

RENDERING: THE GREENEST OPTION

A Comparison Of 3 Alternatives For Large Scale Processing of Meat and Meat By-Products

GREENHOUSE GAS PRODUCED
(per 1000 kg of meat and meat by-products processed)

RENDERING

INDUSTRIAL COMPOSTING

ANAEROBIC DIGESTION

200 kg GHG*

* Greenhouse Gas

RENDERING avoids at least 90% of potential greenhouse gas emissions compared with industrial composting

2500-4000 kg GHG*

60-500 kg GHG*

END USES

Converts **99%** of meat & meat by-products into ingredients for animal feed, biofuel, fertilizer, industrial and consumer products

Recovered resources have a **HIGH ECONOMIC VALUE** \$\$\$\$

SMALL FRACTION of meat and meat by-products can be recovered as fertilizer

Recovered resources have relatively **LITTLE ECONOMIC VALUE**

METHANE FUEL GAS
FERTILIZER

BIOSECURITY & REGULATION

Established Industrial Process operating under and controlled by a **CODE OF PRACTICE** in line with federal regulations to control pathogens & ensure animal food safety

Regulated to ensure safety of employees, the public, & the environment by **STATES & the FDA, EPA, & USDA**

DIFFICULT to destroy pathogens

To destroy pathogens requires **STRICT TIME & TEMPERATURE CONTROL** without this control, pathogens and environmental problems increase **DRASTICALLY**

REGULATIONS

on composting & anaerobic digestion vary from state to state
NO CONSISTENT FEDERAL REGULATIONS on air emissions or wastewater.

SEEPAGE CAN HARM people, animals, and plants

ENVIRONMENTAL SUSTAINABILITY

Although fossil fuel can be required to produce steam for heating, many renderers use their fat products to fuel boilers, **increasing energy independence.**

Nearly all **CARBON IS RETAINED** within rendered products and reused rather than becoming GHG

C₄

Low energy requirements but,

45-75% of the carbon in meat by-products is released as CO₂, and

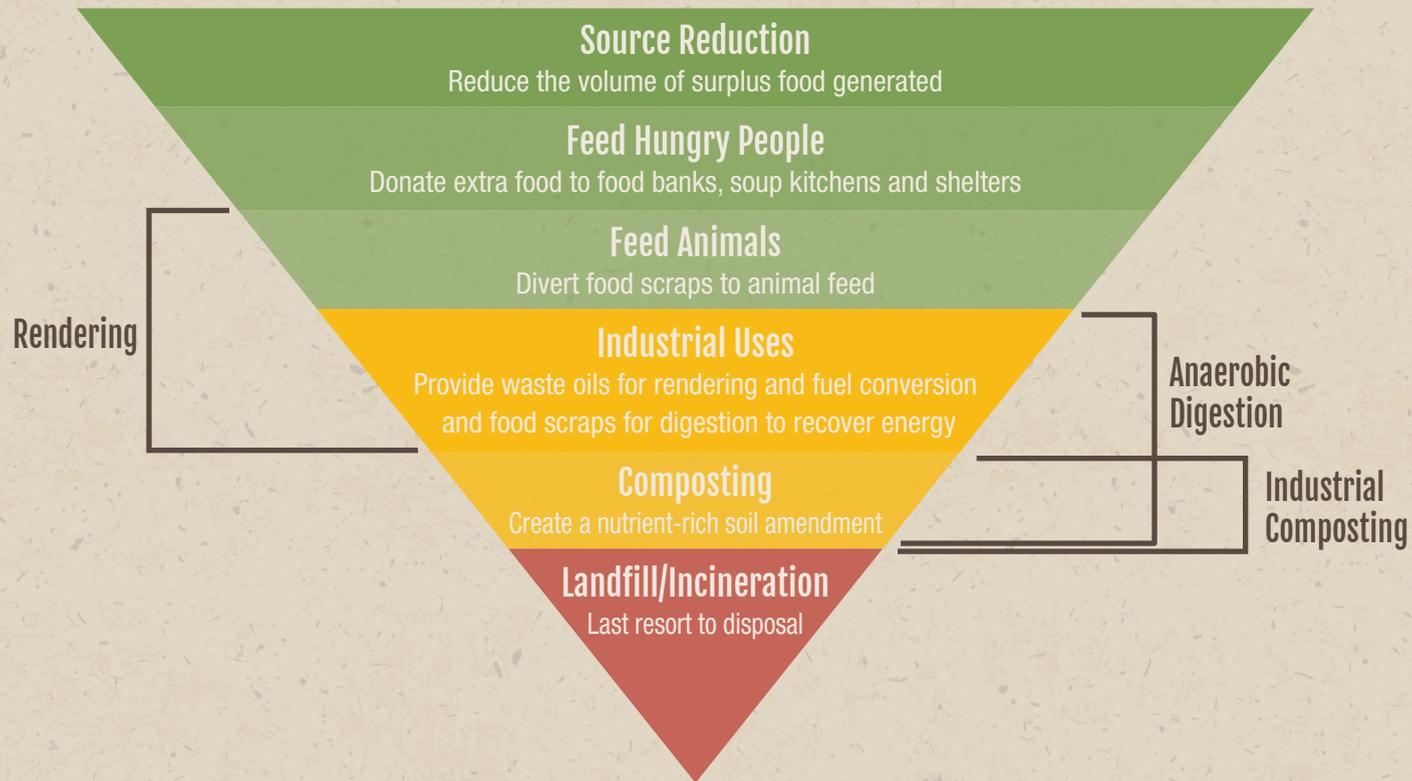
4-20% is released as **METHANE**

(with **25X** the global warming potential of CO₂)

Low energy requirements **BUT** if digestate slurry is stored in open tanks greenhouse gas emissions are multiplied by 10x

Food Recovery Hierarchy

www.epa.gov/foodrecoverychallenge

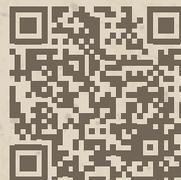


NATIONAL RENDERERS ASSOCIATION

FOR MORE INFORMATION:

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