



# BIOGAS REGIONS

## Regional Strategy and Action Plan for the “SWEA” Region of the UK

A report by Severn Wye Energy Agency Ltd with input from the  
Advisory Group for the Biogas Regions Project in England and  
Wales

Intelligent Energy  Europe

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## **Executive Summary**

The potential for biogas production in the region (Wiltshire, Gloucestershire, Monmouthshire and Powys) is significant with the key annual statistics estimated as:-

- 126,000 tonnes of potentially collectable food waste
- approximately 350 dairy units with at least 100 cattle
- around 70 units with 200 or more pigs
- 9 units with 100,000 poultry or more in Wiltshire alone.
- very specific opportunities arising from the food processing industry

It is seen as being vitally important that the biogas industry in the region is established on the basis of some really good installations that work well for their operators, solve environmental problems rather than create them and are excellent case studies for others to follow. The key objectives of this Strategy are:-

- The establishment of best practice utilisation of liquid and solid digestate
- The efficient utilisation of the biogas fuel with the minimum of waste
- The diversion of food or food-processing waste (including the acceptable fraction of abattoir waste) away from incineration or landfill.
- The diversion of appropriate non-lignacious biodegradable waste away from centralised aerobic composting schemes, incineration or landfill.
- The diversion of manures, particularly from intensive livestock operations into biogas plants
- The development of cooperative ventures
- The development of a skilled and well-trained workforce
- Increased competitiveness of the food processing sector

The key objectives will be met by:-

- Increasing the profile of biogas technology and its potential contribution to waste management problems in particular
- Providing information to decision-makers, particularly planning officers and councillors
- Seeking out opportunities for AD developments
- Influencing the development of projects in order to increase viability, enhancement of sustainable development principles, maximisation of opportunities for cooperative action and the implementation of high quality installations.
- Dissemination of best-practice solutions from within the UK and the EU in general.

## **1. Introduction**

1.1 The objective of the regional strategy and action plan is to determine the technical potential for the production of biogas, to identify the barriers and obstacles in the specific region and country and to elaborate a strategy for a successful development of biogas production. The study of the potential will be based on already available data (to the extent that it exists) and expert estimations. The sectors concerned are: waste from agriculture and its effluents, energy crops (eg. maize and grass), organic waste from the municipal waste stream (green waste and food waste) and the waste from food processing industries.

A key component of strategy development has involved an examination of the legislative framework, economic drivers, public perception and other potential obstacles and barriers. What follows is, in large measure, a response to those perceived barriers and obstacles but it is also a reaction to newly evolving opportunities that are arising at this time. Whilst the Biogas Regions project comes at an opportune moment to take advantage of the changing attitudes in the UK towards anaerobic digestion technology, this comes at the cost of a strategy such as this becoming quickly out-dated.

The strategy sets out objectives for the medium and long term period and proposes measures to improve the viability of biogas projects. The strategy development has benefited from the involvement of the experienced partners from Austria and Germany where biogas developments are common-place.

## **2. The Region**

The UK “region” to which this programme applies is split between the SW England counties of Gloucestershire and Wiltshire, and the Welsh counties of Powys and Monmouthshire. The total population of the project area is approximately 1.34 million people with an area of 12,191 sq km.

The English and Welsh areas are approximately equal in size but the Welsh counties are by far the more sparsely populated. The average population density for Powys and Monmouthshire is 35.2 people per sq. km. with the equivalent figure for Gloucestershire and Wiltshire being 164.2.

The Welsh region is largely upland in character with agricultural production dominated by extensive sheep rearing. The English region has a much higher concentration of arable land and intensive livestock production.

### **3. The Potential for Biogas Production**

#### **3.1 Food Waste from the Municipal Waste Stream**

Accurate figures are not available so it has been estimated using a figure of 20% of total arising as being food waste, and 70% as being the recovery rate. This gives figures of :-

- 5,800 tonnes for Monmouthshire
- 9,150 tonnes for Powys
- 33,600 tonnes for Gloucestershire
- 27,800 tonnes for Wiltshire

#### **3.2 Commercial/Industrial – “municipal-like” stream**

This stream is from premises such as shops, offices and is not primary manufacture or food processing industry. This stream is very similar in content to the municipal stream and similar correctional estimates have been used to provide the following figures of potential AD feedstock:-

- 3,800 tonnes for Monmouthshire
- 5,900 tonnes for Powys
- 21,800 tonnes for Gloucestershire
- 18,100 tonnes for Wiltshire

#### **3.3 Commercial/Industrial – residual.**

This stream is very specific to the industrial sector. There are a number of major food producers/processors in the Gloucestershire area in particular.

#### **3.4 Agricultural Sector**

There is a huge theoretical potential for slurry, other wastes and crops, particularly in the Monmouthshire and English part of the region. Whilst there is scope for cooperation between farmers, experience tends to suggest that the development of slurry based AD plants is on large holdings with at least 100 livestock units (NB 1 livestock unit (LSU) = 1 cow = 5 sheep). The livestock need to be kept in conditions that mean that their manure is practically collectable thus, for instance, militating against units with large sheep flocks which are in fields or open hill for the majority of the time.

The most recent statistics that are publicly available relate to 2006 and these suggest that there are 103 dairy units with at least 100 cows in Gloucestershire, approximately 135 in Wiltshire, 79 in Powys and 96 in South Wales (of which Monmouthshire will contribute a significant proportion). There are as many as 170 beef units with more than 100 cattle in the herd over the region but few of these will be intensive units where the cattle spend a significant time in buildings.

There are 54 holdings in Wiltshire where 200 or more pigs are kept, with another 10 or so in Gloucestershire. There are very few large pig units in Wales, let alone Monmouthshire and Powys. There are number of poultry units of various sizes spread across the region but

the greatest opportunity appears to be in Wiltshire where there are 9 units which have over 100,000 birds each.

There may be considerable scope to consider locations where feedstock is available from mixed species (eg dairy with poultry waste). This has a number of advantages particularly those relating to the year-round availability of feedstock and the need to control the nutrient content and balance of useable digestate.

#### **4. Possible Uses of Biogas Produced**

The full-range of options is available within the region for the utilisation of biogas and it is known that all, to one extent or another, are under active consideration. The utilisation via its injection into the gas network is currently financially unattractive due to high capital costs and the lack of any tariff incentive for renewable gas.

The most likely utilisation is still likely to be the generation of electricity via an engine or turbine and it is a significant objective of this project to increase the extent to which the “waste” heat is productively used. This objective is also hindered through the lack of any tariff incentive for renewable heat.

Utilisation of the gas as fuel for road vehicles (particularly captive fleets) is an option that is reasonably likely to be adopted in a minority of cases.

#### **5. Obstacles and Barriers**

5.1 In order to develop, the biogas industry needs to overcome several barriers to progress:-

- **Economic Viability.** The technology is perceived as being extremely expensive and uneconomic.
- **Public/Industry Perception.** Anaerobic digestion is commonly understood to be a technology that is only about manure and sewage. This perception is particularly unhelpful given the energy yield from such feedstocks.
- **Bad Neighbour Development.** This point is probably linked to the point above and that involve particularly smelly feedstocks. It is assumed by many, including regulators, that AD plant will always give rise to odour complaint and should be sited a very long way from sensitive properties.
- **Limited Expertise in the UK.** There are competent individuals in consultancies, academic institutions and companies that design, install and operate AD plant but they are relatively few in number. It is encouraging that these people tend to be very busy but there are too few of them and the development of the industry will be restricted by their ability to deliver.
- **Institutional and Regulatory Issues.** The technology is generally not well-understood in government (central and local) and thus its potential has been consistently under-estimated for many years. There are signs that this is changing but there is much to do in this area. Regulators tend to be overly-restrictive simply because of their lack of familiarity with the technology.

## **6. The Strategy**

### **6.1 Broad Strategic Objectives**

There are a number of guiding principles and core objectives that underpin the strategy and define the reason for its development and the desire to see biogas developments implemented in the region:-

- Emissions of greenhouse gases (particularly methane) are very significantly reduced via the pre-treatment or diversion of organic waste from landfill sites
- Emissions of greenhouse gases are reduced through the efficient and productive utilisation of biogas in substitution for fossil fuels.
- Emissions of greenhouse gases and the consumption of fossil fuels are reduced through the substitution of mineral (NPK) fertilisers with high quality AD digestate
- Energy security issues are eased through the generation of indigenous fuels
- The incidence of surface and groundwater pollution from organic wastes is significantly reduced through the comprehensive treatment options afforded by this technology
- The creation of additional wealth, particularly in the rural economy

### **6.2 More Detailed, and Quantifiable Objectives**

6.2.1 Anaerobic digestion provides the region with opportunities that are currently very significantly under-utilised. The objective would be to see the technology used to its optimal potential although it is recognised that this is probably achieved best through a steady growth in reliable good practice examples. Particularly given the nature of this industry, it is considered to be desirable that early developments are of the highest possible standards, in order that they generate confidence in the technology and processes.

6.2.2 The objectives in this period of establishment are:-

- The establishment of best practice utilisation of liquid and solid digestate, minimising ground and surface water pollution, with excellent uptake by plants, minimal air pollution, low odours and maximum displacement of artificial fertiliser use.
- The efficient utilisation of the biogas fuel with the minimum of waste (usually in the form of heat). Where electricity generation is involved this would suggest that co-generation (combined heat and power (CHP)) would be the norm.
- The diversion of food or food-processing waste (including the acceptable fraction of abattoir waste) away from incineration or landfill.

- The diversion of appropriate non-lignacious biodegradable waste away from centralised aerobic composting schemes, incineration or landfill.
- The diversion of manures, particularly from intensive livestock operations, away from land-spreading (which is currently the norm but subject to tightening rules), combustion or other environmentally damaging or non-productive disposal routes.
- The development of cooperative ventures that ensure that biogas plants are utilising a feedstock mix that provides good gas yields, high levels of consistency of operation whilst minimising the distance through which inputs must travel.
- The development of a skilled and well-trained workforce in the construction, maintenance and operation of biogas plants.
- Increased competitiveness of food processing sector through the reduction of waste processing/disposal costs.

6.2.3 The extent to which the UK market is ready and/or the direction taken by UK energy/agricultural policy will encourage, the development of biogas production based upon specifically grown crops is questionable. There is a significant groundswell of opinion in the UK that displacing food production with energy crops is immoral. This opinion is unlikely to be easily dispelled in the light of the current increased in world grain prices.

### **6.3 Likelihood of Achieving Objectives**

6.3.1 There are a number of factors that are likely to limit the achievement of strategy objectives:-

- Lack of a coherent strategy at central government level
- Insufficient fiscal incentive to encourage the development of AD
- No public subsidy mechanism to encourage renewable energy production other than electricity
- Insufficient knowledge of the potential of AD at almost all levels of government, industry and society in general
- Public perception of the technology (to the extent that there is any knowledge at all), fear of the unknown and the in-built resistance to change
- The UK seems to favour large-scale solutions which do not lend themselves to the efficient utilisation of “waste” heat. There is also a lack of familiarity and embedded mistrust of district heating solutions.

6.3.2 Energy-from-Waste combustion plants have been constructed or are planned in many areas and long-term contracts are in place to treat waste from a wide area. Similarly, centralised aerobic composting schemes have been developed over recent years and there is considerable inertia in the system that will take quite some reversing.

## **6.4 Strategy Implementation**

6.4.1 Whilst many of the barriers cannot be overcome other than at the level of national government there are issues that can be addressed at the regional level.

6.4.2 The issues that can be addressed at regional level and by the partners involved in this project are:-

- Increasing the profile of biogas technology and its potential contribution to waste management problems in particular
- Providing information to decision-makers, particularly planning officers and councillors
- Seeking out opportunities for AD developments
- Influencing the development of projects in order to increase viability, enhancement of sustainable development principles, maximisation of opportunities for cooperative action and the implementation of high quality installations.
- Dissemination of best-practice solutions from within the UK and the EU in general.

## **6.5 The Information Campaign**

6.5.1 It is key to success for the development of biogas in the region that publicity and information are available and distributed to decision makers and the public at large. This information will be targeted primarily at local planning authorities and will include, where appropriate, representations being submitted in respect of individual planning applications.

6.5.2 A dissemination and publicity campaign will be implemented that involves appropriate literature, seminars, attendance at public events, media reports and publicity.

6.5.3 There will be a separate strategy for potential investors and feedstock providers and this will include the opportunity to visit biogas plants in the UK and, probably elsewhere within the EU (Germany?).

## **7. Proposed Action Plan**

7.0 The Action Plan consists of a series of discreet but inter-related actions that, in sum total, are designed to achieve the objectives of the Regional Strategy. Each of the actions is described more fully on the implementation sheets contained within the annex to this document.

7.1 Expanding SWEA knowledge base

7.2 Influencing Policy Makers

7.3 Informing Regulators

7.4 Raising Awareness Amongst Potential Developers

7.5 Providing Study Tour Opportunity(ies)

7.6 Providing Best Practice Case Studies

7.7 Disseminating Up-to-date Information

7.8 Assisting Potential Developers to Assess Project Viability

7.9 Providing Practical Assistance in Improving the Quality of Potential Schemes

7.10 Providing Assistance in Partner searches, for instance, in terms of potential heat users or feedstock providers.

7.11 Providing Advice to Potential Developers in Navigating the Town and Country Planning system.

7.12 Providing Assistance with Technology Availability and the Potential Suppliers of Equipment and Expertise.

## **8. Implementation**

8.1 Severn Wye Energy Agency is unable to implement the Action Plan without the active involvement of other parties and it is very much part of the concept of “Biogas Regions” in the UK context that it complements the work of others and does not seek to duplicate or cut across measures already underway or planned.

8.2 In the Welsh context this complementary role has led to SWEA being linked to the Centre of Excellence for Anaerobic Digestion that has been established at the University of Glamorgan.

8.3 The Regional Advisory Committee has played a key role in the development of this strategy and action plan and will provide support and advice to SWEA staff in its implementation.

8.4 There have been many other organisations and individuals that have helped shape this document, including the other partners in “Biogas Regions” and there will be many others needed to see it implemented successfully.

8.5 Details of the method of implementation and the likely key players are highlighted in the numbered actions included in the annex.

## **9. Monitoring**

9.1 The Action Plan will be re-assessed by the Advisory Committee in the Spring of 2009 and again in early 2010 in order to assess progress against targets. If revisions in the strategy or a change of emphasis is required at any stage then these will be considered and, if appropriate, implemented.

9.2 The context of the Action Plan is one where oil has moved to well over \$100 a barrel and governments across the world are being forced to react to these, almost certainly permanent, changes to way society views energy. This enforced change, along with the desirable change required in order to reduce the extent of climate change, will see more radical policies emerging from government and more dynamic solutions implemented by businesses. Whilst these changes represent an opportunity for biogas technology, they also mean that strategies such as this need to be able to react quickly.

## 10. The Advisory Group

10.1 An Advisory Group was established to assist with the development of the Biogas Regions project in the SWEA region of England and Wales. The Group assisted with the preparation of this document and will assist with the implementation of its contents. Its current membership is:-

Richard Baines – Royal Agricultural College

Kevin Austin– Welsh Assembly Government

Mark Brown – Powys County Council

Richard Dinsdale – University of Glamorgan

Sandra Esteves – University of Glamorgan

Oliver Harwood – Country Landowners and Business Association

Adrian Jones – Welsh Assembly Government

Lucy Lewis – Greenfinch Ltd.

Lisa Pritchard – Gloucestershire County Council

Steve Rist – Merlin Biofuels Ltd

Sue Thompson – Glasu

David Williams – Potters Ltd

Kierson Wise – Severn Wye Energy Agency

Christopher Maltin – Organic Power Ltd

Guy Hitchcock – Sustainable Transport Network

Lisa Pritchard – Gloucestershire County Council

Simon Dawes – Environment Agency

Tim Patterson – University of Glamorgan

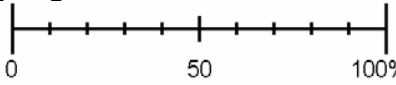
Paul Roberts – Wales Environment Trust

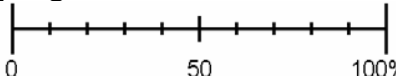
David Saunders – Organic Power Partnerships

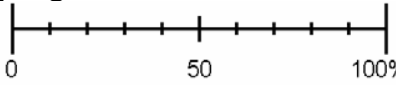


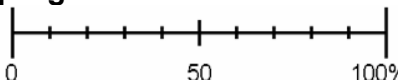
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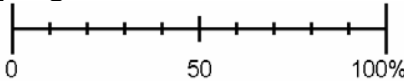


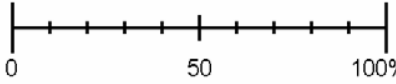
<b>number</b> 7.2	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Influencing Policy Makers</b>		
<b>description and approach</b> AD is only likely to flourish within a context of strong government support. The intention is to influence central and local government, and other decision-makers, that AD offers excellent opportunities to generate sustainable energy, offset GHG emissions and provide effective waste management solutions.		
<b>steps and deadlines</b> initial contact with officers of all county council's in the region – September 08 offer bespoke or joint seminar to County Councils – September 08 arrange general seminar for Wales – by Spring 09 follow-up on English seminar already held at Cirencester and organise a further event if appropriate – by spring 09 respond to consultation from Welsh Assembly Government on its "Renewable Energy Route Map" – May 08 (done)		
<b>aims / targets</b> at least 3 of the 4 county councils sending segregated food waste to AD new positive policies from local government in the region towards AD		
<b>external dependencies</b> this action is wholly dependent upon the responsiveness of central and local government to approaches from SWEA and possibly others		
<b>Actors</b> Whilst it will be the project manager that will approach the decision-makers, endorsement by others is likely to be critical. The partnership with the University of Glamorgan might see the Wales Centre of Excellence playing a role in the process.		
<b>target group(s)</b> Local authority members Local authority officers (sustainable development, economic development and waste management) Key central government civil servants Welsh Assembly members Members of Parliament		
<b>expenses / resources</b> primarily SWEA staff time (project manager) with some travel expenses involved in arranging and running seminar/s		
<b>obstacles</b> receptiveness of target groups over-coming of fundamental ignorance of the technology		
<b>remark</b> much will depend up the success of the initial contacts. First impressions are of key importance		
<b>review</b>		

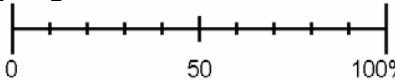
<b>number</b> 7.3	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Informing Regulators</b>		
<b>description and approach</b> One of the greatest barriers to the development of biogas in the region has been identified as the lack of knowledge/awareness amongst regulators – particularly local government officers and members. This Action addresses this point by seeking to engage with local authority planning and environmental health officers and members in particular.		
<b>steps and deadlines</b> informally approach all planning authorities in the region and offer to provide a seminar – could be the same seminar as 7.2 where planning applications are submitted, support the principle of AD and where appropriate provide impartial advice to planning authority and applicants alike track the progress of planning applications and be prepared to use them as case studies.		
<b>aims / targets</b> The aim must be to better inform regulators in order that applications in respect of AD plant are fairly and accurately assessed. Lack of knowledge is also likely to bring about delay as more and more information is sought – the aim is therefore extended to the bringing about of timely decision-making.		
<b>external dependencies</b> The participation of local authorities in such seminars/training is by no means certain. Local authority planning committees do not always act rationally, particularly in the face of local opposition – having good information does not automatically lead to good decision-making.		
<b>actors</b> Project manager primarily.		
<b>target group(s)</b> Local authority planning officers (development control) and planning committees Local authority environmental health officers Environment Agency officers		
<b>expenses / resources</b> primarily project manager time plus travelling expenses. Expenses associated with the staging of a seminar/workshop		
<b>obstacles</b> as per “external dependencies		
<b>remark</b> the project manager is a qualified and chartered town planner – this should help with this task		
<b>review</b>		

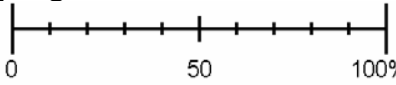
<b>number</b> 7.4	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Raising Awareness Amongst Potential Developers</b>		
<b>description and approach</b> potential developers are likely to fall into one of four broad categories:- farmers/landowners food processors with a waste in need of disposal existing waste management operators producers of large quantities of food waste (eg hospitals) The intention is to use existing networks to raise the awareness of the (realistic) potential of AD amongst these target groups.		
<b>steps and deadlines</b> organise and publicise a last one more seminar – Spring 09 (one held in Gloucestershire already) seek out opportunities to speak at other events – on-going follow up on leads from others – on-going organise study tour/s – before autumn 09 network at events and speak directly to farming unions etc – on-going		
<b>aims / targets</b> bring biogas technology to the attention of a wider audience of potential developers identify candidates for quick check and opportunity studies ensure that realistic information is disseminated so that non-viable projects are quickly abandoned		
<b>external dependencies</b> receptiveness of various audiences – but this fear has been largely put aside already – much interest is already very apparent		
<b>actors</b> project manager Advisory group Farming unions, CLA and young farmers clubs National Health Service Carbon Trust		
<b>target group(s)</b> farmers/landowners food processors with a waste in need of disposal existing waste management operators producers of large quantities of food waste (eg hospitals)		
<b>expenses / resources</b> project manager time, expenses involved in running seminars and study tour/s		
<b>obstacles</b> the major obstacle is that of getting busy people away from their core activities to talk about innovation		
<b>remark</b> need to be vigilant and opportunistic in approach		
<b>review</b>		

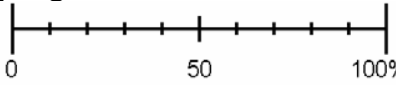
<b>number</b> 7.5	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Providing Study Tour Opportunity/ies</b>		
<b>description and approach</b> provision of study tour or tours		
<b>steps and deadlines</b> main study tour (to Germany?) by autumn 09 other study opportunities to UK possibly arranged on an opportunistic basis		
<b>aims / targets</b> familiarise participants with good practice examples build confidence in the technology allow regulators to experience working plant		
<b>external dependencies</b> Requires the participation of plant owners and operators – shouldn't be a problem Requires enough participants prepared to pay in terms of staff time and (subsidised) expenses		
<b>actors</b> project manager and other SWEA staff plant operators Biogas Regions experienced partners		
<b>target group(s)</b> potential developers regulators key decision-makers		
<b>expenses / resources</b> project manager time other SWEA staff time travel, accommodation and subsistence expenses time from experienced partners time from plant owners/operators		
<b>obstacles</b> the major obstacle is that of getting busy people away from their core activities		
<b>remark</b> significant interest already expressed by Wales Young Farmers Club for a study tour to Germany in Spring 09		
<b>review</b>		

<b>number</b> 7.6	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Providing Best Practice Case Studies</b>		
<b>description and approach</b> with experienced partner, LEV, having compiled an electronic brochure of EU-wide “shining examples”, SWEA will choose 4 or 5 to demonstrate best practice across the current range. These will include best practice in the UK. A brochure will be published and widely distributed.		
<b>steps and deadlines</b> LEV to finalise project-wide shining examples by autumn 08 UK brochure to be put together asap following completion of above Printing and distribution late 08 or early 09.		
<b>aims / targets</b> produce a printed and electronic reference document that is specifically designed for use in the UK context that will guide interested parties in the basics of AD technology and give valuable and relevant case studies		
<b>external dependencies</b> requires the cooperation of plant owners and operators dependent upon LEV experienced partners		
<b>actors</b> LEV Project manager Other SWEA staff (especially ICT and design expertise)		
<b>target group(s)</b> all groups with any interest in biogas but particularly those with only limited knowledge of the subject		
<b>expenses / resources</b> project manager time other SWEA staff time costs associated with printing, publishing and distribution of the brochure		
<b>obstacles</b> UK plant operators finding the time to complete the case study information		
<b>remark</b> Requests for information from UK plant operators due back very shortly – but not yet delivered in all cases!		
<b>review</b>		

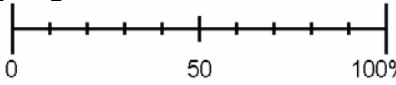
<b>number</b> 7.7	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Disseminating Up-to-date Information</b>		
<b>description and approach</b> Keeping abreast of developments relating to biogas and energy policy is a vital first step Providing information to a variety of parties is a very useful part of the service that will assist with the development of AD industry.		
<b>steps and deadlines</b> provide information, largely verbally, on an individual and bespoke basis publish newsletters – minimum twice yearly. Second newsletter – July 08.		
<b>aims / targets</b> publish at least 6 newsletters over the life of the project		
<b>external dependencies</b> none		
<b>actors</b> project manager Advisory Group and others to provide information and/or pointers to the sources of information		
<b>target group(s)</b> all parties with any potential interest in biogas in the region		
<b>expenses / resources</b> largely project manager time		
<b>obstacles</b> keeping abreast of developments is difficult as changes are happening quickly		
<b>remark</b> none		
<b>review</b>		

<b>number</b> 7.8	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Assisting Potential Developers to Assess Project Viability</b>		
<b>description and approach</b> It is important that time is spent wisely and the early weeding out of proposals that are simply unviable will save time and expense. It will also seek to ensure that the technology is deployed wisely.		
<b>steps and deadlines</b> distribute for self-use, the biogas “quick-check” tool as appropriate undertake at least 5 opportunity studies by November 09 take at least 2 potential projects through to full feasibility by summer 2010		
<b>aims / targets</b> weed out non-viable projects or modify projects in order to render them viable encourage the exploration of possibilities		
<b>external dependencies</b> identifying individuals and companies that may have potential and interest is clearly vital. This will require good intelligence that will come through networking – ie information from third parties.		
<b>actors</b> project manager and later, contracted experts (possibly experienced partners)		
<b>target group(s)</b> farmers/landowners food processors with a waste in need of disposal existing waste management operators producers of large quantities of food waste (eg hospitals)		
<b>expenses / resources</b> project manager time with some travel expenses later – consultancy costs		
<b>obstacles</b> the greatest obstacle is identifying the potential developers		
<b>remark</b> one or two potential developers already identified. Awaiting tools from experienced partner in order to proceed (far)		
<b>review</b>		

<b>number</b> 7.9	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Providing Practical Assistance in Improving the Quality of Potential Schemes</b>		
<b>description and approach</b> It is a key priority for the Regional Strategy for the schemes developed in the region to be of a high quality. Early involvement with schemes should provide the potential for their improvement, particularly via the involvement of third parties and the actions taken under Action 7.10.		
<b>steps and deadlines</b> work with all potential project developers to identify ways in which projects could be improved – with particular reference to the priorities of the Regional Strategy.		
<b>aims / targets</b> The aim is to increase the benefits arising out projects and provide excellent models for others to follow		
<b>external dependencies</b> Requires potential developers and others (eg Welsh Assembly Government and South West RDA) to play a full part in the process.		
<b>actors</b> project manager developers and their agents Environment Agency Development Agencies (SWRDA and WAG) University of Glamorgan		
<b>target group(s)</b> all project developers		
<b>expenses / resources</b> project manager time and travel public sector body officer time and possibly financial assistance (Wales) University of Glamorgan staff time and travel (AD Centre of Excellence funded?)		
<b>obstacles</b> there are almost certainly going to be financial, technical and/or institutional barriers to overcome in seeking improvements		
<b>remark</b> worthwhile trying but may not prove very fruitful?		
<b>review</b>		

<b>number</b> 7.10	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Providing Assistance in Partner Searches, for instance, in Terms of Heat Users or Feedstock Providers</b>		
<b>description and approach</b> Some potential developers might need assistance to find partners because their own resources are insufficient to render a scheme viable – others schemes might benefit from partnership working. SWEA may be reasonably well placed to search out partners for the developers of potential biogas plants.		
<b>steps and deadlines</b> Continue to build relationship with potential developers, landowners, waste producers, existing developers, heat users etc Introduce potential partners as appropriate Produce “Promising Partnership Framework” (by autumn 2009) that provides guidance on partnership possibilities and best practice.		
<b>aims / targets</b> This action is designed to maximise the benefits arising out of the development of the biogas industry as per the Regional Strategy. The target is to facilitate at least 3 partnerships that have the potential to increase biogas yields or the efficiency of use of the biogas. Complete and publish the “Promising Partnership Framework”.		
<b>external dependencies</b> This action is clearly almost entirely reliant upon the willingness of third parties to cooperate with each other.		
<b>actors</b> project manager with assistance and active participation from a range of others depending upon circumstances:- eg Environment Agency, Development Agencies (SWRDA and WAG), University of Glamorgan, Farming Unions.		
<b>target group(s)</b> potential and existing developers		
<b>expenses / resources</b> project manager time and possibly travel costs involved in publishing the Promising Partnership Framework		
<b>obstacles</b> It is notoriously difficult to build partnerships		
<b>remark</b> this is potentially an area where Biogas Regions can make an important difference		
<b>review</b>		

number	responsible person	progress
7.11	Andy Bull	
<b>Title</b> <b>Providing Advice to Potential Developers about the Town and Country Planning System</b>		
<b>description and approach</b> Utilising the skills and qualifications of the project management provide advice and support to potential developers and their agents on the form and content of their planning applications, and on their responses to questions and actions of the local planning authority.		
<b>steps and deadlines</b> Offer the service to potential developers and follow applications through the town and country planning system – and to appeal if necessary and appropriate		
<b>aims / targets</b> increasing the success rate of planning applications and their speed of determination		
<b>external dependencies</b> no-one will be forced to seek or accept advice		
<b>actors</b> project manager		
<b>target group(s)</b> potential developers and their agents		
<b>expenses / resources</b> project manager time and travel		
<b>obstacles</b> none of note		
<b>remark</b> will need to exercise caution in terms of project support – must not be seen to be supporting poor proposals need to ensure that applicants understand that this is advice only – the Project Manager will not take on the role of agent.		
<b>review</b>		

<b>number</b> 7.12	<b>responsible person</b> Andy Bull	<b>progress</b> 
<b>Title</b> <b>Providing Assistance with Technology Availability and the Potential Suppliers of Equipment and Expertise</b>		
<b>description and approach</b> It would be valuable for the development of biogas in the region if there was available a directory of biogas technology and equipment providers as well as designers and consultants. The opportunity also exists for supplier and investor match-making arrangements facilitated by SWEA and the experienced partners.		
<b>steps and deadlines</b> complete developer/supplier directory by Spring 09 match-making meeting could happen at any time but by summer 2010 at the latest		
<b>aims / targets</b> assist potential developers to find good technological solutions at competitive prices		
<b>external dependencies</b> the directory work be much more comprehensive and of better quality with input from others the match-making clearly requires potential and interested investors in this region and potential suppliers from the regions of the experienced partners		
<b>actors</b> project manager with assistance from others – University of Glamorgan in particular?		
<b>target group(s)</b> potential investors		
<b>expenses / resources</b> project manager time and costs involved in developing the directory. Potentially some travel and subsistence costs.		
<b>obstacles</b> finding the necessary information and ensuring that it is comprehensive and up-to-date		
<b>remark</b> need to ensure fairness and openness in directory and match-making.		
<b>review</b>		