

DEPARTMENT FOR ENVIRONMENT FOOD AND RURAL AFFAIRS

**Anaerobic Digestion Strategy
and
Action Plan**

SUPPORTING DOCUMENT 1:

DETAILED ACTIONS

14th June 2011

Thematic working group: Knowledge and Understanding
Workstream: Improving our understanding of the AD landscape (Work stream 1)

Number	Task/Issue No	Issue	Action to address Issue	Who	When
1	KUL 1.1	What is the size of the AD industry today?	Agree and publish on the existing Anaerobic Digestion (AD) portal a robust baseline that accurately describes the status of the AD industry.	NNFCC and WRAP with ADBA, Water UK, REA	September 2011
2	KUL 1.2		Continue to update the AD landscape information that is accessible via the AD portal. In the short term (1yr-18 months) continue to monitor planned developments for AD and provide accessible data via periodic regional summaries. In the longer term work with ADBA and REA to develop an industry led mechanism e.g. the ADBA best practice scheme, to provide data to monitor the development of the AD industry.	NNFCC and WRAP , increasingly supported and then delivered via industry and trade body data collection	Ongoing
3	KUL 1.3		Add to the information currently accessed via the AD portal by collating robust data on the associated benefits of AD e.g. number of jobs created, renewable energy generated, Green House Gas (GHG) reduction, etc. Make this information available via the portal.	WRAP with DECC/Defra (with support from NNFCC, ADBA, REA and SLR)	April 2012
4	KUL 1.4		Agree and publish via the portal the collated matrix of ongoing work on AD in the UK.	Defra , NNFCC to publish via the AD portal	September 2011
5	KUL 2	How much material do we have to put in digesters?	Collate and make available data and information sources on feedstocks for AD using the AD portal.	WRAP with support from ADBA/REA and government	April 2012
6	KUL 3	If we build lots of digesters will there be enough waste derived feedstock to go round or will we need to grow increasing amounts of purpose grown crops for energy?	Build on the work that has already been undertaken and published by WRAP on commercial food waste collection. Taking this forwards, provide a tool for both businesses and collectors to determine the costs involved in commercial collection schemes and provide successful demonstration projects to provide further evidence for those considering implementing commercial collection. Understand what actions are required and by whom and what the priorities should be to ensure that commercial collections become widespread. Links to action 38 which will evaluate the role of purpose grown crops for energy.	WRAP , ESA, CIWM, ADBA, REA Biogas (with support from industry including FDF, PDM, BHA, ORA)	December 2011
7	KUL 4	Which models for AD development fit where in terms of location and feedstock? What are the real costs of AD?	Undertake an economic study to evaluate the different possible business models for AD. Undertake a full and detailed review of the supply chain options for AD, applying the existing models to determine the likely impact of achieving a range of scenarios.	WRAP , DECC and NNFCC, Trade associations	April 2012

Thematic working group: Knowledge and Understanding Workstream: Building UK Skills (Work stream 2)					
Number	Task/Issue No	Issue	Action to address Issue	Who	When
8	KUS 1.1	Identify and develop industry led training that fulfils the requirements of all regulations and regulators.	Agree and finalise the training provision matrix created by the working group members (include as an appendix) and maintain it as a live document published via the NNFC AD portal as appropriate training and skills development courses become available. Links to these will be created.	CIWM, ADDBA, EU skills, NNFC, NFU	September 2011
9	KUS 1.2		Develop National Occupational Standards (NOS) to cover the AD process in more detail. Current NOS cover the management of the process inputs/outputs only and not the actual AD process - new standards will be based on Operating Process Plant already in use in the water Industry.	EU Skills to lead if demand is quantified from industry. To be developed during 2011-12 with employers (other relevant bodies to assist where appropriate with aggregating demand e.g. CIWM, WAMITAB, ADDBA)	March 2012
10	KUS 1.3		Collate data from other workstreams to assess potential demand for skilled personnel (builders, operators, planners, regulators etc). Use this data to understand where the training and standards gaps are and the size of the potential market for training. Ensure that this data is disseminated so that new providers may enter the market, and develop bespoke training packages if required. This is a project that would require funding to carry out and would include as outcomes an LMI (Labour Market Investigation) and an OFM (Occupational Function Map) to be developed by the AD industry.	EU Skills, SSC Network, ADDBA, CIWM	December 2011
11	KUS 1.4		Investigate if there is a need, and if so develop qualifications (in addition to the technical competence qualifications) for the operation of the AD Process using the National Occupational Standards.	Awarding Organisations (e.g. WAMITAB – accreditation of qualifications will be subject to ability to demonstrate demand).	2011/12 - after NOS have been developed
12	KUS 1.5		Trade associations to work with their members to identify training needs and then to work with training providers to develop training courses (links to the matrix above).	ADDBA to co-ordinate via existing work programme, CIWM, WRAP and other training providers, REA, ESA, Water UK, AFOR, EU skills (N.B. actual provision will be subject to demand).	Some courses currently being developed, others will follow subject to demand.
13	KUS 1.6		Identify if there are any specific training/skills requirements regarding utilisation of gas/power.	EU Skills, in consultation with the gas and power sectors.	2011/12 – may be done as part of development of NOS

14	KUS 2.1	Identify and promote drivers for skills and training.	Publish factsheets explaining Operator Competence requirement for permitted facilities, contextualised specific to AD. Use AD Portal.	NNFCC , CIWM, WAMITAB, EU Skills, EA	September 2011
15	KUS 2.2		Produce information sheet outlining key Health and Safety (H&S) regulations relevant to AD and specific training required (check list) and identify a mechanism (repository) for making this info sheet available along with sign posting to existing training and training providers – liaise with NNFCC to use the AD Portal.	ADBA , NFU, WRAP, HSE, CIWM, EA, NNFCC, REA	September 2011
16	KUS 2.3		Identify and promote tangible benefits of a trained and competent workforce and then communicate via AD industry and AD Portal. To include case studies. Link to other work streams e.g. Regulation and Finance. Follow example of a competency accord which has been developed by the energy industry or the following developed by the water industry - national water hygiene competent operator and drainage schemes. Also Renewable UK and Wind and Marine Energy Competency Accord signed by Wind employers.	EU Skills in consultation with Waste Industry Skills Group, Waste Industry Skills Initiative, SSC Network, ADBA, REA, NFU, CIWM	December 2011
17	KUS 2.4		Scope potential for a framework where demonstration / accreditation of training and competence is key to acquiring financial investment.	ADBA safety and training working group	In progress
18	KUS 3	Encourage an environment that minimises barriers to growing a competitive domestic AD manufacturing base.	Build on existing projects (e.g. The RESCO project in the west midlands where manufacturers are being encouraged to convert their existing skills to make products for AD plants). Promote this work and identify replicability across the UK manufacturing sector.	ADBA	September 2011

Thematic working group: Knowledge and Understanding

Workstream: Building safe and secure markets for Digestate (Work stream 3)

Number	Task/Issue No	Issue	Action to address Issue	Who	When
19	KUD 1.1	What are the markets for digestate and how can they be diversified?	Collate and publish experience of digestate enhancement and the development of novel digestate products.	WRAP , IEA, UKWIR, REA, ADDBA Research Institutions	March 2012
20	KUD 1.2		Obtain and publish empirical evidence from the UK for benefits of different kinds of digestate in different markets such as landscape and regeneration or horticulture.	WRAP , NNFCC, IEA, UKWIR, BioCompost Alliance, Research Institutions	Ongoing – complete March 2014
21	KUD 2.1	How do we build confidence in digestates and encourage their market uptake?	Define different market expectations / requirements for product quality.	WRAP (with input from relevant user groups)	Ongoing – complete March 2012
22	KUD 2.2		Collate and publicise existing data on digestate characteristics (including benefits and safety) and use.	WRAP , REAL, IEA, NNFCC, BioCompost Alliance, UKWIR, CLA	March 2012
23	KUD 2.3		Obtain field evidence for benefits and safety of digestates in different markets.	WRAP , UKWIR, IEA, BioCompost Alliance, Research Institutions, EA,	Ongoing - complete March 2013
24	KUD 2.4		Where lacking, collate or procure research to provide data on (e.g.) processing impacts on hazards of known concern to specific market sectors.	WRAP , Defra, Research Institutions	Ongoing – complete March 2014
25	KUD 2.5		Work with retail and farm assurance sectors to ensure that required tools are in place to allow these sectors to endorse the use of digestates in food production systems and to communicate the benefits of digestates to consumers.	WRAP , FSA, REA, ADDBA, AFOR, BRC, IGD	March 2013
26	KUD 2.6	Provide robust data that can be included in farm nutrient planning tools such as PLANET and RB209 when these tools are periodically revised.	WRAP , NFU, Defra, ADDBA, RB209, MANURE, Defra Nutrient	March 2013	
27	KUD 2.7	Work with organic bodies and the European Commission to clarify the acceptability of digestates derived from non-household food sources on organic land.	WRAP , Organic cert bodies, Defra	March 2013	
28	KUD 2.8	Agree and publish a dictionary of terms for the AD industry to reduce confusion. Build on the dictionary published in the PAS110 documentation. Make this dictionary accessible via the AD portal.	ADDBA , REA, AFOR, IEA, ESA, NFU, NNFCC	March 2012	
29	KUD 2.9	Collate and publicise existing data on the benefits of different digestate distribution models (e.g. service or product solution).	WRAP , REA, ADDBA, AFOR	December 2011	

Thematic working group: Smarter Working Models Workstream: Raising awareness of AD - community AD and localism (Work stream 4)					
Number	Task/Issue No	Issue	Action to address Issue	Who	When
30	WMA 1	Ensure that the benefits of using AD are understood and shared by everyone	Collate and publish a library of case studies from all types of AD operation. The library should cover all types of AD operation from those processing material generated on a single farm to large mixed waste merchant operations. Specifically, exploit and promote the key findings from the Environmental Transformation Fund demonstration projects.	NNFCC to publish via the AD portal and collate input from everyone in possession of case studies	September 2011
31	WMA 2	Improve understanding of AD by all those involved in AD	Develop a set of tools that can be used by all those involved in planning, procuring, delivering and operating AD including local communities. The toolkit should build on existing work that has been undertaken on behalf of the Welsh Assembly Government, work already being done by ADBA and REA workgroups and others, e.g. the ADBA buyers guide. The toolkit should cover as many aspects of the development and use of AD as possible and could be developed in a phased approach.	ADBA , WRAP, NFU, EA, ESA, LGA, REA. Publicise via the AD portal	March 2012
32	WMA 3	Ensure that we continue to improve the technology that we are using and fill any knowledge gaps	Establish a viable Challenge Fund to further the development of AD. The fund should cover the use of AD in all sectors - farm and community type projects as well as larger, more commercial operations. The fund should be focussed on challenging the cost of AD technology, and improving the efficiency of AD. Funding will come from diverse sources. In the medium to long term the fund should include financial contributions from sources such as direct industry sponsorship. Develop a clear dialogue between research bodies and industry to ensure that market needs are underpinned by relevant R&D.	WRAP , ENA, Water and AD Industry	September 2011
33	WMA 4	Establish an industry award for an AD project that best demonstrates shared benefit	Collate and publicise the range of industry awards for which AD is currently eligible and promote them via the AD portal. Establish a new, industry sponsored award for community AD projects.	CIWM , ADBA, REA, AFOR and industry sponsors, NNFCC	May 2012

Thematic working group: **Smarter Working Models**

Workstream: **Building markets for Biomethane for transport fuels (Work stream 5)**

Number	Task/Issue No	Issue	Action to address Issue	Who	When
34	WMB 1	Consider the unattractive return on investment and cautiousness of most hauliers limiting fuel switching from diesel to natural gas / biomethane	<p>A paper will be produced by the Low Carbon Vehicle Partnership which will:</p> <ul style="list-style-type: none"> -Establish principal opportunities for and demand side barriers to the adoption of biomethane in transport for road haulage -Model the current, and predict the future costs of fuel switching for different fleet operations -Present alternatives for increasing the market for natural gas trucks and the potential impact of interventions -Quantify carbon benefits of biomethane relative to diesel -Examine non-financial barriers and consider approaches to address these. 	LCVP , ADDBA	September 2011
35	WMB 2	The limited supply of biomethane for transport uses	<p>This task will consist of three parts:</p> <ul style="list-style-type: none"> - Analysis of the UK subsidy environment for biomethane - Examination of the costs of using biomethane/compressed natural gas in the transport sector - Establish the scale of the potential supply of biomethane for transport from sources including landfill gas, anaerobic digestion and water treatment works. <p>DFT will seek views from other interested parties involved in developing the AD Strategy.</p>	DFT with input from industry	April 2012

Thematic working group:

Smarter Working Models

Workstream:

AD in the rural community (Work stream 6)

Number	Task/Issue No	Issue	Action to address Issue	Who	When
36	WMR 1.1	Cost and complexity of grid connections - electricity and gas	To facilitate discussions between Ofgem and industry to address the costs and complexity of injecting biomethane into the gas grid and connecting to the national grid for small scale electricity generators.	DECC and Ofgem	September 2011
37	WMR 1.2		To promote to industry the benefits of schemes that will encourage and enable the use of biomethane injected into the grid.	Each trade association will promote and develop its own scheme for the benefit of the industry.	Ongoing
38	WMR 2.1	Land use for purpose grown crops	Hold a workshop on 'The sustainability and role of the use of purpose-grown crops as a feedstock for AD. A summary of the findings of the workshop will be produced and published. The workshop will bring together all stakeholders, academics, independent experts and Government departments. It will analyse, amongst other elements, current research on the use of energy crop, and examine the economic implications of the use of this feedstock. It will hear evidence from experts and listen to opinion from stakeholders on the work that has already been carried out by different groups from across the industry spectrum.	Defra	September 2011
39	WMR 2.2		DECC, the Environment Agency and Ofgem are jointly developing an easy to use tool to calculate the lifecycle greenhouse gas savings associated with biomass feedstocks used in the generation of electricity, heat and combined heat and power. The tool will cover the cultivation, processing and transport emissions for solid and gaseous biomass feedstocks, apart from landfill gas, sewage gas and wastes such as municipal solid waste. DECC, EA and Ofgem will publicise the tool when it is made available online.	DECC , EA and Ofgem	September 2011
40	WMR 3	Other environmental benefits of AD not recognised and rewarded at present	Establish a Defra led working group to consider the current opportunities for supporting good practice on farms and the environmental benefits of on-farm AD including GHG reduction, good nutrient management, soil and water quality improvements and the displacement of inorganic fertilisers. The group will publish the findings of this work and set a timetable for addressing potential opportunities within the review periods for relevant instruments.	Defra , ADBA	September 2011
41	WMR 4	Economic viability of small and micro scale AD	Produce and publish a brochure on the economic viability of small and micro scale AD.	IEA Bioenergy Task 37	April 2012

Thematic working group: Regulation and Finance
Workstream: Finance (Work stream 7)

Number	Task/Issue No	Issue	Action to address Issue	Who	When
42	RFF 1.1	Finance Schemes - increase awareness of, and improve access to, the various current Finance Schemes for AD	Compile a consolidated list of financial schemes available to AD projects which can be used in conjunction with debt and equity funding. Publicise the consolidated list and encourage industry to access the funds.	ADBA to set up a mechanism to collate and publicise the information and to ensure it is kept up to date	September 2011
43	RFF 1.2		To investigate the case for possible intervention, in the form of innovative financial products, to encourage investment in AD projects.	BIS Green Investment Bank team	March 2012
44	RFF 1.3		Trade associations to collate and put forward evidence to Government to simplify the Enhanced Capital Allowances scheme by considering AD on a project basis. Currently, the eligible components of an AD plant are listed individually and are spread over many separate categories.	ADBA in collaboration with BDO Accountants and consulting with the REA biogas group membership	July 2011 – work has commenced with Accountants
45	RFF 1.4		Investigate other standard financial products already available (e.g. for small scale wind) and establish whether any of the best practice/structures can be used in the AD sector, to fund small scale plants through to large scale.	ADBA finance forum, in collaboration with government, the funding community and input from agricultural sector as likely operators of plants	December 2011
46	RFF 2	Financial support for all types of AD developments	To help the development of additional AD capacity through new loan fund to help stimulate investment in AD infrastructure.	WRAP	September 2011
47	RFF 3	Reduce project administration costs	Provision of agreed standard due diligence templates for the industry to use as guidelines and best practice and the production of a standard set of legal documentation.	ADBA , relevant Government departments, key funding organisations including VCTs, equity funders and mainstream banks	September 2011
48	RFF 4	Improve communication with the finance community and facilitate interaction with the Government	Delivery of stakeholder meetings designed for the finance community. Provide a suitable forum for general communications, dispute resolution and proactive management of key issues. ADBA already undertake such workshops.	ADBA with DECC, WRAP, Defra, BIS	Ongoing

Thematic working group: Regulation and Finance Workstream: Regulation (Work stream 8)					
Number	Task/Issue No	Issue	Action to address Issue	Who	When
49	RFR 1.1	Is the current regulatory framework on environmental protection the best that it can be or is there some room to improve	Extend the availability of Standard Rules for AD. The EA have previously consulted on a revision of the standard rules permit for AD. The results of this consultation have now been published and revised standard rules will be published and will take effect from the beginning of August 2011.	EA	August 2011
50	RFR 1.2		The EA will continue its work on the consideration of waste types for inclusion in AD. It will use its risk based regulatory approach to ensure the right outcomes and link this work to the consideration and revision of the AD Qualit Protocol.	EA	September 2011
51	RFR 1.3		Extend PAS 110. The EA have now set up a Special Interest Group in order to progress submissions for new waste streams and end uses for digestate which allows PAS110 certification. The EA will update their website providing a proforma and guidance for additional waste and end use submissions.	EA	September 2011
52	RFR 1.4		Transfer of feedstock and digestate between farms. The EA will consider the recommendations that were raised by stakeholders and will complete a review and identify recommendations and actions to be taken forwards.	EA	September 2011
53	RFR 1.5		Ensure regulatory tools for AD are fit for purpose for delivering the Industrial Emissions Directive (IED). The EA will deliver proportional and risk-based delivery of the IED in advance of when the IED takes effect for new and existing AD operators.	EA	January 2013 (for new installations) Jan 2014 (existing installations) July 2015 (newly prescribed activities)
54	RFR 1.6		Development of a quality protocol on biomethane to establish a point at which biomethane produced from waste feedstocks can be used as a product and is no longer regarded as a waste. Work on this process has been started via the European Pathway to Zero Waste initiative. The process to development is led by a technical advisory group that includes representation from industry as well as from regulators.	EA, EPOW	March 2012
55	RFR 2	How do we enable the use of digestion capacity within the water industry	Clarify the regulation of co-digestion of waste with sewage sludge at sewage treatment works. A task and finish group led by the EA and Water UK has been established. Once the results of this work are fully available, the EA and Defra will work together to further clarify the regulatory position.	Water UK, EA	April 2012
56	RFR 3	Planning for AD facilities	Facilitate a forum/hold regular meetings to discuss and understand planning reforms as they affect AD.	DCLG meeting on planning issues inviting REA, NFU, CLA, ADBA, DCLG, LGA, EA, CIWM etc.	Ongoing