

IEA Bioenergy Task 37

# UK Country Report

Clare T. Lukehurst OBE  
Task 37 (UK)

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IEA Bioenergy

# UK Government Policy

UK government is still supporting the roll out of AD in England & devolved administrations

1. In England Defra (2011) set vision for 305 TWh of heat and electricity by 2020
2. The 'Wales Delivery Plan has created a capital and revenue financial support package for local authorities which wish to adopt AD technology
3. Scotland has introduced food waste bans on disposal to landfill. This has driven up AD capacity & the trend is expected to continue.
4. N.Ireland has seen an increase in farm fed manure/grass fed AD since the introduction of 4 ROCS
5. Budget for renewable energy overspent & under review

# Summary of AD UK plants (2015)

| Substrate/plant type | No.of plants           | GWh/yr            | Installed capacity<br>MWe |
|----------------------|------------------------|-------------------|---------------------------|
| Sewage sludge        | 186 <sup>1</sup>       | 846 <sup>1</sup>  | 208 <sup>1</sup>          |
| AD Biowaste          | 95 <sup>2</sup>        | 707 <sup>1</sup>  | 135 <sup>2</sup>          |
| AD Agriculture       | 163 <sup>2</sup>       | 1009 <sup>1</sup> | 216 <sup>1</sup>          |
| AD Industrial        | 27 <sup>1&amp;2</sup>  | nd                | 31 <sup>3 &amp;1</sup>    |
| Landfills            | 442 <sup>1&amp;3</sup> | 5045 <sup>1</sup> | 1051 <sup>1</sup>         |
| <b>Total</b>         | <b>913</b>             | <b>7607</b>       | <b>1641</b>               |

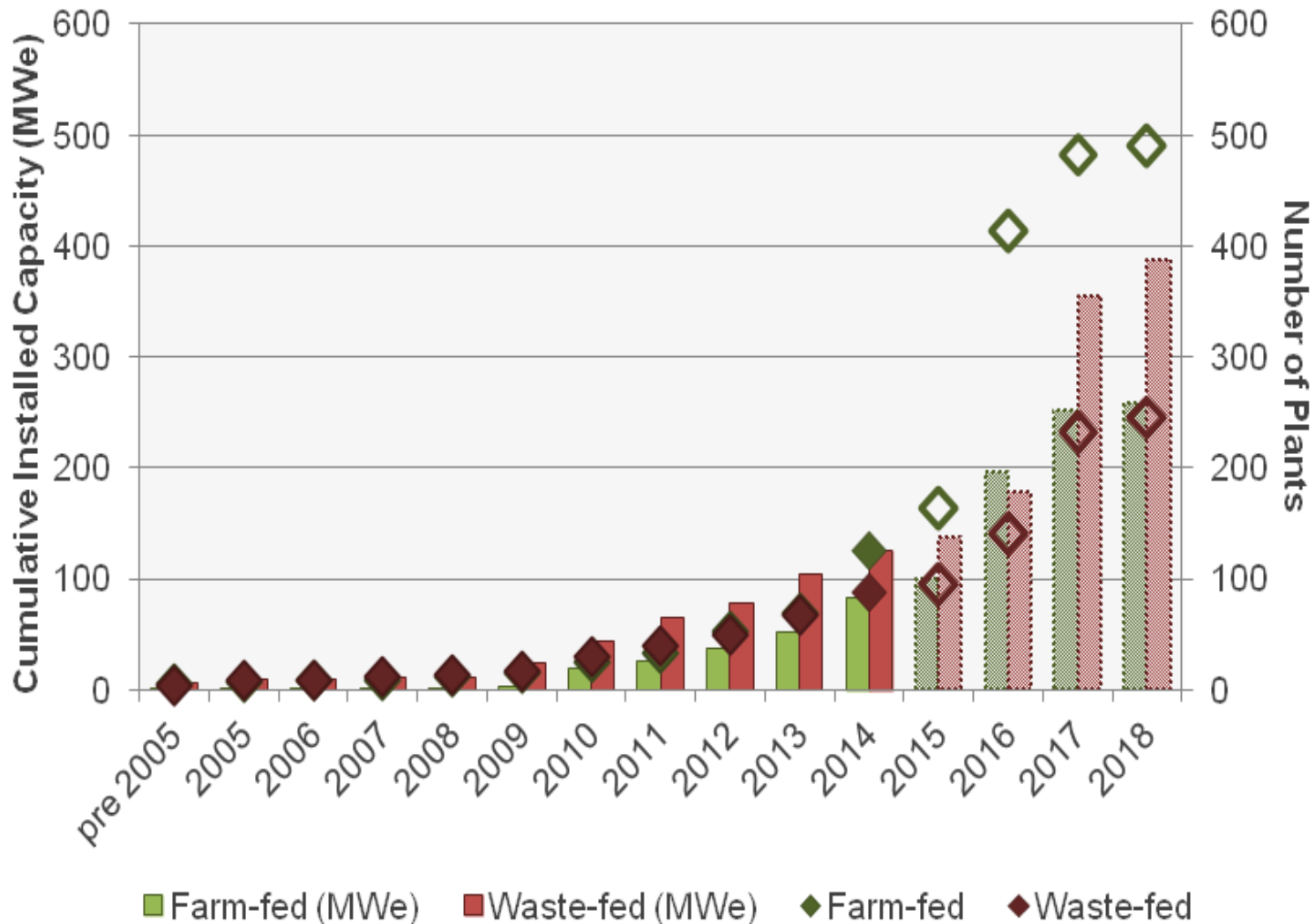
Sources: 1 Digest of United Kingdom Energy Statistics (2015) Available at

([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/450298/DUKES\\_2015\\_Chapter\\_6.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/450298/DUKES_2015_Chapter_6.pdf)).

2. Provided by courtesy of National Biogas Portal, National Non Food Crops Foundation (NNFCC)

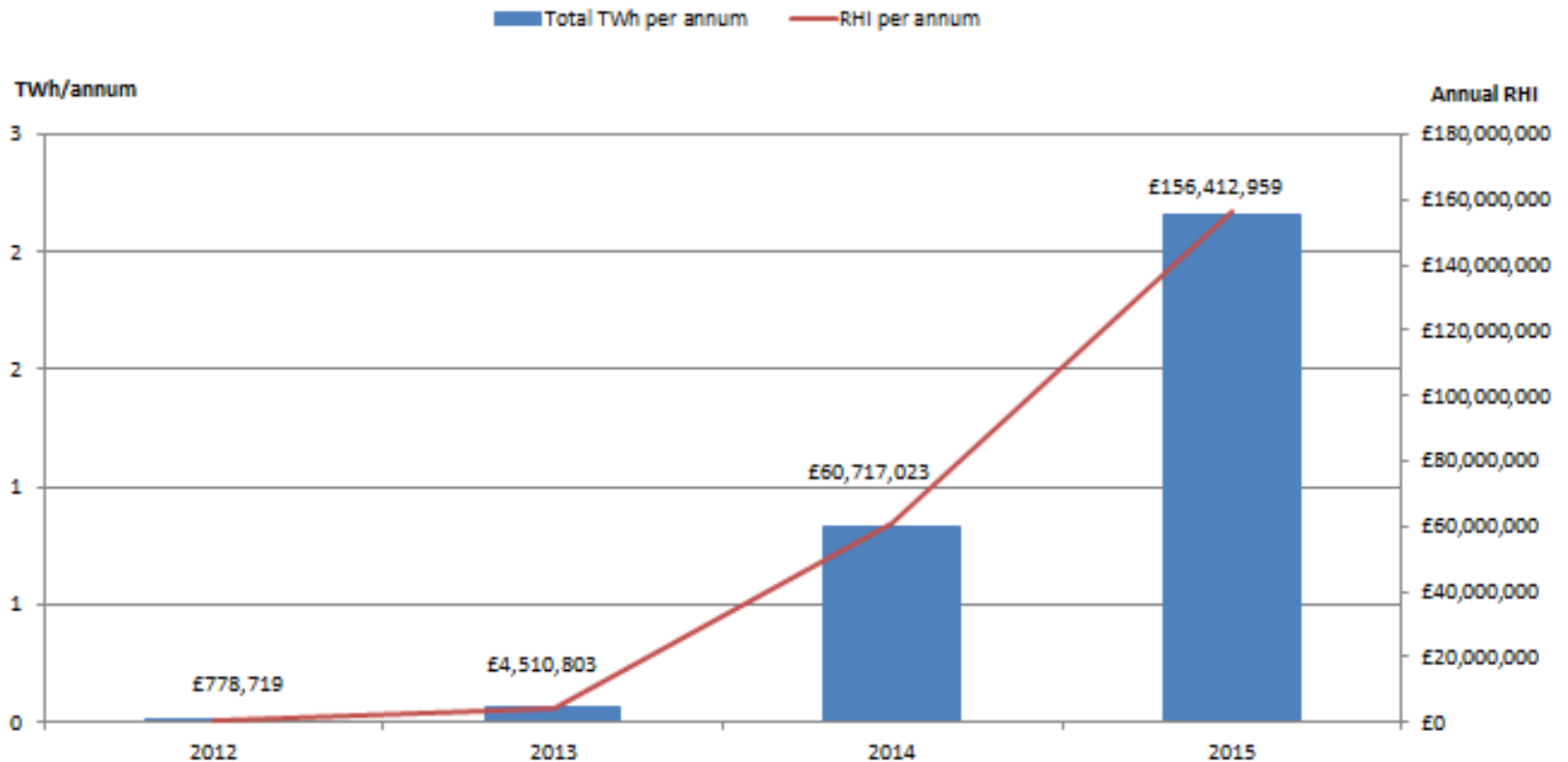
3. Anaerobic and Bioresources Association

# Potential biogas production



# Utilisation of the biogas

## Annual Biomethane to Grid and RHI for 2012-2015



18 new plants completed in 2014 & 15 more expected in 2015  
Total output expected for 2015 2 TWh

# Utilisation of biogas

| Utilisation/Type   | GWh    | % |
|--------------------|--------|---|
| Electricity (CHP)  | 7607   |   |
| Heat               | 729    |   |
| Biomethane to grid | 20.5 m |   |
| Flared             | ?      |   |

NB Data for heat use recorded only where RHI claimed  
No known data for other heat use

# Price support from Feed-in Tariff

| <b>Description</b>   | <b>Period in which Tariff Date falls</b>   | <b>Tariff (p/kWh)</b>       |
|--|--|-----------------------------|
| AD with total installed capacity 250 kWe or less   | 1 April 2014 to 30 September 2014  | 12.46                       |
|  | 1 October 2014 to 31 March 2015  | 11.21                       |
|  | <i>1 April 2015 to 30 September 2015</i><br><i>1 October 2015 to 21 March 2016</i>     | <i>10.13</i><br><i>9.12</i> |
| Anaerobic digestion with total installed capacity greater than 250kW but not exceeding 500kW | 1 April 2014 to 30 September 2014  | 11.52                       |
|  | 1 October 2014 to 31 March 2015  | 10.57                       |
|  | <i>1 April 2015 to 30th September 2015</i><br><i>1 October 2015 to 31st March 2016</i> | <i>10.13</i><br><i>9.12</i> |
| Anaerobic digestion with total installed capacity greater than 500kW                         | 1 April 2014 to 30 September 2014  | 9.49                        |
|  | 1 October 2014 to 31 March 2015  | 9.02                        |
|  | <i>1 April 2015 to 30 September 2015</i><br><i>1 October 2015 to 31 March 2016</i>     | <i>8.68</i><br><i>8.68</i>  |

Source:  
[https://uk.search.yahoo.com20levels /yhs/search?hspart=iry&hsimp=yhs-fullyhosted\\_003&type=blfnt\\_f2&p=FIT%20Tariff%](https://uk.search.yahoo.com20levels /yhs/search?hspart=iry&hsimp=yhs-fullyhosted_003&type=blfnt_f2&p=FIT%20Tariff%)

## Incentives for all renewable energy under review

Serious budget overspend therefore proposed imposition of sustainability criteria for feedstock used for AD:

- Regulatory control on use of crops
- Must have life cycle GHG emission saving of at least 60%
- Must not come from land with a high biodiversity level
- Must not be taken from land with a high carbon stock value eg. wetlands, forest or peat
- Feedstock made wholly of waste or animal manure /slurry will not be required to demonstrate minimum GHG emissions of  $240\text{g CO}_{2\text{eq}}/\text{MWh}$



# Other support

- ❖ Renewable Obligation Certificates (ROCS) for electricity – bidding process by industry to meet the carbon reduction mandatory targets
- ❖ ROCs available to all forms of renewable energy including AD  
Value in £/MWh varies with demand on the day of sale

Northern Ireland 4 ROCs

| Time span        | No. of ROCs/MWh |
|------------------|-----------------|
| Until April 2015 | 2               |
| 2015-16          | 1.9             |
| 2016-17          | 1.8             |
| Post 2017        | Discontinued    |

£10,000 Grant for business plans and loans up to £400,000 or 50% of capital cost

## Price support from the RHI (biogas combustion) in addition to sale price to grid or on farm use

| Tariff name   | Eligible technology        | Eligible sizes  | Tariffs (p/kWth)                          |
|---|----------------------------|---|---|
| Biomethane injection  | Biomethane until July 2015 | Biomethane all capacities   | 7.5                                       |
| <b>Biomethane injection</b>   | <i>Post July 2015</i>      | <i>1st 40,000 MWh</i><br><i>2nd 40,000 mWh</i><br><i>&gt;80,000</i> | <i>6.52</i><br><i>3.83</i><br><i>2.95</i> |
| Small biogas combustion<br>< 200 kWth                                     | Biogas combustion          | Less than 200 kWth<br>Post 1 July 2015                              | 7.58*<br>7.62                             |
| Medium biogas combustion<br>(commissioned on or after<br>4 December 2013) |                            | 200 kWth and above &<br>less than 600 kWth<br>Post 1 July 2015      | 5.9<br>5.99                               |
| Large biogas combustion<br>(commissioned on or after<br>4 December 2013)  |                            | 600 kWth and above<br>Post July 2015                                | 2.2<br>2.24                               |

+ Increase inflation linked [/ Ofgem](#)

[www.ofgem.gov.uk/environmental-programmes/non](http://www.ofgem.gov.uk/environmental-programmes/non) Source: [Tariffs that apply for Non-Domestic RHI for](#)

[Great Britain](#).. [www.ofgem.gov.uk/environment-programmes/non...](http://www.ofgem.gov.uk/environment-programmes/non...)

# Biomethane to grid

30 in operation

25 completed in 2015

47 in progress of development

**? but**

prior to major change in in RHI (renewable heat incentive)

# Acknowledgements

To the NNFCC biogas team for permission to use copyright slides

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