

NATIONAL CENTRE FOR ENGINEERING IN AGRICULTURE



Biogas potential in Australia:

Environmental and techno-economic considerations

A/Prof Bernadette McCabe

National Centre for Engineering in Agriculture
University of Southern Queensland
Bernadette.McCabe@usq.edu.au | Ph: +61 7 4631 1623

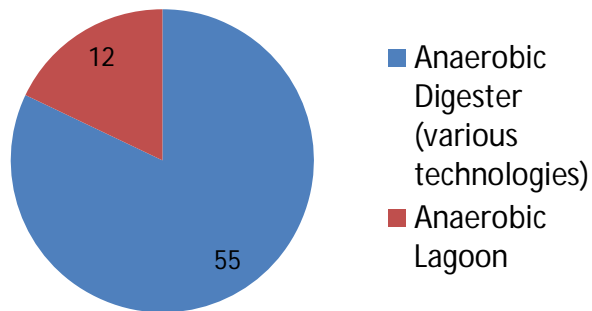
Current biogas status

Preliminary database established

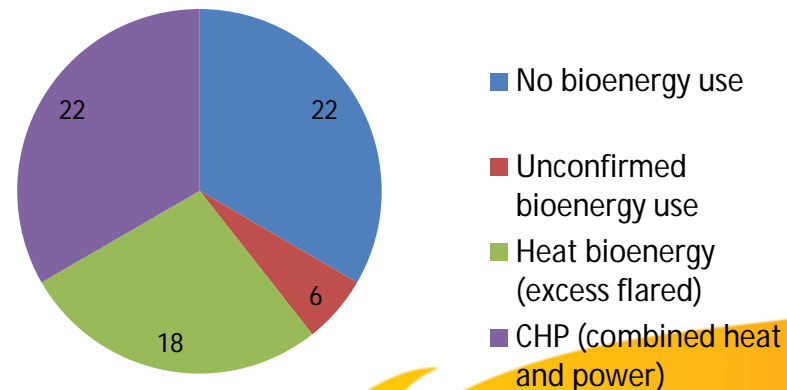


Anaerobic Digestion Feedstock Category			
WWTP Sewage sludge	Biowaste (residential and commercial)	Agricultural (on-farm AD)	Industrial
46	4	15	13

Types of Anaerobic digestion technologies at WWTPs



Anaerobic Digestion bioenergy enduse at Australian WWTP



Drivers for biogas



Considerable interest in biogas technology in intensive livestock and red meat processing industries. Driven by:

- Rapidly increasing energy and fertiliser costs
- Odour emission and urban encroachment onto traditional rural areas
- The potential for improved regulatory compliance
- Various points related to the reduction of carbon footprint



Covered anaerobic lagoons, sometimes called ponds, are the preferred type of technology for Australian agricultural industries.

Environmental and techno-economic considerations



Obstacles hindering biogas adoption include:

1. Predicting biogas: There is no reliable data to support biogas for some industries (for example the beef feedlot industry).
2. Construction risks.
3. Regulatory requirements: Different states impose different levels of regulation.
4. Certainty of revenue or costs savings generated by using or selling energy output or fertiliser.
5. Financial performance: currently no direct government support.

