

# **IEA Task 37 – Biogas UK Country Report – April 2012**

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Working together for  
a world without waste

# Status of the UK

Type of plant	Number	Tonnes Capacity	Outputs (MWe)
Farm Waste	27	276,543tpa	9.7
Food Waste	46	3.7Mtpa*	58
Sewage	146	1.1Mtpa	110
Total	219	5.07Mtpa	177.7

Figures – WRAP March 2012

- The UK AD Baseline was published in February 2012, providing detail on the status of the AD in September 2011
  - Available via [www.biogas-info.co.uk](http://www.biogas-info.co.uk)

\* Please note 1Mtpa is liquid-only volumes





# What's going on in the UK?



# PAS110 and ADQP Update

- The AD Quality Protocol was first published in 2009, to provide greater certainty about the point at which waste could be considered fully recovered
- The ADQP is now under review focussing on:
  - Acceptable inputs
  - Digestate markets
  - Clarification of language (e.g. storage requirements)



# PAS110 and ADQP Update

- PAS110 is the baseline quality specification for digestate that underpins the ADQP
- Technical projects are underway to examine key aspects:
  - Digestate stability (RBP) test
  - Digestate PTE limits
  - Pasteurisation requirement for non-ABP inputs



# End of Waste

- Technical report from JRC / IPTS suggests pan-European criteria for digestate quality
- UK AD landscape is very different from that of the rest of Europe
- UK already has end of waste (ADQP) and suggested criteria are different
- Impact assessment is underway

Technical report for  
End-of-waste criteria on  
Biodegradable waste subject to  
biological treatment  
Second Working Document  
11 October 2011  
DRAFT - WORK IN PROGRESS  
IPTS  
Seville, Spain



# Driving Innovation in AD (DIAD)

- Aims

- To make AD quicker, faster and more viable at all scales
- Reducing CAPEX and OPEX for small scale and on farm AD
- Optimisation of all scales of AD to enhance the overall efficiencies

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<b>Optimisation</b>	<b>Small Scale &amp; Farm AD</b>
14 projects feasibility	6 projects feasibility
All to be delivered by May 2012	Complete by Mid April 2012

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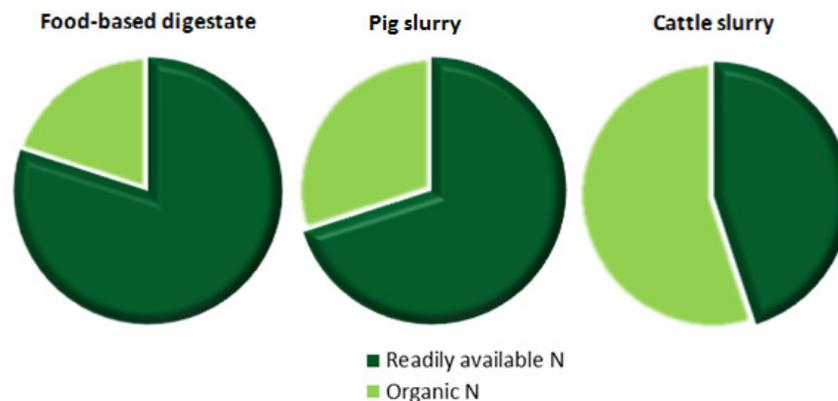
- Next Steps

- Investment Day – July 2012
- Demonstration of successful projects August 2012

# DC- Agri Trials Update

## Agricultural experiments

- The joint WRAP/Defra *Digestate & Compost in Agriculture* field experiments are now in their third year.
- Results from second year show:
  - Nitrogen in digestate is readily available to crops (70-80%)
  - Crops take up nitrogen well from spring applications of digestate (eg a nitrogen use efficiency of 64%), but badly from autumn applications.
- This year's experiments will provide results on GHG and ammonia emissions from digestate applications.



Courtesy of ADAS Pwllpeiran

# Knowledge Exchange

- So far over 600 attendees at farmer events across GB. 30 lectures given for agricultural students across the country.
- Updated focus for 2012 expanded to include agri-businesses and farm contractors.

For further information,

see [www.wrap.org.uk/dc-agri](http://www.wrap.org.uk/dc-agri)



# Landscape and Regeneration Trials update

- 17 field trials including digestate use in landscape and regeneration projects across the UK 2012-2014
  - Energy crops on brownfield/ marginal land
  - Sports turf fertiliser and turf production
  - Soil manufacture
    - Sports turf
    - Allotments
    - Amenity use



# Knowledge Exchange

- All projects will have an associated knowledge exchange programme
  - Dedicated WRAP site with links to project websites
  - Course materials for higher education
  - Journal and trade magazine articles
  - Project updates and bulletins
  - Events and site visits
  - Sector body engagement
  - Third party conferences

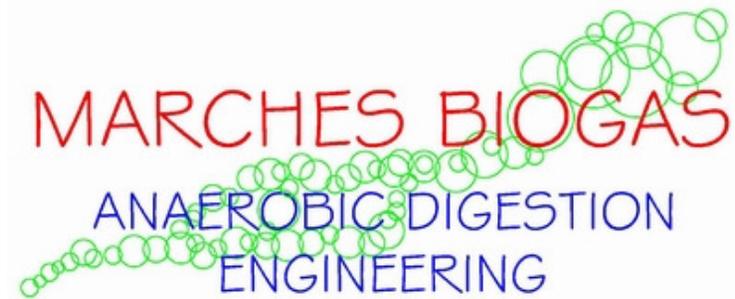


# Markets for Digestate

- Digestates from AD: A review of enhancement techniques and novel products which will report on:
  - Experience (UK and abroad) on enhancement options for digestate
  - Experience using wide range of feedstocks
  - Experience in all related industries
- The report and a series of case studies are due to report in spring 2012

# Distribution Models for Digestate

- The benefits of different digestate distribution models
  - Purpose of the work is to:
    - Examine different supply/ distribution models currently operating
    - Understand the opportunities and limitations for each model
    - Communicate the information to the industry to inform business planning
  - The work will also create a series of case studies to demonstrate these objectives, due spring 2012



- Part of the DIAD Small Scale programme investigating further development of their Agri-digestore system
- Work with Reaseheath College and Newcastle University:
  - Digesters build and maintained by Marches



- Exciting new AD company in the UK focussing on small scale AD
- Part of the DIAD small scale programme looking at small scale options for upgrading gas to vehicle fuel
- ADDS+UP
  - 50kW plant
  - Grass silage and cattle manure
  - Enough electricity for 120 homes
  - Surplus heat to be used in existing polytunnels to grow organic produce

[www.evergreengas.co.uk](http://www.evergreengas.co.uk)

# ADBA R & D Forum

- 1<sup>st</sup> Forum in November 2011 disclosed many areas of current research including:
  - Maximising methane production
  - Value of digestate, and
  - Bacterial population optimisation
- The link between Academia and the AD industry will help advance the industry
- 2<sup>nd</sup> (interim) forum to be held on the 25<sup>th</sup> April 2012 , focussing on:
  - Process and control
  - Digestate



# Other Research

- CPI Catapult centres – Small scale and farm AD challenge
- On-going research in many of the UK's leading universities including:
  - University of Glamorgan
  - University of Southampton
  - Cranfield University
  - University of Newcastle
  - AFBI – Northern Ireland

Thank you

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