# PigGas Report 23 – 160 sow, farrow to finish, conventional and deep litter piggery, Tas.

**February 2014**

## Production details

This is a family owned conventional and deep litter piggery, with all stock on one site in naturally ventilated sheds. Lactating sows, boars, finisher pigs and half of the dry sows are housed in conventional flushed sheds. Weaner and grower pigs as well as half of the dry sows are housed in straw-based deep litter sheds. The majority of pigs are sold at a range of pork and bacon weights from approximately 70 kg to 110 kg live weight to local butchers. A small number of light weight porkers are also sold each year at approximately 40 kg live weight.

## Feed consumption

No grain is grown on-site. Most of the feedstuffs used in the piggery are purchased, milled and mixed off-site. A small amount of feed used in a few diets is prepared on-site. Total feed consumed is 942 t/yr.

## Sales/Tranfers

3,821 pigs/yr are sold with a total dressed weight of 236 t/yr.

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## Waste management systems

Manure is flushed or hosed from the conventional sheds directly into two primary anaerobic ponds. Approximately 20% of pond nutrients are exported off-site each year.

## Manure reuse systems

Effluent is regularly pumped from the anaerobic ponds to a travelling irrigator onto pasture paddocks which are cut for silage and grazed by cattle. Total property area is 30 hectares. Spent litter from deep litter sheds is stockpiled before exporting off-site.

## On-Farm Baseline Emissions

The current on-farm baseline emissions for this piggery total **638 tonnes $CO_2$-e/yr** with an emissions intensity of **2.71 kg $CO_2$-e/kg HSCW**.

## On-Farm Emissions Reduction Scenario

This piggery has low baseline emissions because a significant proportion of the stock is housed on deep litter, thereby avoiding significant quantities of methane which would otherwise be generated from the pond treatment of effluent.

There is only one option available to further reduce emissions on this piggery. The owners are currently converting conventional dry sow housing to deep litter housing for the remaining 50% of the dry sows.

This scenario (see table below) reduced on-farm emissions **from 638 t/yr to 594 t/yr** and reduced kg $CO_2$-e/kg HSCW **from 2.71 to 2.52 (7% reduction)**.

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

| Emissions | Current Emissions Baseline (kg $CO_2$-e/yr) | Reduction Scenario (kg $CO_2$-e/yr) |
|---|---|---|
| **Pre-farm** | | |
| Grain | 235,463 | 235,463 |
| Milling & delivery | 45,209 | 45,209 |
| Pig freight | 0 | 0 |
| Straw & bedding | 2,928 | 2,928 |
| ***Total Pre-farm*** | ***283,600*** | ***283,600*** |
| **On-farm** | | |
| *Fuels & energy* | | |
| Purchased electricity | 8,418 | 8,418 |
| Fuel – stationary | 1,193 | 1,193 |
| Fuel – transport | 6,436 | 6,436 |
| *Enteric $CH_4$* | 35,099 | 35,099 |
| *Manure management* | | |
| MMS $CH_4$ | 522,600 | 466,625 |
| MMS – direct $N_2O$ | 4,119 | 21,087 |
| MMS – Atmos. deposition $N_2O$ | 22,553 | 22,999 |
| *Waste applied to soil* | | |
| Soil – direct $N_2O$ | 27,452 | 23,173 |
| Soil – leaching & runoff $N_2O$ | 10,243 | 8,646 |
| *Offsets* | 0 | 0 |
| ***Total On-farm*** | ***638,115*** | ***593,678*** |
| **Post-farm** | | |
| Pig freight | 0 | 0 |
| Meat processing | 94,229 | 94,229 |
| Exported manure | 8,838 | 13,868 |
| ***Total Post-farm*** | ***103,068*** | ***108,098*** |
| **Dressed weight sold - HSCW (kg/yr)** | **235,573** | **235,573** |
| **Carbon footprint** | **(kg $CO_2$-e / kg HSCW)** | **(kg $CO_2$-e / kg HSCW)** |
| Pre-farm | 1,20 | 1.20 |
| **On-farm** | **2.71** | **2.52** |
| Post-farm | 0.44 | 0.46 |
| **Total** | **4.35** | **4.18** |

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