

# Update of Low Carbon Energy Survey

Including an ownership category in the existing Welsh low carbon energy installations database



# Welsh Survey: Ownership categorisation update

## 1. Summary

Regen SW was commissioned to answer the question: what proportion of projects in the Welsh Government's low carbon energy database are community and locally owned?

The definition for 'community and locally owned' covers the installed capacity of renewable energy projects owned by communities, local authorities, housing associations, other public sector bodies, charities (including faith organisations), further education establishments, local businesses and Welsh farms and estates. This definition is comparable to the Energy Saving Trust's report on community and locally owned renewable energy in Scotland .

The objective of this update is to monitor the progress of community and locally owned renewable energy projects in Wales. Our method has involved a bottom up approach to research the projects, reliant on the information from national datasets in the database, complemented by online checks of individual projects.

The key findings of this update show that up to December 2014:

- 171 MW of community and locally owned renewable energy capacity had been installed across Wales. This makes up 6% of the total capacity for all projects listed in the low carbon energy database (including the contribution from nuclear generation).
- There are 7,201 confirmed active projects that make up the total community and locally owned capacity; this is 14% of all the active projects listed in the low carbon energy database.

## 2. Project outline

Regen SW was commissioned to add an ownership category to the existing low carbon energy installations database in Wales. The objective of the work was to:

- Provide a breakdown of the Welsh low carbon project database by ownership category to give comparable figures to the Scottish report<sup>1</sup>.
- Provide as robust evidence as possible to justify this figure for use by the Welsh Government.

Regen previously delivered the databases of low carbon energy installations for the Welsh Government in 2013 and 2015.

We have added a column on the existing spreadsheet that sets out ownership type in the following categories:

- Community
- Local authorities
- Housing Associations
- Farms and Estates
- Local Welsh businesses
- Other public sector and charity

Determining ownership of the projects has been done through a range of techniques detailed below:

- Reclassifying existing data categories in line with the new categories
- Manually gathering ownership information for identifiable schemes
- Setting out, testing and applying assumptions where gaps in the data cannot be filled

We have also provided total figures for each category type. The totals include projects whose ownership type we have evidence for, as well as some estimates of the proportion of projects that

are owned by local Welsh businesses, based on assumptions about the percentage of businesses that are Welsh.

### 3. Detailed methodology for each category

#### 3.1 Community

There were 73 community projects listed in the original dataset, which we assigned to the new Community category. We also checked the Community Energy Wales and Renew Wales project listings, available online, as well as undertaking more general online research, to ensure we had not missed any large community energy projects.

Several community energy projects have gone live in 2015; however, these projects are not currently included in the database as delivered to the Welsh Government, as we are not updating any projects beyond the previous cut off commission date of December 2014. For completeness, details of the community projects we are aware of that went live in 2015/16 are listed below:

- Dyffryn Cwannon Green Energy CIC Hydro, March 2015, 18kW
- Llangattock Green Valleys, two hydro sites Cwm Gu Hydro, March 2015, 29.9kW and Nant yr Hafod Hydro, October 2015, 13.4kW
- Abergwaun Community Turbine (Transition Bro Gwaun), August 2015, 225kW
- Egni Wales Solar PV Co-op, 2015, 119kW of solar PV on 5 community buildings
- Narberth Energy, Biomass boiler 200kW and Solar PV 50kW, 2015
- Ynni Anafon Energy Hydro, December 2015, 270kW
- Carmarthenshire Energy, Salem Turbine, April 2016, 500kW

#### 3.2 Local Authorities

In the original dataset, some projects had the owner organisation listed as the relevant council; we have listed these under the ownership category “local authority”.

#### 3.3 Housing Associations

The original dataset had some projects listed with the category “social housing”. We have re-categorised these projects into housing associations and local authorities, depending on whether the social housing provider is a local authority or housing association. There were 31 housing associations in the original data that had projects listed under domestic (assumed), we have reclassified these to the “housing association” category.

#### 3.4 Farms and Estates

The original dataset had data about Renewable Heat Incentive recipients that included a SIC code for the type of commercial activity. This allowed us to filter for projects listed under the SIC code, 01: crop & animal production & related activities, to identify RHI projects owned by operating farmers. These projects have been re-categorised under “farms and estates”.

We also manually searched the original database using keywords (farm, estate, chicken sheds, milking sheds, dairy buildings etc.). When projects were identified with a keyword in their address or description, we then checked if the project was owned by a working farm by searching online, either for an organisation website or within online company directories such as Farming UK, Wales Online and Yalwa. Each listing was cross checked with address information and owner names to identify the correct ownership type. In addition there were 10 anaerobic digestion projects, each was researched online to identify ownership type. These were predominantly owned by farms and estates, with 3 commercial plants.

### 3.5 Local Welsh Businesses

To confirm whether a commercial or industrial project could be listed as locally owned we completed a search of organisation names using Companies House. This identified whether the registered office of the organisation was based in Wales. For smaller commercial projects such as caravan sites, holiday accommodation and pubs, we looked on the relevant company's website to identify whether they were owned locally or operated by national companies. In addition 953 projects from the Renewable Heat Incentive (RHI) data had SIC codes included, this helped to categorise the ownership type for these projects. The categorisation is shown in Table 1 below:

Commercial		Industrial	Other Public Sector (community classification)
02: Forestry and logging	68: Real estate activities	10: Manufacture of food products	84: Public administration and defence; compulsory social security
18: Printing and reproduction of recorded media	72: Scientific research and development	11: Manufacture of beverages	85: Education
33: Repair and installation of machinery and equipment	74: Other professional, scientific and technical activities	15: Manufacture of leather and related products	86: Human health activities
38: Waste collection, treatment and disposal activities; materials recovery	77: Rental and leasing activities	16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	88: Social work activities without accommodation
41: Construction of buildings	81: Services to buildings and landscape activities	23: Manufacture of other non-metallic mineral products	91: Libraries, archives, museums and other cultural activities
42: Civil engineering	82: Office administrative, office support and other business support activities	25: Manufacture of fabricated metal products, except machinery and equipment	
43: Specialized construction activities	87: Residential care activities	28: Manufacture of machinery and equipment n.e.c.	
45: Wholesale and retail trade and repair of motor vehicles and motorcycles	90: Creative, arts and entertainment activities	29: Manufacture of motor vehicles, trailers and semi-trailers	
46: Wholesale trade, except of motor vehicles and motorcycles	93: Sports activities and amusement and recreation activities	30: Manufacture of other transport equipment	
47: Retail trade, except of motor vehicles and motorcycles	94: Activities of membership organizations	31: Manufacture of furniture	
50: Water transport	96: Other personal service activities	32: Other manufacturing	
52: Warehousing and support activities for transportation	97: Activities of households as employers of domestic personnel		
55: Accommodation	98: Undifferentiated goods- and services-producing activities of private households for own use		
56: Food and beverage service activities			

### Table 1: Categorisation of SIC codes by ownership type

We also completed research into 19 commercial and industrial projects which each had a capacity over 1MW, but had no clear local or non-local ownership details in the current database. Through online research and calls to developers or asset owners we identified two additional locally owned projects, contributing 3 MW of capacity. A further 15 projects with a capacity of 108.6MW were confirmed as non-local commercial and industrial.

There are an additional 1,133 commercial and industrial projects without sufficient project details to identify an ownership category. These projects have a total capacity of 147.6 MW; a proportion of this capacity is likely to be owned by local businesses.

### 3.6 Other public sector and charities

This category includes:

- Charities, including faith organisations
- Public bodies or publically owned companies such as the Welsh Development Agency and publically funded cultural sites e.g. Big Pit Museum
- Schools
- Further and higher education establishments
- Any hospitals, health buildings

We used information listed under the project name, address or owner information to identify projects in this category and to reclassify them as “Other public sector and charities”.

### 3.7 Additional data checks

Further online searches have been completed to identify the ownership of some projects and simplify the previous categorisation of others, this includes:

- 8 projects previously listed under Tourism, researched online were predominantly commercial (local)
- 21 projects with address details but without an ownership category in the original database, researched online to establish an ownership category.

Due to the number of projects listed as domestic and domestic (assumed), we used the project name, address and owner organisation to identify any projects which should be listed under another ownership category. This found predominantly commercial, commercial (local) and farm projects. Within this search, several projects were found where the only benefit to the farmer is a land rental payment from the owner or developer of the installation (e.g. INRG Solar); therefore such projects were listed under commercial ownership.

Finally, it is important to highlight that 1,202 projects from the original database did not have sufficient information to identify an ownership type, as they had no ownership or address details related to them. These were projects identified from the MCS dataset in the original survey process. The total capacity of these uncategorised projects is 25MW. These projects have therefore been excluded from this analysis in this study as their status could not be ascertained. (See section ‘Potential for locally owned projects that may have been missed’).

## 4. Findings

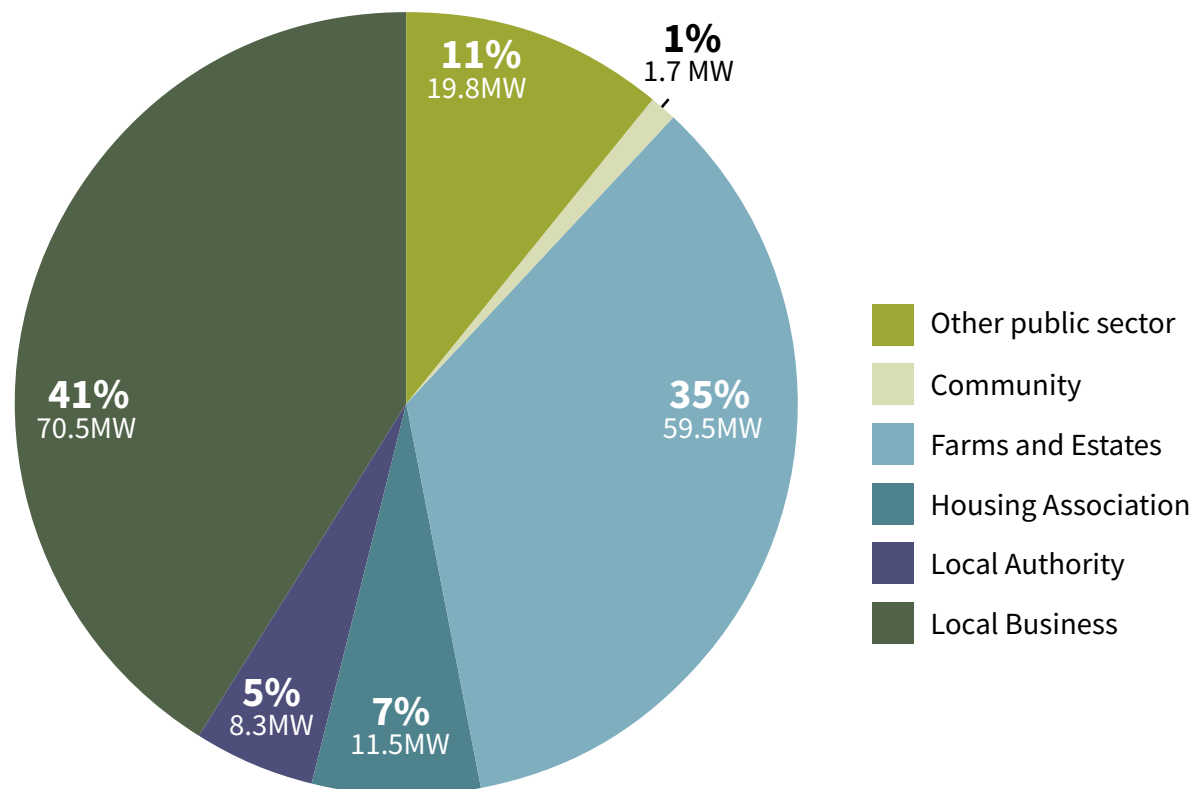
### 4.1 Figures for locally owned projects

The total capacity for community and locally owned renewable energy projects in Wales as of December 2014 is 171 MW. This capacity makes up 6% of the total capacity for all projects listed in the database. There are 7,201 confirmed active projects which make up the total community and locally owned capacity; this is 14% of all the active projects listed in the low carbon energy database.

Table 2: Breakdown of community and locally owned capacity by ownership type, known figures

Ownership Category	Total Capacity (MW)	Capacity (MWe)	Capacity (MWth)	Number of Projects	Estimated Generation (MWh) <sup>2</sup>
<b>Community</b>	1.7	1.4	0.3	104	3,100
<b>Farms and Estates</b>	59.5	9.0	50.5	476	177,681
<b>Housing Association</b>	11.5	7.0	4.5	5,653	10,398
<b>Local Authority</b>	8.3	5.1	3.2	296	28,882
<b>Local Business</b>	70.5	57.3	13.2	296	153,748
<b>Other public sector and charity</b>	19.8	5.7	14.1	376	51,463
<b>Total</b>	171.3	85.5	85.8	7,201	425,272

Figure 1: Capacity of community and locally owned, by ownership type





Although the total number of projects was quite high for Housing Associations at 5,653 projects, the aggregated capacity remains relatively small at 11.5 MW. The majority of these installations were for heat pumps and solar PV at a domestic scale. Community ownership remains comparatively low at 1.7MW. This figure is made up of 104 community installations, including the 0.5MW Bro Dyfi community wind turbine.

### 4.3 Breakdown of all ownership types

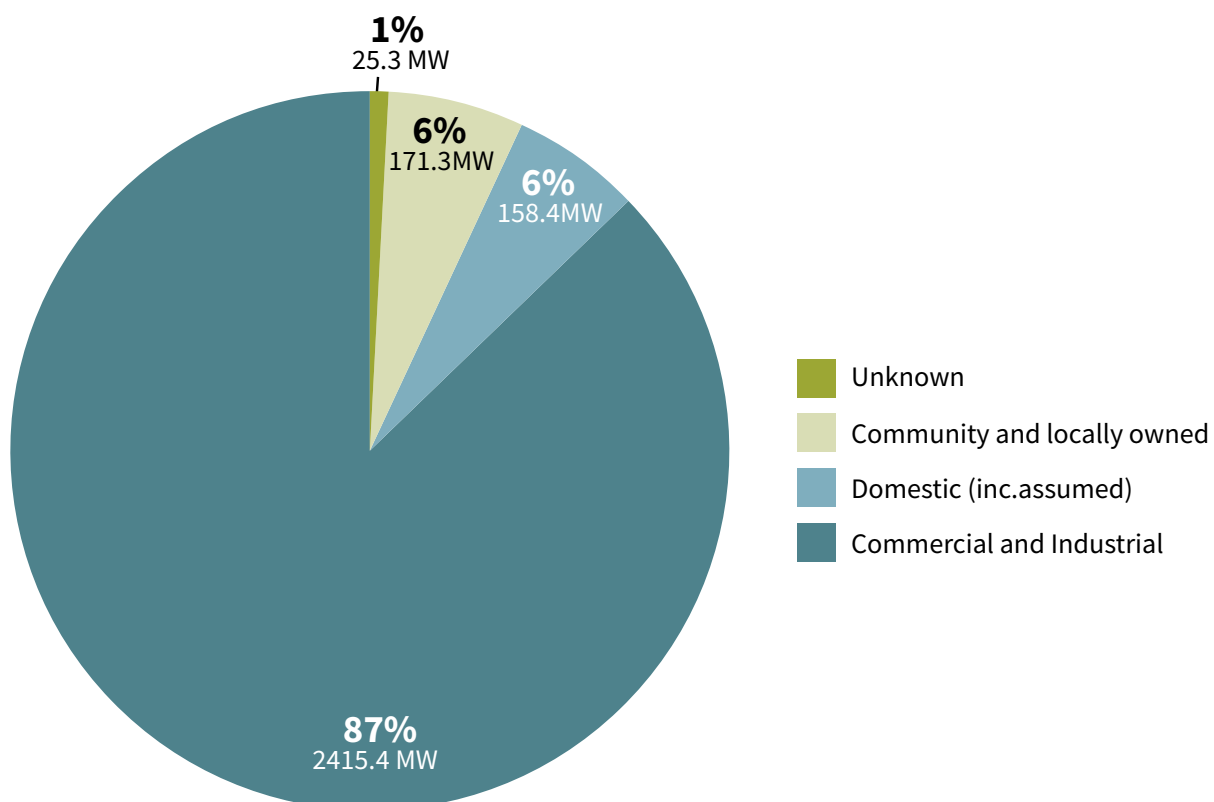
Table 3 and Figure 2 show the breakdown by ownership type of all the active renewable energy projects in Wales. The majority of active renewable energy projects in Wales fall under domestic ownership: 40,754 projects contributing 158 MW.

Larger capacity projects remain under commercial (non-local) ownership, such as the offshore wind farm at Gwynt y Mor and the larger commercial solar farms. Confirmed commercial and industrial non-local ownership equates to 1,013 active projects, with a total capacity of 2,268 MW.

Table 3: Breakdown of total capacity, projects and generation including assumed figures

Ownership Category	Total Capacity (MW)	Number of Projects	Estimated Generation (MWh)
<b>Community and locally owned</b>	171.3	7,201	425,271.9
<b>Domestic (including assumed)</b>	158.4	40,754	188,267.3
<b>Commercial and Industrial</b>	2,415.4	2,146	7,792,233.4
Confirmed commercial and industrial	2,267.8	1,013	7,394,770.6
Unknown commercial and industrial	147.62	1,133	397,462.8
<b>Unknown</b>	25.3	1,202	67,739.2
<b>Total</b>	2,770.4	51,303	8,383,511.8

Figure 2: Capacity of all active projects in Wales by ownership type, as of December 2014



#### 4.4 Potential for locally owned projects that may have been missed

The figure for locally owned commercial and industrial is 70.5 MW, 3% of the total capacity from commercial and industrial projects. There are an additional 1,133 commercial and industrial projects without sufficient project details to categorise within local or non-local ownership. Of the 147.6 MW these unknown commercial and industrial projects contribute, a proportion will be owned by local businesses.

As mentioned in the report there are a further 1,202 MCS projects, totalling 25MW, with no ownership information, some of these projects are likely to be locally or community owned.

The majority of projects were listed under domestic (assumed) in the original database for usage type. We have manually researched the 28,514 domestic (assumed) projects, but this has been a very time consuming task and only those with a clearly identifiable project name or owner organisation have been checked. Some of these projects could be locally or community owned.

To improve the accuracy of the figures, we would recommend completing an update of the database to include projects commissioned since December 2014.