



# GasAbate

GasAbate for the  
Dairy, Beef & Swine Markets





# GasAbate offers a novel paradigm for manure management

1.4 billion tonnes of slurry are stored annually in the EU, resulting in the following issues

- Green House Gas (GHG), ammonia and odour emissions
- Low profit margin with stored slurry
- Manure with significantly reduced nutrients (carbon, nitrogen, sulphur), >€17 billion chemical fertiliser purchase (EU)
- Potential fines at national level

## Target Sectors Dairy, Beef, Swine

	Market Size (€)	Voluntary Carbon Credit (€)*	Total (€)
GasAbate	6.331Bn	8.461Bn – 25.383Bn	14.792Bn – 31.714Bn

\*assumed voluntary carbon credit price range: €10-30/credit





**GlasPort Bio have developed GasAbate,  
a liquid additive for stored manure.**

GlasPort Bio's technology is different. It presents a solution to allow for increased agricultural production and employment without a rise in GHG emissions or carbon leakage, thereby supporting rural communities.

## **Large-scale trials have shown:**

- >80% reduction in GHG emissions
- Increased Nitrogen and Carbon content in manure.
- Reduced Ammonia and Hydrogen Sulphide emissions
- >12% reduction in EU agriculture GHG emissions
- Reduced chemical fertiliser purchase
- Increased carbon content = increased energy output using anaerobic digestion
- Increased renewable energy production from treated slurries, +37% (Dairy), +200-300% (Swine)

# Customer testimonials

*"GasAbate is easy-to-use, and we are getting a lot more biogas production from the stored pig manure. The odour in the sheds is greatly reduced making working conditions better"*

**Ken McGrath - Ashleigh pig farm, Waterford, Ireland**

*"The GasAbate treatment system was easy to install and retrofit into our existing dairy farm"*

**Kevin Ahern - Shinagh dairy farm, Cork, Ireland**





# EU Climate Impact Forecast

**2,000 cow dairy farm** which has been independently validated by a panel of 20 LCA experts across 14 countries

## GlasPort Bio's total impact per year

eco-costs of human health euro	unknown
eco-costs of eco-toxicity euro	unknown
eco-costs of resource depletion euro	unknown
eco-costs of carbon footprint euro	unknown

Impact per per tonne manure produced per year on a 2000 cow farm

Impact of 36500 times per tonne manure produced per year on a 2000 cow farm

Carbon footprint CO<sub>2</sub>eq.



Impact validation **VALID, POSITIVE AND SIGNIFICANT**



## Equivalent to

681591 trees

3084 Average humans



1854

times driving a car around the world



15132

passengers flying London-New York



29125

barrels of oil burnt



6302

EU households annual electricity



2999

elephants mass (5t) of CO<sub>2</sub>



2705

hot air balloons (2800 m<sup>3</sup>) of CO<sub>2</sub>

# EU Climate Impact Forecast

**3,800 swine/pig farm** which has been independently validated by a panel of 20 LCA experts based across 14 countries globally.

## GlasPort Bio's total impact per year

eco-costs of human health euro	unknown
eco-costs of eco-toxicity euro	unknown
eco-costs of resource depletion euro	unknown
eco-costs of carbon footprint euro	unknown

Impact per per tonne manure produced per year on a 3,800 pig farm
Impact of 19000 times per tonne manure produced per year on a 3,800 pig farm

Carbon footprint CO <sub>2</sub> eq.
-164.7 kg
-3.1Kt

## Equivalent to

142231 trees



387

times driving a car around the world



3158

passengers flying London-New York



6078

barrels of oil burnt



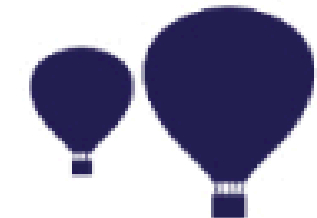
1315

EU households annual electricity



626

elephants mass (5t) of CO<sub>2</sub>



564

hot air balloons (2800 m<sup>3</sup>) of CO<sub>2</sub>

Impact validation

VALID, POSITIVE AND SIGNIFICANT



## Product Information

**Manure types:** Dairy, beef, and swine with dry solids in range of 2-12%

**Working principle:** GasAbate prevents production of methane through the temporal inhibition of methanogenic archaea (the organisms that produce methane gas). It does this by raising the ORP (oxidation reduction potential) of the slurry. This environment is not conducive to methanogens.

**Delivered** to farms in IBC containers of  $1\text{m}^3$  volume.

**Chemical agent:** classed as GRAS (generally regarded as safe) and as a non-biocide under EU ruling.

**Dosing:**  $2.5\text{L}/\text{m}^3$  slurry

**Energy requirement for automatic dosing:**  
pump operation –  $0.000562\text{ kWh}/\text{m}^3$  slurry



# ACIDIFICATION IS THE GOLD STANDARD AND MOST WIDELY USED MEANS OF MANURE TREATMENT

	GasAbate N+	Acidification
<b>Long-term Storage and Treatment</b>	Yes	No
<b>Ammonia emissions reduction</b>	>50%	~70%
<b>Methane emissions reduction</b>	>80%	~70%
<b>Ease of Use</b>	Yes	No
<b>Health &amp; Safety Concerns</b>	No	Yes
<b>Onward Processing of Manure Needed</b>	No	Yes
<b>Start-up costs</b>	€2.5k*	€20k+
<b>Cost Ton/C02</b>	<b>Low</b>	High**

\*Start-up costs estimated for 100-cow farm

\*\*Ireland Marginal Abatement Cost Curve (MACC) 2023. (€170 to €212 per ton of CO2e for acidification)