

# PigGas Report 53 – 180 sow, farrow to finish, conventional piggery, NSW.

May 2015



## Production details

This is a small family owned conventional piggery, with breeding and growing pigs housed on one site in naturally ventilated sheds. The dry sows are group housed and fed by computer controlled electronic feeding stations. Batch farrowing every two week is practiced together with artificial insemination. Pigs are sold as finishers for domestic markets including butchers at an average of 90 kg live weight.



## Feed consumption

Milled and mixed feed rations for all pig classes are purchased off-site and delivered by contractors. Total feed consumed is 1,154 t/yr.

## Sales/Tranfers

36 gilts/yr are purchased and transferred in to the site. Net pig sales are 4,580 pigs/yr with a total dressed weight of 312 t/yr.

## Waste management systems

Manure from the sow shed is stored in underfloor storage drains and released regularly by pull-plug. The weaner and grower sheds have free draining underfloor drains which are flushed daily by tipping buckets.

Manure from all sheds flows directly to a primary anaerobic pond which then drains to a secondary facultative/storage pond.



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

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## Manure reuse systems

Effluent from the facultative/storage pond is regularly irrigated to pastures used for cattle grazing. Total property area under pasture is approximately 46 hectares.

## On-Farm Baseline Emissions

The current baseline emissions for this piggery total **1,285 tonnes CO<sub>2</sub>-e/yr** with an emissions intensity of **4.12 kg CO<sub>2</sub>-e/kg HSCW**.

## On-Farm Emissions Reduction Scenario

Like most conventional piggeries with anaerobic ponds, the majority of emissions (84%) on this piggery come from pond methane. However, covering the pond to capture and burn methane is not an option on this piggery due its relatively small size and the high cost of covering and flaring.

There are two options to reduce emissions that are currently being considered by the owner. The first is to reduce feed wastage of the grower and finisher pigs (10% to 5%) by adjusting and replacing feeders. The second is to install a screw press separator to remove solids from the sow shed effluent prior to pond treatment. The separated solids will be sold off-site to other farmers.

This scenario (see table below) reduced on-farm emissions **from 1,285 t/yr to 1,165 t/yr** and reduced kg CO<sub>2</sub>-e/kg HSCW **from 4.12 to 3.74 (9% reduction)**.

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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	288,438	288,438
Milling & delivery	55,380	55,380
Pig freight	0	0
Straw & bedding	0	0
<b>Total Pre-farm</b>	<b>2,309,680</b>	<b>343,818</b>
<b>On-farm</b>		
<i>Fuels &amp; energy</i>		
Purchased electricity	26,313	26,313
Fuel - stationary	6,975	6,975
Fuel - transport	6,907	6,907
<i>Enteric CH<sub>4</sub></i>	40,775	42,284
<i>Manure management</i>		
MMS CH <sub>4</sub>	1,080,134	960,884
MMS – direct N <sub>2</sub> O	8,527	8,851
MMS – Atmos. deposition N <sub>2</sub> O	35,602	36,533
<i>Waste applied to soil</i>		
Soil – direct N <sub>2</sub> O	70,905	68,031
Soil – leaching & runoff N <sub>2</sub> O	8,907	8,546
<i>Offsets</i>	0	0
<b>Total On-farm</b>	<b>1,285,046</b>	<b>1,165,324</b>
<b>Post-farm</b>		
Pig freight	0	0
Meat processing	125,946	125,946
Exported manure	0	6,648
<b>Total Post-farm</b>	<b>125,946</b>	<b>132,594</b>
<b>Dressed weight sold - HSCW (kg/yr)</b>	<b>311,862</b>	<b>311,862</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	1.10	1.10
<b>On-farm</b>	<b>4.12</b>	<b>3.74</b>
Post-farm	0.40	0.43
<b>Total</b>	<b>5.63</b>	<b>5.26</b>



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