# AD on the move United Kingdom 2007

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# UK position May 2007

- David Miliband MP & Secretary of State for the Environment
- **‘ The Government is committed to making the most of anaerobic digestion to contribute to a number of key objectives, notably reducing greenhouse gas emissions from waste management and agriculture and improving air and water quality as well as a source of renewable energy’**

# The UK Biomass Strategy May 2007

- To work with stakeholders to drive faster growth in the use of AD
- To work with the new National Waste Strategy on the important contribution of AD to achieving UK waste management goals for maximum $CO_2$ reductions
- To work on standards for AD digestate /bio-fertiliser with the Environment Agency
- To publish the Climate Change Bill - enshrines UK target of 60% reduction in $CO_2$ by 2050 in legislation

# The current drivers

- Greater energy & carbon benefits from biomass ( manure, crops, 'wastes') than by composting
- Improves air quality- reduce odours & emissions from manure spreading, $CH_4$ ,,$N_2O$, $NH_3$ and particulates, etc from transport
- Reduce $CH_4$ by 3% by diversion of Biowaste from landfill

**AD THE PREFERRED TECHNOLOGY**

# A break point 2002

| Year | No. installed | Digester volume ($m^3$) |
|---|---|---|
| 1975-88 | 22 | 4,713 ( oil crises ) |
| 1989-98 | 28 | 5,320 ( air & water pollution, NFFO incentive for electricity) |
| 2002 | 2 | 8,003 (Holsworthy biogas CAD) |
| 2003-06 | 15 | 21,690 |
| 2007 | 4 | 19,688 (under planning) |

# Holsworthy Biogas 146kt/yr

# 2003 Energy White Paper

- To maintain reliable energy supplies
- To reduce $CO_2$ by 60% by about 2050
- To Promote competitive energy markets,
- 15.4% renewable electricity by 2015-2020

***NB Biomass at that time < 1.5% of UK electricity production***

# Composition of the 1.5% (Gwh)

| | |
|---|---|
| Wind, solar & hydro (all ) | 2,014 |
| **Bio- fuels**: | |
| • Landfill gas | 3,276 |
| • Sewage sludge/gas | 345 |
| • Co- firing wood, palm kernels, etc | 602 |
| • Other – Slurry, straw, poultry litter, SRC, meat & bones (combustion) | 937 |
| **Total bio-fuel renewable electricity of which biogas amounts to 70%** | **5,160** |

# 2004

**Biomass Task Force set up to:**

**‘assist Government and the biomass industry in optimising the contribution of biomass energy to renewable energy targets and to sustainable farming, forestry and economy objectives’**

**NB Energy NOT just electricity**

# Biomass Task Force Recommendations 2005

- To review  current strategy & consider practical & financial mechanisms for expansion of AD but ensure balance between biogas production and uncontrolled methane escape
- To give urgent support for a digestate standard
- To carry out economic & environmental assessment of AD potential as an alternative renewable fuel to displace diesel

# Farm scale – protection of Solway Firth from manure run-off

# Methane to Market Agricultural Task Force formed 2004

- Core members : Argentina, Australia, Brazil, Italy, Japan, Korea, Mexico, **UK, Canada ( IEA Task 37 members) ,** USA, and joined by China, Colombia, Ecuador, India, Nigeria, Poland, Russia, Ukraine and Vietnam
- **2006 UK Co-chair with Argentina & hosted conference in UK November 2006**
- **Conference Report published May 2007**

# Methane to market aims and activities

- Bring together AD specialists to **exchange information**; share information about research
- **Technology –** bring technology developers and users together, identify & implement demonstration & technology transfer events
- **Policy –** quality controls (digestate standards), legislative & fiscal measures
- **Identify** project development in partnership states to feature in Expo Beijing 2007

# AD gains recognition

- Well proven technology
- Can reduce greenhouse gas emissions
- Treated liquid used as fertiliser
- Diversion of food from MSW
- Reduced odours, pathogens
- Produces energy
- Feedstocks now described as resource

# A seal of approval

- AD is preferred technology for energy recovery from source segregated biowaste
- Offers significant climate change benefits over land spreading and composting
- Has potential to contribute to wider environmental objectives
- Government taking range of actions to support wider uptake of digestion

# THE PORTAGESTER

# AD - cost effective option

DTI Economic analysis of biomass energy shows:

- AD cost effective for displacement of oil & gas CHP when gate fee of €30/t of TS at 1-1.5 $MW_e$ scale
- Cost/t $CO_2$ reduction €43/t AD & wood chip, €180/t co-firing 10% biomass with coal, dedicated wood chip electricity €282/t


Bedfordia Farms 2006
50kt/yr pig slurry& ABP

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