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Farming Statistics

Diversification and Renewable Energy Production on Farms in England 2010

This release replaces that published on 26 January 2012 and shows estimates of farm diversification and renewable energy production in 2010. The release has been updated to provide a comparison of 2007 and 2010 farm diversification activities. There have been no revisions to previously published data.

These results were collected as part of the EU Farm Structure Survey (regulation EC 1166/2008) via the June Census of Agriculture and Horticulture 2010. This release shows farm diversification and renewable energy production results broken down by farm type, size, region and age of holder. An accompanying workbook can be found at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

The key results are given below.

Diversification ([Tables 1 - 8](#))

In 2010 there were approximately 25 thousand holdings carrying out diversified activity. This equates to 24% of the total population of commercial holdings, a decrease from 28% in 2007.

Almost 30% of farmers between the ages of 25 and 54 had some form of diversified activity on their holdings. Lower proportions were seen in farmers aged 16 to 24 and 55 and over. Farm size does not have much impact on uptake of diversification with the exception of very small farms, which have lower levels of diversified activities than other sizes.

Almost half of all holdings with diversified activity are involved in agricultural contracting or haulage and a third are running some kind of tourism activity on the holding.

Renewable energy production ([Tables 9 - 13](#))

Almost 5% of commercial holdings were producing renewable energy on the farm in 2010. Of those holdings producing renewable energy the most popular sources of energy were biomasses, such as slurries, food and plant waste for anaerobic digestion to produce biogas, and willow, wood wastes and crops for biodiesel.

Of the 5 thousand holdings producing energy from renewable sources, approximately 92% were using the energy produced for the household and very few were selling the energy to the market.

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Survey methodology

Farm diversification and renewable energy production results presented in this release were collected as part of the EU Farm Structure Survey (regulation EC 1166/2008) via the June Census of Agriculture and Horticulture 2010. The survey form asked farmers to provide figures relating to the period July 2009 to June 2010. In this release, these results are presented as 2010.

The June Census 2010 was a postal survey though farmers were given the option to complete the survey online via the Defra Whole Farm Approach website. In 2010, we received around 10% of responses via this route.

The survey questionnaire was sent to all 127 thousand holdings above a threshold which defines 'commercial' levels of farming activity. We received responses from 73% of the agricultural population and estimates were made for the remainder. Around 20 thousand of the responding farms were subsequently removed from the farm register as they either had very small levels of farming activity or had ceased farming altogether. Commercial holdings are defined as those with significant levels of farming activity, i.e. holdings with more than five hectares of agricultural land, one hectare of orchards, 0.5 hectares of vegetables or 0.1 hectares of protected crops, or more than 10 cows, 50 pigs, 20 sheep, 20 goats or 1,000 poultry.

To maximise response rate, we sent out two sets of reminder postcards at fortnightly intervals following survey day (1 June) and a third reminder targeted at particularly important non-responding holdings (with either previous high levels of activity or from specialist sectors such as horticulture where a small number of non-responses can cause greater unreliability in the results).

Data analysis, accuracy and reliability

The response data were subject to validation checks to identify any inconsistencies within the data. Estimates were made for all non-respondents based on either their past survey return from 2007 or current trends. This meant that we had data for every commercial holding within the agricultural population and so results were easily derived.

There is a small degree of uncertainty in the results due to estimates being made for those who did not respond to the survey. However, we received responses from 93 thousand commercial holdings (a response rate of 73%) and so we are confident that the results presented in this release are representative of the whole agricultural population.

Definitions

Farm size bands

The farm size bands used within the detailed results tables are shown in the table below. Standard Labour Requirement (SLR) is defined as the theoretical number of workers required each year to run a holding based on its cropping and livestock activities. Further details on SLRs can be found in the June Survey methodology document available via the detailed guides section at:

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>. This document also contains details of the farm type classifications used in this publication.

Farm size	Definition
Very small	<1 SLR
Small	>=1 and <2 SLR
Medium	>=2 and <3 SLR
Large	>=3 and <5 SLR
Very large	>=5 SLR

Farm diversification

The EU defines farm diversification as all activities other than farm work that have an economic impact on the holding. These activities must make use of the farm's resources (such as the land, buildings or machinery) or products. If only the farm's labour force and no other resources are used for the activity then this is not classed as being a diversified activity. Agricultural work for other holdings is included. Exclusions are: pure financial investments, commercial activity on the holding which is not linked to any agricultural or horticultural activity (e.g. a hairdresser or insurance company), renting out the land for diverse activities where there is no further involvement in these activities, and letting out of buildings.

The definitions of the different types of diversification are given below.

- Contracting and haulage includes any agricultural contracting, haulage and clearing snow.
- Tourism includes accommodation and sport/leisure activities.
- Environment includes aquaculture and forestry.
- Processing and food manufacture includes animal or arable products (e.g. cheese-making), handicraft and wood processing.

Data uses

The European Commission and Eurostat use the diversification data from the Farm Structure Survey, alongside estimates of on-farm/off-farm income of farm households to give an indication of the reliance of farmers on traditional agricultural activities compared to alternative income routes. Comparisons can be made across EU Member States and the data is widely used in EU analyses and reports, two examples of which are provided below:

Study on Employment, Growth and Innovation in Rural Areas (SEGIRA)

http://ec.europa.eu/agriculture/analysis/external/employment/fulltext_en.pdf

Analytical note on 'Other gainful activities: pluriactivity and farm diversification in EU-27'

http://ec.europa.eu/agriculture/analysis/markets/gainful/text_en.pdf

This is the first time that data on renewable energy production on farms have been collected and may be of interest to the wider public. It will help us establish whether farmers are using alternative technologies, such as solar or wind power, for renewable energy production either for their own use or to sell to the energy market.

Other survey results and next publications due

An accompanying workbook to this release is available at:

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

As well as the results presented in this release, this workbook shows some extra breakdowns of the different types of diversified activities and renewable energy production.

Data on farm diversification and renewable energy production are collected roughly every three years as part of the EU Farm Structure Survey. The next survey will run in 2013 and results published accordingly.

Up until 2010 data on farm diversification were collected in the annual Farm Business Survey (FBS). Results can be found in the farm accounts publications at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey#publications>. See the National Archive link for reports published prior to 2013. Differences between the survey coverage and definitions of diversification make comparison between the standard FBS and the Structure Survey results difficult.

Results from all the Defra farming surveys can be viewed on the Defra website at: <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics>.

Detailed results

1. Farm diversification

The EU defines farm diversification as all activities other than farm work that have an economic impact on the holding. These activities must make use of the farm's resources (such as the land, buildings or machinery) or products. If only the farm's labour force and no other resources are used for the activity then this is not classed as being a diversified activity. Agricultural work for other holdings is included. Exclusions are: pure financial investments, commercial activity on the holding which is not linked to any agricultural or horticultural activity (e.g. a hairdresser or insurance company), renting out the land for diverse activities where there is no further involvement in these activities, and letting out of buildings.

Key findings

- In 2010 almost one quarter of farmers ran commercial diversified activities on their holdings.
- Roughly one third of cereal and mixed farms had diversified activities, the highest proportion amongst the farm types.
- The most popular diversified activity was contracting and haulage with almost half of diversifying holdings running this activity.

As table 1 shows, almost 25 thousand farms in England ran some form of diversified activity in 2010. This equates to 24% of all commercial holdings, a decrease from 28% in 2007.

Table 1: Number and percentage of farms with diversified activities: 2007 & 2010

	% of holdings with diversified activities	No. of holdings with diversified activities	Total number of holdings
2007	28	37 500	135 000
2010	24	24 892	105 449

Up until 2010 data on farm diversification were collected in the Farm Business Survey (FBS). These results are shown as a time series in table 2 to provide some context. The FBS only includes farms at least ½ Standard Labour Requirement (SLR) in size, a size considered sufficient to occupy a farmer half-time. This means that the population size for 2010 was just over 56 thousand. In comparison, the EU Farm Structure Survey includes all holdings considered to be commercial and the population size in 2010 was approximately 105 thousand. Despite the different population sizes, the proportion of farms running diversified activities is broadly comparable and the decrease seen between 2007 and 2010 is very similar. Results from the FBS are available in the farm accounts publications at

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey#publications>. See the National Archive link for reports published prior to 2013.

Table 2: Proportion of holdings with diversified activities: 2006 - 2010

Data source	% of holdings				
	2006	2007	2008	2009	2010
Farm Business Survey ^(a)	27	28	28	26	25
Farm Structure Survey	nc	28	nc	nc	24

nc: data not collected

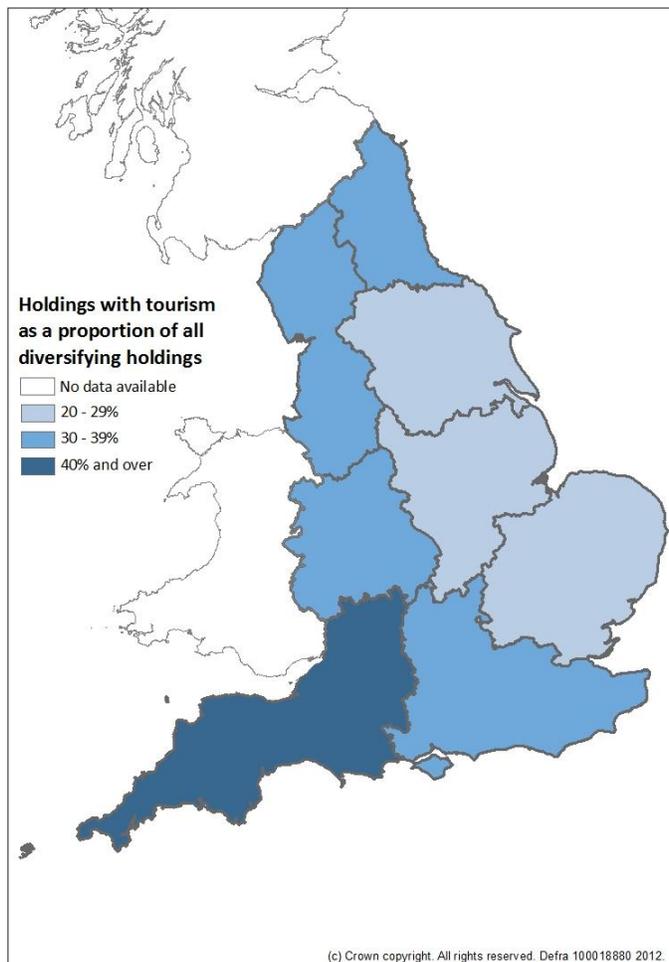
(a) Excludes letting out of buildings to generate results with a consistent definition to the Structure Survey.

Table 3: Number and percentage of farms with diversified activities by region: 2010

Region	% of holdings	No. of holdings
North East	25	1 055
North West	19	2 355
Yorkshire and the Humber	22	2 718
East Midlands	23	2 691
West Midlands	21	2 942
East of England	27	3 295
South East and London	27	3 630
South West	24	6 206
England	24	24 892

Approximately 27% of farms in the East of England and South East regions were carrying out diversified activities in 2010, the highest proportion amongst the regions. The most popular type of diversification activity in each of these regions was agricultural contracting and haulage. More figures on types of diversification activity are shown in tables 7 and 8 and an accompanying workbook with further breakdowns is available on our website at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

Figure 1: Holdings with tourism as a proportion of all diversifying holdings by English region: 2010



Tourism includes accommodation and sport and leisure activities. Figure 1 shows that the highest proportion of holdings running tourism as a diversified activity is in the South West region. The lowest proportions are in Yorkshire and the Humber, East Midlands and the East of England where there are large numbers of arable farms. These regions have a much higher proportion of diversifying holdings with contracting and haulage activities than the other regions. All figures are available in the accompanying workbook on the website.

Table 4: Number and percentage of farms with diversified activities by farm type: 2010

Type of farm	% of holdings	No. of holdings
Cereals	32	4 947
General cropping	22	3 779
Horticulture	23	1 056
Specialist pigs	20	333
Specialist poultry	19	412
Dairy	19	1 430
Cattle and sheep (upland)	19	2 442
Cattle and sheep (lowland)	22	7 429
Mixed	34	2 836
Unclassified	14	228
All farms	24	24 892

Figure 2 shows that the highest proportion of farms running diversified activities in 2010 are the mixed and cereal farms. Given that the majority of cereal farms are located in the East of England, it follows that this was the region with the most diversification along with the South East.

With the exception of ‘unclassified’ farms the remaining farm types have fairly similar proportions carrying out diversification activities. The worry of animal health risks may partially explain why the specialist livestock holdings have lower levels of diversified activity.

Figure 2: Percentage of holdings with diversified activities by farm type: 2010

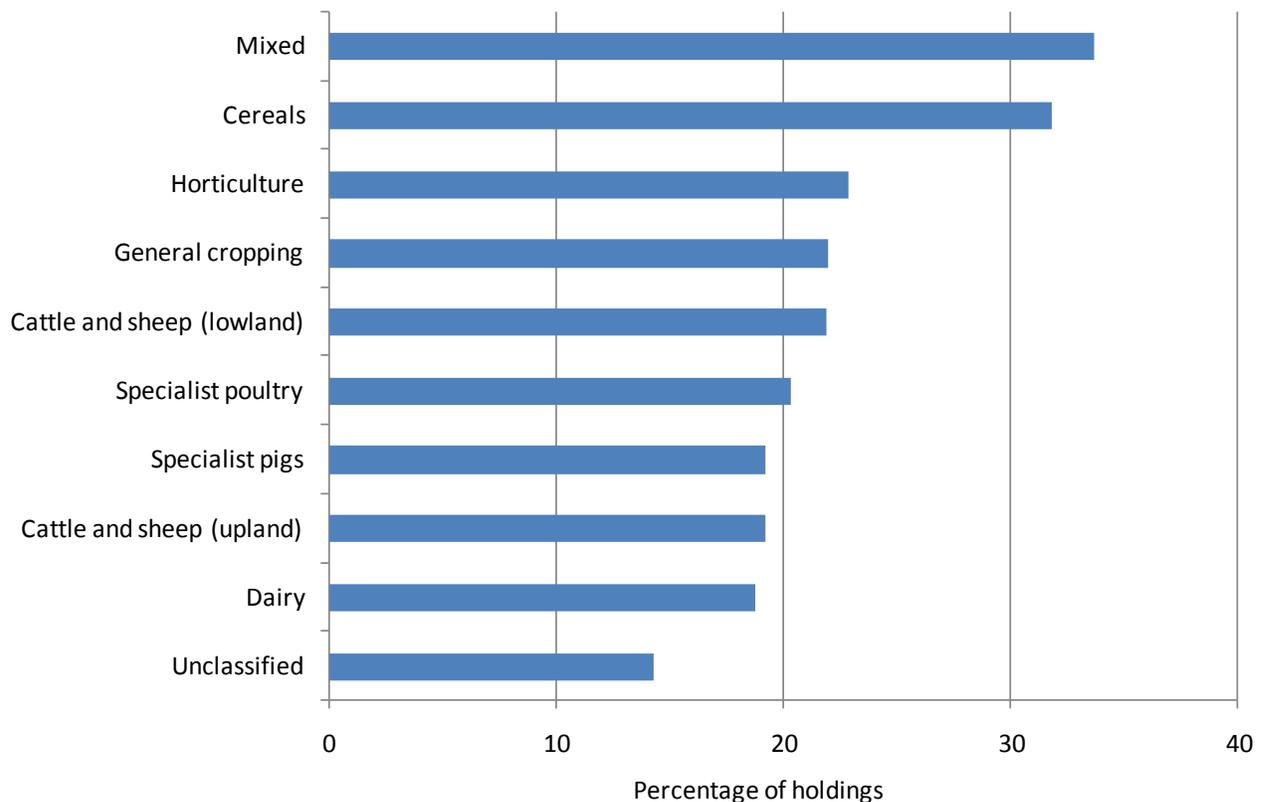


Table 5: Number and percentage of farms with diversified activities by farm size: 2010

Farm size	% of holdings	No. of holdings
Very small	20	13 187
Small	30	4 810
Medium	30	2 550
Large	27	2 222
Very large	27	2 123
All farms	24	24 892

Only 20% of farms classed as very small had diversified activities in 2010, as table 5 shows. This is expected since these very small farms have fewer resources available to carry out these activities. The proportions across other farm sizes are similar.

Table 6: Number and percentage of farms with diversified activities by age of holder: 2010

Age of holder	% of holdings	No. of holdings
16 to 24	16	44
25 to 34	28	557
35 to 44	29	3 072
45 to 54	28	6 995
55 to 64	24	7 275
65 and over	17	5 745
No holder (e.g. limited companies)	25	1 204
All holders	24	24 892

The proportions of farmers running diversified activities are much smaller amongst the youngest and eldest farmers with fewer than two in ten of these farmers diversifying. Almost 30% of farmers between the ages of 25 and 54 had some form of diversified activity on their holdings.

Table 7: Number and percentage of farms with different types of diversified activities: 2007 and 2010 ^(a)

Diversified activity	2007		2010	
	% of all holdings	No. of holdings	% of all holdings	No. of holdings
Contracting and haulage	14	18 993	11	11 577
Tourism including equestrian activities *	15	20 256	-	-
Tourism excluding equestrian activities *	10	13 020	8	8 111
Environment	-	-	2	1 716
- <i>Of which aquaculture</i>	0	245	0	247
- <i>Of which forestry</i>	-	-	1	1 513
Processing and food manufacture	3	3 927	2	2 259
Commercial energy production for the market	0	473	0	396
Any other diversified activity not listed above	-	-	6	6 486

(a) Percentages are based on the whole population of farms, not just those with diversification activities.

Table 8: Of those holdings diversifying, number and percentage of farms by type of activity: 2010 ^{(a) (b)}

Diversified activity	2007		2010	
	% of diversifying holdings	No. of holdings	% of diversifying holdings	No. of holdings
Contracting and haulage	51	18 993	47	11 577
Tourism including equestrian activities *	54	20 256	-	-
Tourism excluding equestrian activities *	35	13 020	33	8 111
Environment	-	-	7	1 716
- <i>Of which aquaculture</i>	1	245	1	247
- <i>Of which forestry</i>	-	-	6	1 513
Processing and food manufacture	10	3 927	9	2 259
Commercial energy production for the market	1	473	2	396
Any other diversified activity not listed above	-	-	26	6 486

(a) Percentages are based on the total number of holdings with diversified activities.

(b) Numbers will not sum to the total number of farms diversifying because farms can have more than one type of activity.

The percentages in tables 7 and 8 show the different types of diversified activities being run on the farms in 2007 and 2010. Almost half of those holdings with diversification were running contracting and haulage activities and a third had some sort of tourism activities such as accommodation, sports and leisure. In 2010 just under 400 holdings were producing energy which is then sold to the market. However in total more than 5 thousand holdings were producing energy from renewable sources with the vast majority being used for the household. Section 2 looks at renewable energy production on holdings in more detail.

*** Note about tourism**

Tourism includes accommodation, sport and leisure activities. The 2007 and 2010 survey questions were different for the 'tourism' categories. The 2010 form collected the tourism data as just one item whereas the 2007 form listed several different activities under tourism. As a result we believe the 2007 tourism figure included activities that may not have been considered as 'tourism' in 2010.

In particular, one of the listed tourism activities on the 2007 form was equestrianism. We believe that excluding farms with **solely** equestrianism activities from the 2007 tourism result is the most comparable figure to 2010.

2. Renewable energy production

This section looks at holdings that are using renewable sources such as solar, wind or water to produce energy either for use in the home or for sale to the market.

Key findings

- In 2010 just under 5% of farms in England used renewable sources to produce energy.
- The largest proportions of holdings producing renewable energy were in the South East and South West regions.
- The large majority (92%) of this renewable energy was produced solely for household use.
- Biomass is the most popular source used for producing renewable energy.

Over 5 thousand holdings in England used renewable sources to produce energy in 2010, equating to 5% of the population. This energy is used predominantly within the household, although a small proportion of holdings sell some of the energy produced to the market.

Table 9: Number and percentage of farms producing renewable energy by region: 2010

Region	% of holdings	No. of holdings
North East	4.7	197
North West	3.1	381
Yorkshire and the Humber	4.2	512
East Midlands	3.9	466
West Midlands	4.7	641
East of England	4.7	580
South East and London	5.7	778
South West	5.9	1 499
England	4.8	5 054

As table 9 and figure 3 show, the highest proportions of renewable energy production on farms were in the South East and South West regions where the percentages of holdings generating solar power were the highest amongst all regions. The lowest proportion was in the North West with just 3% of holdings producing renewable energy.

Figure 3: Percentage of farms producing renewable energy by region: 2010

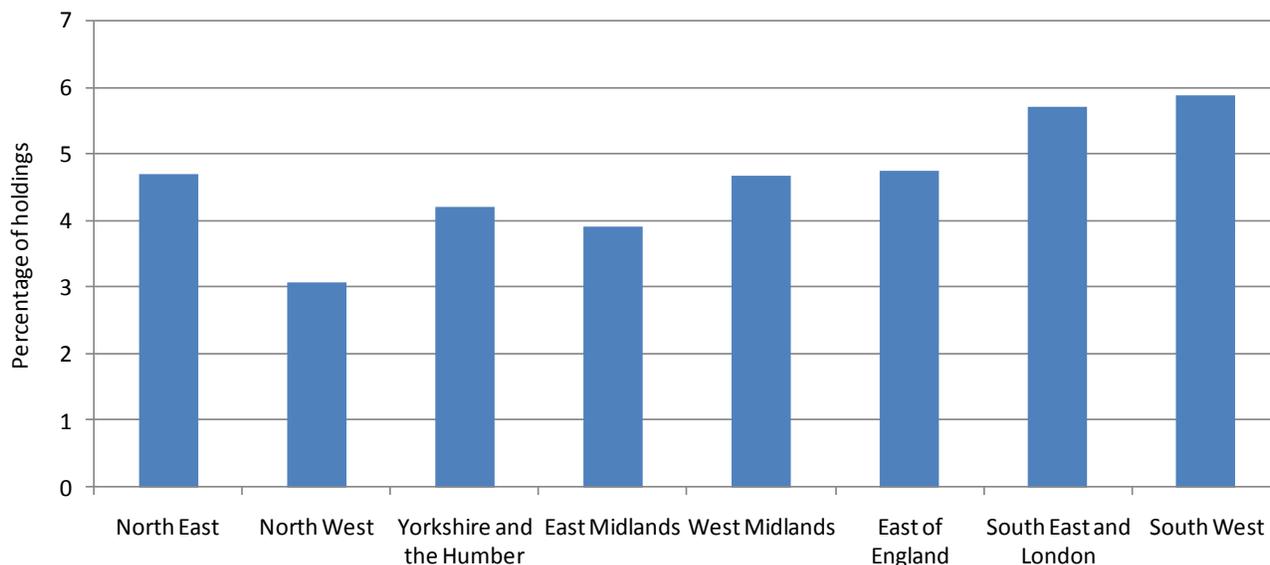


Table 10: Number and percentage of farms producing renewable energy by farm type: 2010

Type of farm	% of holdings	No. of holdings
Cereals	4.3	662
General cropping	4.4	754
Horticulture	7.3	339
Specialist pigs	3.1	50
Specialist poultry	4.8	103
Dairy	2.7	205
Cattle and sheep (upland)	5.0	634
Cattle and sheep (lowland)	4.9	1 667
Mixed	6.7	564
Unclassified	4.8	76
All farms	4.8	5 054

Table 10 shows that the largest percentage of holdings using renewable sources to produce energy is amongst horticultural farms with a proportion of 7%. The proportions of these farms using biomass sources are the second highest amongst the farm types after cereal farms. This is perhaps not surprising as food and plant waste are biomass materials used in anaerobic digestion to produce biogas. These breakdowns are available on the website at <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>

Table 11: Number and percentage of farms producing renewable energy by farm size: 2010

Farm size	% of holdings	No. of holdings
Very small	5.1	3 313
Small	4.8	781
Medium	3.9	337
Large	3.9	322
Very large	3.9	301
All farms	4.8	5 054

Farms classed as very small and small have the largest proportions of holdings producing renewable energy. The proportion of holdings producing solar energy is highest amongst the very small farms, whereas biomass is the most popular source amongst small and medium farms. Note that these breakdowns are available in the accompanying workbook on the website at

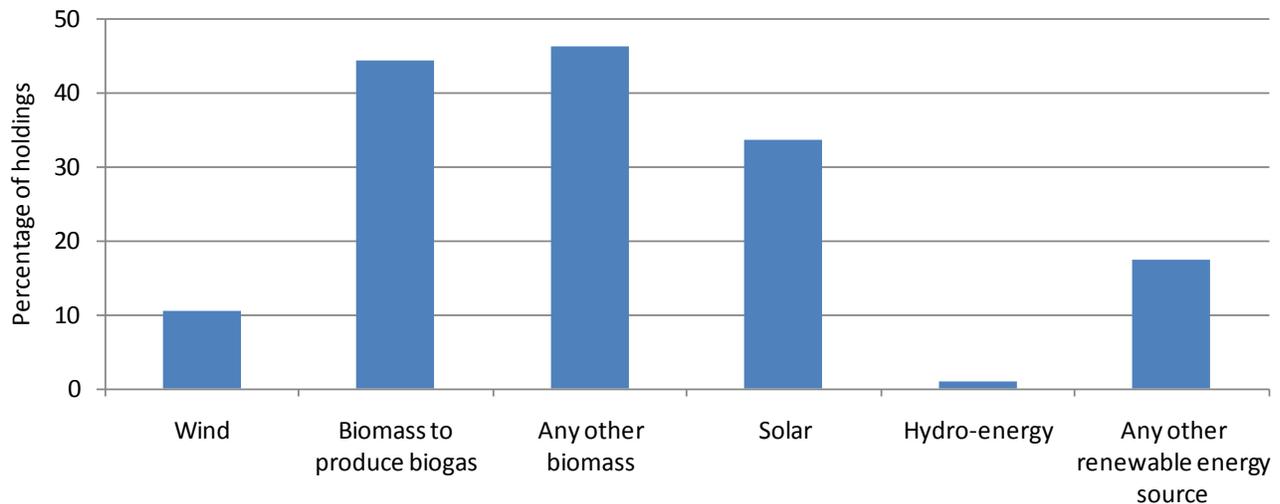
<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

Table 12: Number and percentage of farms producing renewable energy by age of holder: 2010

Age of holder	% of holdings	No. of holdings
16 to 34	3.6	83
35 to 44	4.3	453
45 to 54	4.9	1 244
55 to 64	5.2	1 558
65 and over	4.6	1 510
No holder (e.g. limited companies)	4.3	206
All holders	4.8	5 054

Table 12 shows that the percentages of holdings producing renewable energy are not vastly different across the farmer age groups. Although the proportion is a little lower amongst the youngest farmers, these farmers have the highest proportion producing another type of renewable energy to those listed (see table 12), such as tidal energy. Note that these breakdowns are available in the accompanying workbook on the website.

Figure 4: Proportion of holdings producing renewable energy by source: 2010 ^(a)



(a) Percentages are based on the total number of holdings that produce renewable energy.

The most popular sources for renewable energy production in 2010 were biomasses, such as slurries, food and plant waste for anaerobic digestion (producing biogas) or willow, wood wastes and crops for biodiesel. As figure 4 shows, almost half of farms that produce renewable energy used these sources. Note that further breakdowns of these results are available on our website at

<https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/structure-of-the-agricultural-industry>.

Table 13: Of those holdings producing renewable energy, number and percentage of farms by source: 2010 ^(a)

Renewable source	% of holdings producing renewable energy	No. of holdings
Wind	11	537
Biomass to produce biogas ^(b)	44	2 247
Any other biomass ^(c)	46	2 343
Solar	34	1 706
Hydro-energy	1	50
Any other renewable energy source (e.g. tidal energy)	17	883

(a) Percentages are based on the total number of holdings that produce renewable energy.

(b) E.g. slurries, food and plant waste for anaerobic digestion.

(c) E.g. willow, wood wastes and crops for biodiesel.