

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)

END USES

BIOSECURITY & REGULATION

ENVIRONMENTAL SUSTAINABILITY

RENDERING

200 kg GHG*

* Greenhouse Gas

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

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** \$\$\$\$

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**



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



INDUSTRIAL COMPOSTING

2500-4000 kg GHG*

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

DIFFICULT to destroy pathogens

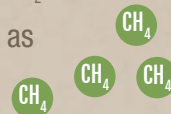


requires training and labor

REGULATIONS

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

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)



ANAEROBIC DIGESTION

60-500 kg GHG*

Recovered resources have relatively **LITTLE ECONOMIC VALUE**

METHANE FUEL GAS
FERTILIZER

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



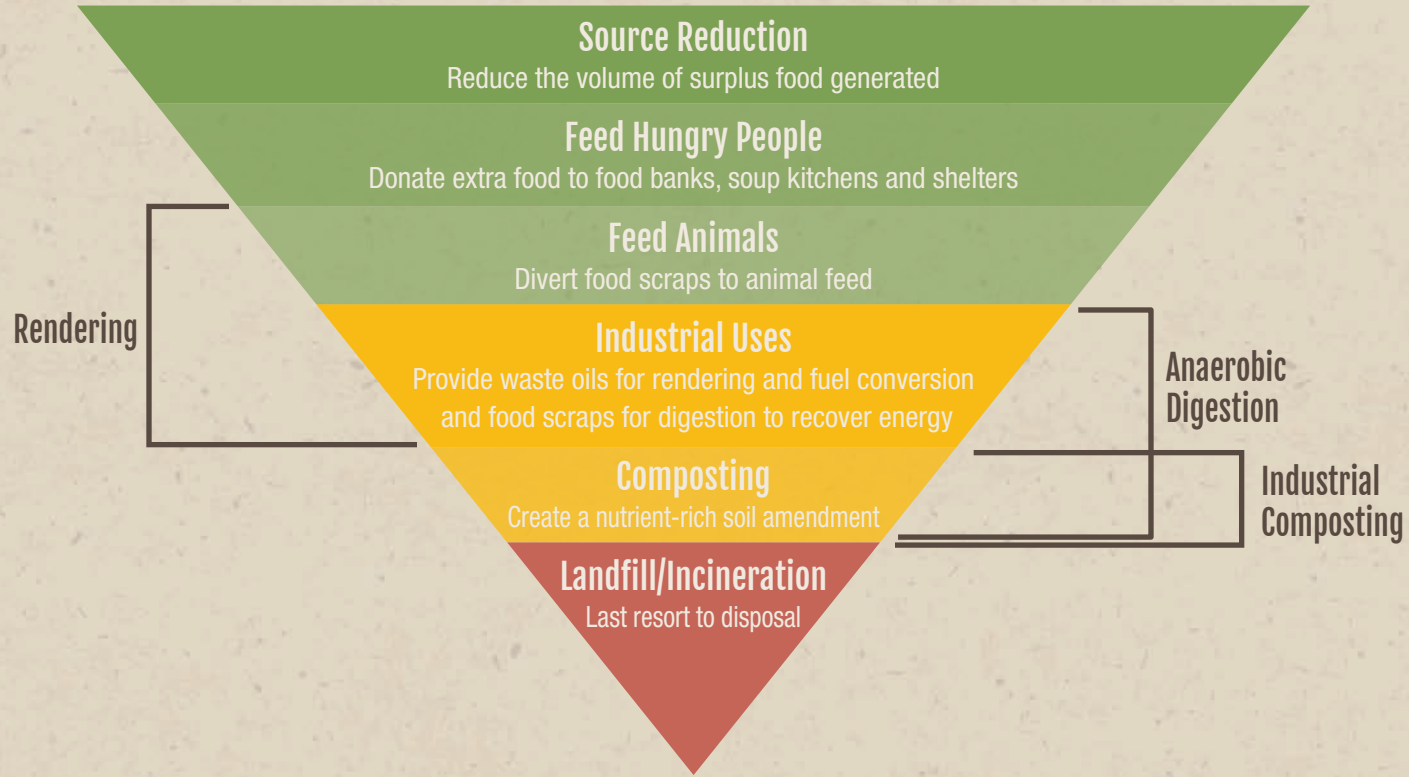
SEEPAGE CAN HARM people, animals, and plants



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



FOR MORE INFORMATION:

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