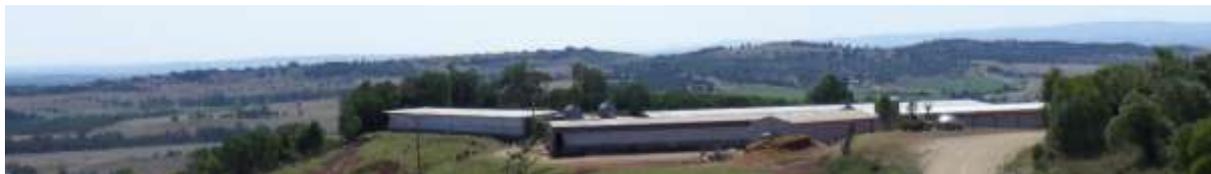


# PigGas Report 22 – 660 sow, farrow to weaner, conventional piggery, Qld

December 2013

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## Production details

This is a small conventional piggery which produces weaners which are grown out on a secondary grower site. Weaners are transferred to the grower unit at three weeks of age.

## Feed consumption

Pigs are fed a diet sourced from a local commercial supplier. The diet is based on locally grown cereals. The annual feed consumption on this site is 827 tonnes.

## Sales/Tranfers

15,834 pigs/yr are sold with a total dressed weight equivalent of 98 t/yr.

## Waste management systems

Manure is flushed from each shed in an underfloor pull-plug system into two separate lagoons on different sides of the farm.

## Manure reuse systems

Treated effluent is pumped from the anaerobic holding ponds and utilised to irrigate pastures adjacent to the piggery that are used for livestock grazing.

## On-Farm Baseline Emissions

The current baseline emissions for this piggery total **1,162 tonnes CO<sub>2</sub>-e/yr** with an on farm emissions intensity of **16.68 kg CO<sub>2</sub>-e/kg HSCW**.



The National PigGas Extension Project is funded by Ian Kruger Consulting, the Australian Government and Australian Pork Limited.

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## On-Farm Emissions Reduction Scenario

Like most conventional piggeries with anaerobic ponds, the majority of emissions on this piggery come from pond methane. As it was anticipated that the cost of generating electricity on the site would be potentially impractical, a scenario of covering the ponds and flaring the biogas was investigated.

This scenario (see table below) reduced on-farm emissions **from 1.162 t/yr to 403 t/yr** and reduced **from 16.68 to 5.79 (65% reduction)**.

If carbon emission were to be further eliminated by generating electricity (meeting 60% of the piggeries needs) and reducing feed wastage to 5% the on farm emission could be reduced to **230 t/y** or an intensity of **4.19 kg CO<sub>2</sub>-e/kg HSCW**. This would represent a 75% reduction in carbon emissions intensity from the current baseline.

Given the current scale and infrastructure of this piggery and prevailing industry profitability levels it is unlikely that any of these option would be economically viable at this time.



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## Annual Greenhouse Gas Emissions Profile (calculated using PigGas)

Emissions	Current Emissions Baseline	Reduction Scenario (kg CO <sub>2</sub> -e/yr)
<b>Pre-farm</b>		
Grain	206,640	206,640
Milling & delivery	39,675	39,675
Pig freight	1,458	1,458
Straw & bedding		
<b>Total Pre-farm</b>	<b>247,773</b>	<b>247,773</b>
<b>On-farm</b>		
<i>Fuels &amp; energy</i>		
Purchased electricity	128,480	128,480
Fuel - stationary	10,731	10,731
Fuel - transport		
<i>Enteric CH<sub>4</sub></i>	28,284	28,284
<i>Manure management</i>		
MMS CH <sub>4</sub>	855,129	95,014
MMS – direct N <sub>2</sub> O	12,389	12,389
MMS – Atmos. deposition N <sub>2</sub> O	49,554	
<i>Waste applied to soil</i>		
Soil – direct N <sub>2</sub> O	74,207	123,762
Soil – leaching & runoff N <sub>2</sub> O	2,978	4,966
<i>Offsets</i>		
<b>Total On-farm</b>	<b>1,161,751</b>	<b>403,625</b>
<b>Post-farm</b>		
Pig freight	2,435	2,435
Meat processing	39,362	39,362
Exported manure		
<b>Total Post-farm</b>	<b>41,797</b>	<b>41,797</b>
<b>Dressed weight sold - HSCW (kg/yr)</b>	<b>98,405</b>	<b>98,405</b>
<b>Carbon footprint</b>	<b>(kg CO<sub>2</sub>-e / kg HSCW)</b>	<b>(kg CO<sub>2</sub>-e / kg HSCW)</b>
Pre-farm	3.56	3.56
<b>On-farm</b>	<b>16.68</b>	<b>5.79</b>
Post-farm	0.60	0.60
<b>Total</b>	<b>20.83</b>	<b>9.95</b>



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