



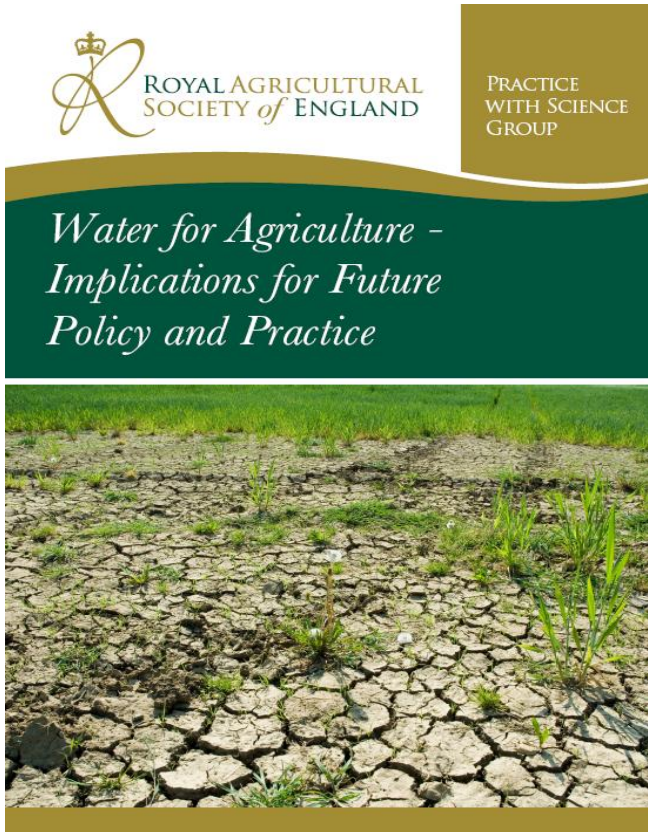
The Challenge of Smaller Scale On-farm Anaerobic Digestion

RASE Background

- **Charity** - established 1838 to promote innovation
- **Science** - for the advancement of UK agriculture
- **Technology** - promoting development/adoption
- **Stoneleigh** - serving industry at NAC since 1963
- **Showcase** - technical events post Royal Show
- **Partnerships** - promoting knowledge exchange
- **Sustainability** - agriculture in the low-carbon era

Increasing focus on rural renewables

Practice With Science



- “Practice with Science” Group
 - Recent reports: Soils, Water, GHG Emissions, Applied Research
 - Seminars on application of novel technology (emissions and soil)
 - Raising profile of applied science across industry and rural sector
 - Working with DEFRA, EA, also Nat. England, BBSRC & AHDB
- “Vision” to develop Stoneleigh as a platform for rural sustainability.

Anaerobic Digestion

Biogas generation in oxygen free conditions:

- Diverse feedstocks - but variable biogas potential
- Misrepresented as a waste management system
- Danger of over-regulation or policy straight-jacket
- Scale matters - technology must be appropriate
- Incentives - energy generation & surplus heat use

Evolving technology:

- Municipal: landfill diversion
- On-farm: slurry/crops
- Industrial: waste/co-products





AD: Issues & Opportunities -

using slurry & available feedstocks

- Biogas potential of cow slurry
- Pollution & nutrient handling
- Year round feedstock supply
- Regulation, policy & planning
- Design of on-farm technology
- Plant scale that fits on farm
- Cost & return on investment

RASE is producing report on small scale rural AD to stimulate debate

Small Scale On-farm AD

Issue of On-farm AD on the agenda with Government

- Pressure for technology/process innovation
- Need for more information and demo sites
- Learn from experience of on-farm AD pioneers
- Potential for lower cost modular systems



The Challenge for AD and Farmers

“I can feed my cows things I cannot feed to my digester” & “if there is any doubt [on interpretation], the answer [from the authorities] is NO’.

Comments from on-farm AD practitioners, 2010

“Over the next 50 years, the world’s farmers and ranchers will be called upon to produce more food than has been produced in the past 10,000 years combined, and to do so in environmentally sustainable ways”.

Jacques Diouf, FAO Director General, 2007

Agenda

- 10.40 Nina Sweet - AD Barriers & Benefits
- 11.00 Trevor Lea - Case Study 1
- 11.20 Russell Mulliner - Case Study 2
- 11.40 Coffee Break
- 12.00 Jon Parry - Walford College
- 12.20 Visit to Walford AD Plant
- 13.15 Working Lunch
Round Table Discussion
- 14.30 Conclusion





AD can combine improvements in slurry management with energy supply - can we make it happen?