

ELECTRICITY CONSUMPTION AND RENEWABLE GENERATION IN NORTHERN IRELAND: YEAR ENDING DECEMBER 2017

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.

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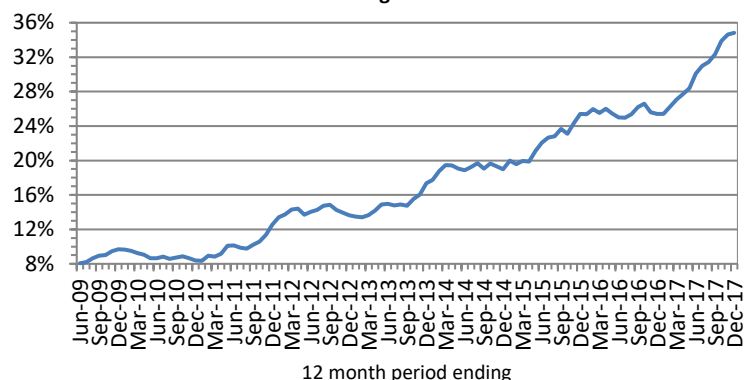
<https://www.economy-ni.gov.uk/articles/electricity-consumption-and-renewable-generation-statistics>

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Key Points

- For the 12 month period January 2017 to December 2017, 34.8% of total electricity consumption in Northern Ireland was generated from renewable sources located in Northern Ireland. This represents an increase of 9.4 percentage points on the previous 12 month period (January 2016 to December 2016) and is the highest rolling 12 month proportion on record.

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 2017 to December 2017, 84.3% was generated from wind.
- In December 2017, 38.1% 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 (28.8% in November 2017) and higher than the corresponding figure for the same month one year ago (36.3% in December 2016).

Reader Information

Purpose	Report on renewable electricity generation as a percentage of electricity consumption in Northern Ireland.
Authors	Sean Donnelly
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Statistical Quality	Information contained in this publication has been sourced from Northern Ireland Electricity 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.
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Technical Notes

This statistics release is the eighth 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 Electricity 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 'microgeneration' or consumption is not available to NIE Networks.

Taking into account that there are a growing number of microgenerators 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 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 2017 to December 2017, 34.8% of total electricity consumption¹ in Northern Ireland was generated from renewable sources². This represents an increase of 9.4 percentage points on the previous 12 month period (January 2016 to December 2016) and is the highest rolling 12 month proportion on record.

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

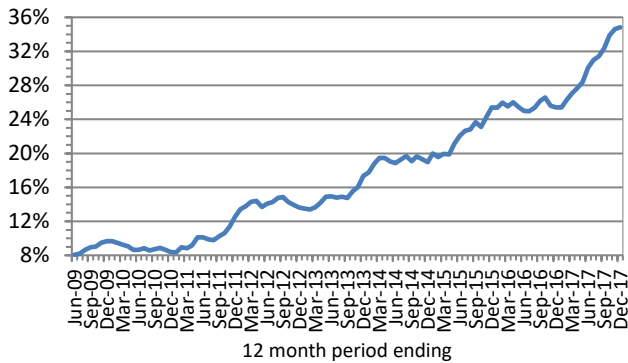


Figure 1 above shows the trend in the percentage of electricity consumption in Northern Ireland from renewable sources. In the 12 month period ending June 2009, some 8.1% of total electricity consumption in Northern Ireland was generated from renewable sources. This proportion has grown considerably with some 34.8% of total electricity consumption in Northern Ireland being generated from renewable sources for the 12 month period ending December 2017, a rise of around 314% in average renewable generation volumes in comparison to the 12 month period ending June 2009.

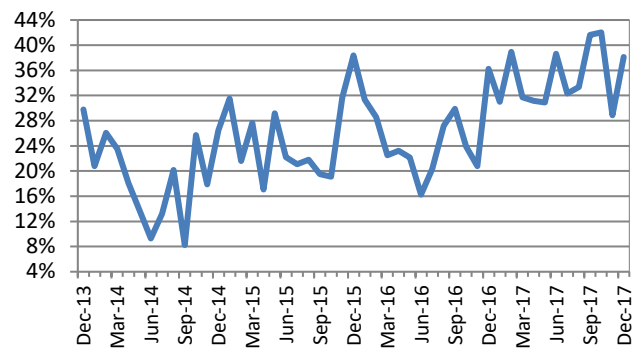
Headline Measure – monthly

In December 2017, 38.1% 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 (28.8% in November 2017) and higher than the corresponding figure for the same month one year ago (36.3% in December 2016) and is the sixth highest monthly proportion on record. In two months (September 2017 and October 2017) the proportion exceeded 40%.

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 2013 – December 2017)

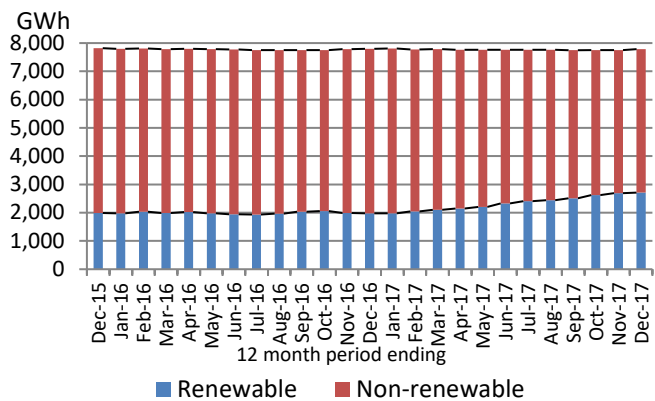


Renewable electricity generation varies markedly from month to month, as shown above. This variation is due to factors such as weather and also new renewable generation facilities coming on line at various points. The rolling 12 month average helps to take account of monthly variations to provide a better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

Volume – Rolling 12 month period

For the 12 month period January 2017 to December 2017, approximately 7,783 Gigawatt hours (GWh) of total electricity was consumed in Northern Ireland. Of this, some 2,710 GWh was generated from renewable sources within Northern Ireland (Figure 3).

Figure 3: Rolling 12 month Volume of Electricity Consumed by Source (December 2015 – December 2017)



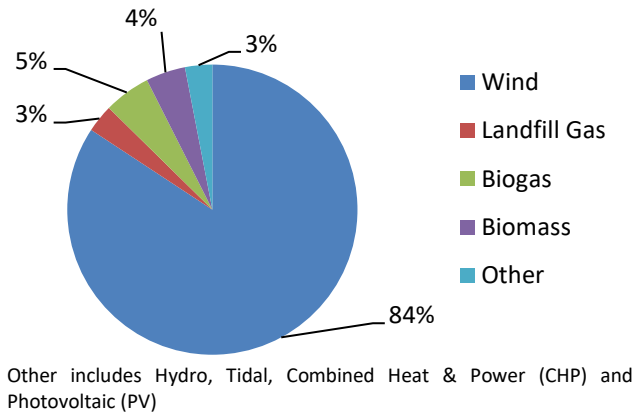
Volume – monthly

In December 2017, some 744 GWh of total electricity was consumed in Northern Ireland, of which 284 GWh was generated from renewable sources within Northern Ireland. This is higher than the corresponding figure for renewable electricity generated in the previous month (210 GWh in November 2017) and higher than the corresponding figure for the same month one year ago (259 GWh in December 2016) and is the highest monthly renewable electricity generated volume on record.

Renewable Generation by Type of Generation

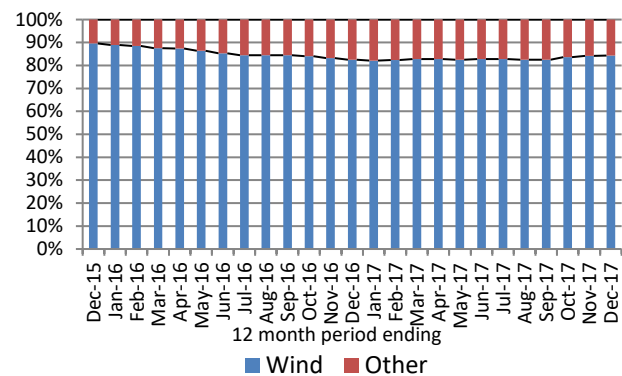
The vast majority of renewable electricity generated within Northern Ireland comes from Wind sources (84.3% over the 12 month period January 2017 to December 2017). A number of other renewable sources contribute to the overall total as shown in Figure 4 below.

Figure 4: Renewable Electricity Generation by Type of Generation (January 2017 to December 2017)



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 2015 – December 2017)



The proportion of renewable electricity generated from sources other than wind was around 10% for the rolling 12 month period ending December 2015; the proportion then rose steadily and stood at a high of 17.9% for the 12 month period ending January 2017. The proportion has fallen slightly since then and, for the 12 month period ending December 2017, stood at 15.7%. In particular, there have been significant increases in renewable electricity generated from Biomass, Biogas and Solar PV over the last 2 years.

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.

Microgeneration

4. It is possible to estimate the extent of microgeneration of electricity in Northern Ireland using information from Ofgem's Renewable Obligation Certificate (ROC) register (publicly available reports can be found at <https://www.renewablesandchp.ofgem.gov.uk/Default.aspx>). The most recent 12 month period for which microgeneration data is available is for April 2016 to March 2017 and during that period an estimated 137.9 GWh of electricity was produced by microgenerators in Northern Ireland³. Over the same period, renewable electricity generation as sourced from NIE and SONI was 2,106.5 GWh. Therefore, for the 12 month period April 2016 to March 2017, microgeneration as sourced from the ROC register would add around 6.5% to the renewable generation total as sourced from NIE and SONI.

³ Microgeneration is defined here as all those generators with a Declared Net Capacity (DNC) of 50kW or less.
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