireland across both domestic and non-domestic sectors regardless of where the electricity was generated (i.e. it will also include consumption of any imported electricity).

Rounding

Percentages have been rounded and, as a consequence, some percentages may not sum to 100.

Data Quality

Information provided by NIE Networks that is presented in this bulletin has been validated and quality assured by NIE Networks prior to provision to DfE.

Following receipt, DfE perform checks to verify that information is consistent both within and across returns. Trend analyses are used to monitor annual variations and emerging trends. Any queries arising from these checks are presented to NIE Networks for clarification and if required, returns may be amended and/or re-submitted. Monthly data received from NIE Networks may be subject to revision and any revisions will be incorporated into future publications.

Data contained within this publication are not National Statistics.

Main Uses of Data

Data contained in this release are published primarily to aid reporting on progress against the 2011-15 Programme for Government target which is to "Encourage achievement of 20% of electricity consumption from renewable sources by 2015" and the Executive's 2010-20 Strategic Energy Framework which includes a target to "achieve 40% of electricity consumption from renewable sources by 2020".

The data allow the Department, elected representatives and the general public to assess the current status and trends in renewable electricity generation in Northern Ireland. These data are useful to policy makers and provide the necessary information to assess the effectiveness of any programmes/policies in this area. Additionally, renewable electricity generation information is used to inform the media, special interest groups and academics, and by DfE to respond to Assembly questions and ad hoc queries from the public.

Feedback

As we want to engage with users of our statistics, we invite you to feedback your comments on this publication to:

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Renewable Electricity Generation

Headline Measure – Rolling 12 month average

For the 12 month period January 2016 to December 2016, 25.4% of total electricity consumption¹ in Northern Ireland was generated from renewable sources². This represents no change on the previous 12 month period (January 2015 to December 2015).

Figure 1: Rolling 12 month Average % Electricity Consumption from Renewable Sources

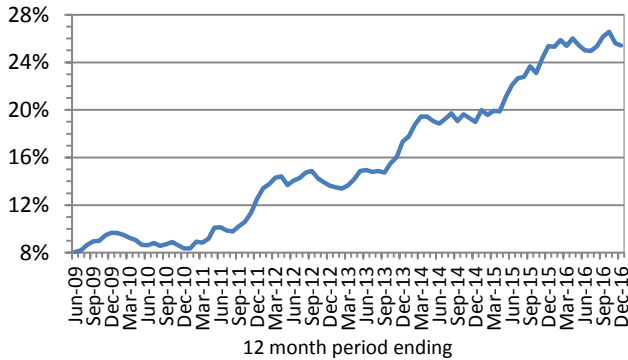


Figure 1 above shows the trend in the percentage of electricity consumption in Northern Ireland from renewable sources. In the 12 month period ending June 2009, some 8.1% of total electricity consumption in Northern Ireland was generated from renewable sources. This proportion has grown considerably with some 25.4% of total electricity consumption in Northern Ireland being generated from renewable sources for the 12 month period ending December 2016, a rise of around 203% in average renewable generation volumes in comparison to the 12 month period ending June 2009.

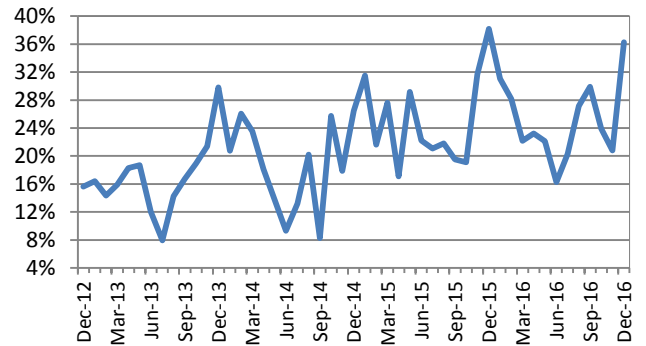
Headline Measure – monthly

In December 2016, 36.3% of total electricity consumption in Northern Ireland was generated from renewable sources (Figure 2). This is higher than the corresponding figure for the previous month (20.8% in November 2016) but lower than the corresponding figure for the same month one year ago (38.4% in December 2015).

¹ This is the total amount of electricity consumption in Northern Ireland as recorded via metered data by NIE Networks. Losses in transmission and distribution and any non-metered consumption are excluded.

² Electricity generated from renewable sources is for those renewable generators physically located within Northern Ireland and recorded by NIE Networks and SONI. It excludes micro-generation and any imported electricity derived from known or unknown renewable sources.

Figure 2: Percentage of Electricity Consumption from Renewable Sources by month (December 2012 – December 2016)

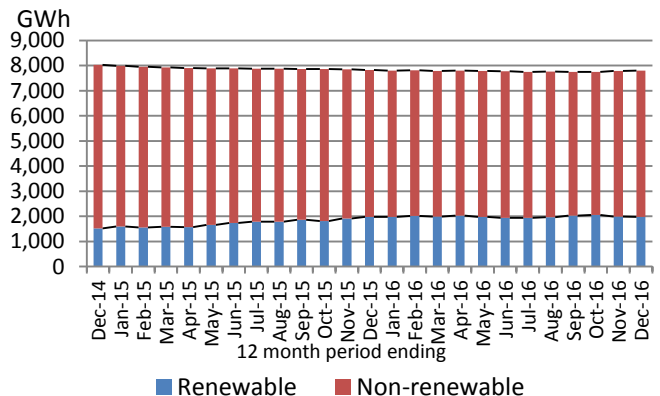


Renewable electricity generation varies markedly from month to month, as shown above. This variation is due to factors such as weather and also new renewable generation facilities coming on line at various points. The rolling 12 month average helps to take account of monthly variations to provide a better measure of the underlying trend.

Volume – Rolling 12 month period

For the 12 month period January 2016 to December 2016, approximately 7,794 Gigawatt hours (GWh) of total electricity was consumed in Northern Ireland. Of this, some 1,981 GWh was generated from renewable sources within Northern Ireland (Figure 3).

Figure 3: Rolling 12 month Volume of Electricity Consumed by Source (December 2014 – December 2016)



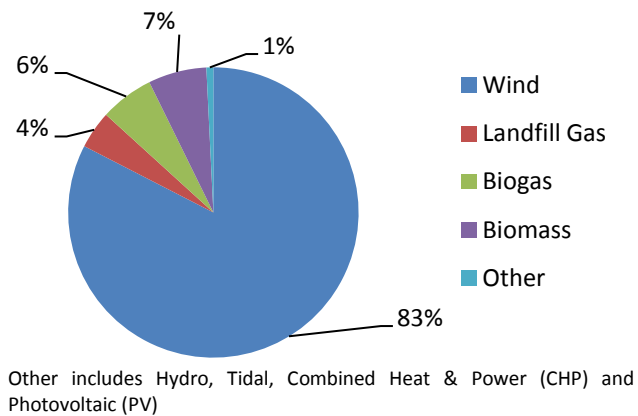
Volume – monthly

In December 2016, some 714 GWh of total electricity was consumed in Northern Ireland, of which 259 GWh was generated from renewable sources within Northern Ireland. This is higher than the corresponding figure for renewable electricity generated in the previous month (150 GWh in November 2016) but lower than the corresponding figure for the same month one year ago (270 GWh in December 2015).

Renewable Generation by Type of Generation

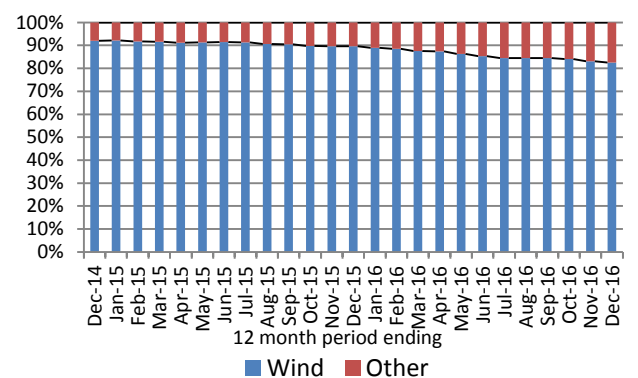
The vast majority of renewable electricity generated within Northern Ireland comes from Wind sources (82.6% over the 12 month period January 2016 to December 2016). A number of other renewable sources contribute to the overall total as shown in Figure 4 below.

Figure 4: Renewable Electricity Generation by Type of Generation (January 2016 to December 2016)



Whilst renewable electricity generated from wind continues to be the predominant source of such generation in Northern Ireland, there has been recent growth in the proportion from other (non-wind) sources as Figure 5 below shows.

Figure 5: Rolling 12 month Percentage of Renewable Electricity Generation by Type of Generation (December 2014 – December 2016)



The proportion of renewable electricity generated from sources other than wind was less than 10% for each rolling 12 month period up to September 2015 but has risen steadily since then and for the 12 month period ending December 2016, other sources accounted for 17.4% of all renewable electricity generated in Northern Ireland. This change is largely due to recent increases in renewable electricity generated from Biomass and Biogas.

Background Notes

Data sources

1. The source of the data contained in this release is monthly electricity distribution figures compiled by Northern Ireland Networks Ltd (NIE Networks). Of this data, part is supplied by the System Operator for Northern Ireland (SONI). The data is calculated by NIE Networks using monthly generation data (some of which is provided to NIE Networks by SONI) and monthly demand data (by aggregating actual and estimated NIE Networks meter readings across both domestic and non-domestic sectors).

Measuring consumption

2. Figures for consumption of electricity used in this bulletin are calculated by NIE Networks from data on actual and estimated meter readings. These figures represent the most accurate measure of electricity consumption available for Northern Ireland, and are the most appropriate data for measuring the stated targets within both the Programme for Government (2011-2015) and the 2010-20 Strategic Energy Framework.

Electricity generation and distribution in Northern Ireland

3. The electricity system consists of the following distinct businesses: generation, transmission, distribution and supply. Generation is provided by private sector companies who own the major power stations and by other generators, such as wind farms. Northern Ireland also has interconnectors between the Scottish and Republic of Ireland grids through which electricity can be imported and exported. Northern Ireland Networks Ltd (part of the ESB Group) owns the transmission and distribution network and operates the distribution network which transports electricity to over 860,000 customers. The transmission network is operated by the System Operator for Northern Ireland. Electricity suppliers buy energy and sell it to customers. Business and domestic consumers in Northern Ireland can choose between a number of private sector electricity suppliers to meet their individual electricity requirements.