

DENALI

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The Food Waste Challenge Today

80 MILLION TONS
...of all food produced for human consumption in the U.S. is wasted each year, going to landfill, incineration, or down the drain.
This is equivalent to about 33% of all food produced

35%
Percentage of food wasted in Manufacturing & Consumer-Facing Businesses combined

6%
is the percentage of global greenhouse gas emissions from food waste in landfills

16%
of cropland in the U.S. is used for food that is ultimately wasted

22%
of fresh water is used, in the U.S. to produce food that is ultimately wasted.



Harvest Optimization



Processing & Distribution



Managing & Handling Product



Maximize Product Usage



Evolve Consumer Environments



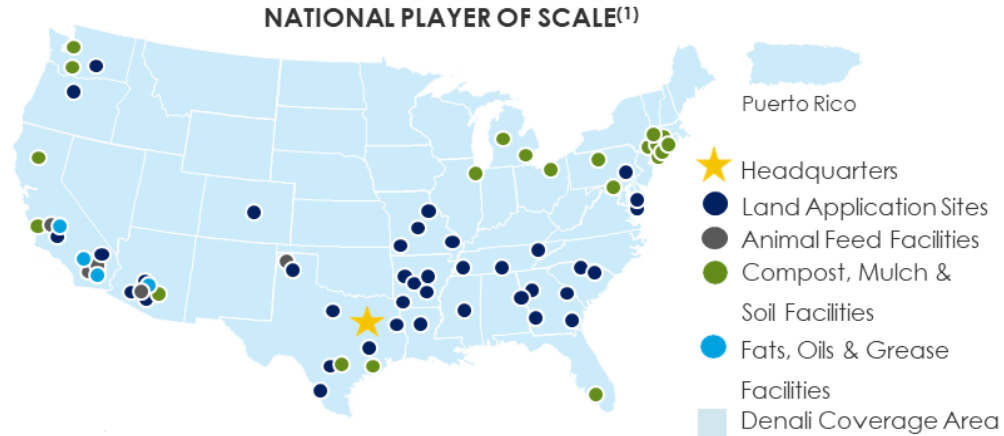
Maximize Food Donation



Recycle All Remaining

Adapted from ReFED "Roadmap to 2030: Key Action Areas"

Denali at a Glance



1500+
Employees



Denali is a national leader in recycling residuals from food manufacturing, food retailers, restaurants, hotels, convention centers and concerts.
We convert these materials into animal feed, fertilizer substitutes, biofuels and compost.



Denali's Purpose and Mission

Denali is the largest recycler of organic residuals in the U.S., converting valuable byproducts into **feeds, fuels, and fertilizer** products that “replenish the earth by repurposing waste.”

OVER

25

YEARS
SERVING OUR
COMMUNITIES

OPERATE IN

48

STATES ACROSS
THE U.S, WASHINGTON D.C.,
AND PUERTO RICO

RECYCLED OVER

7M

TONS OF ORGANIC WASTE

OVER

1,500

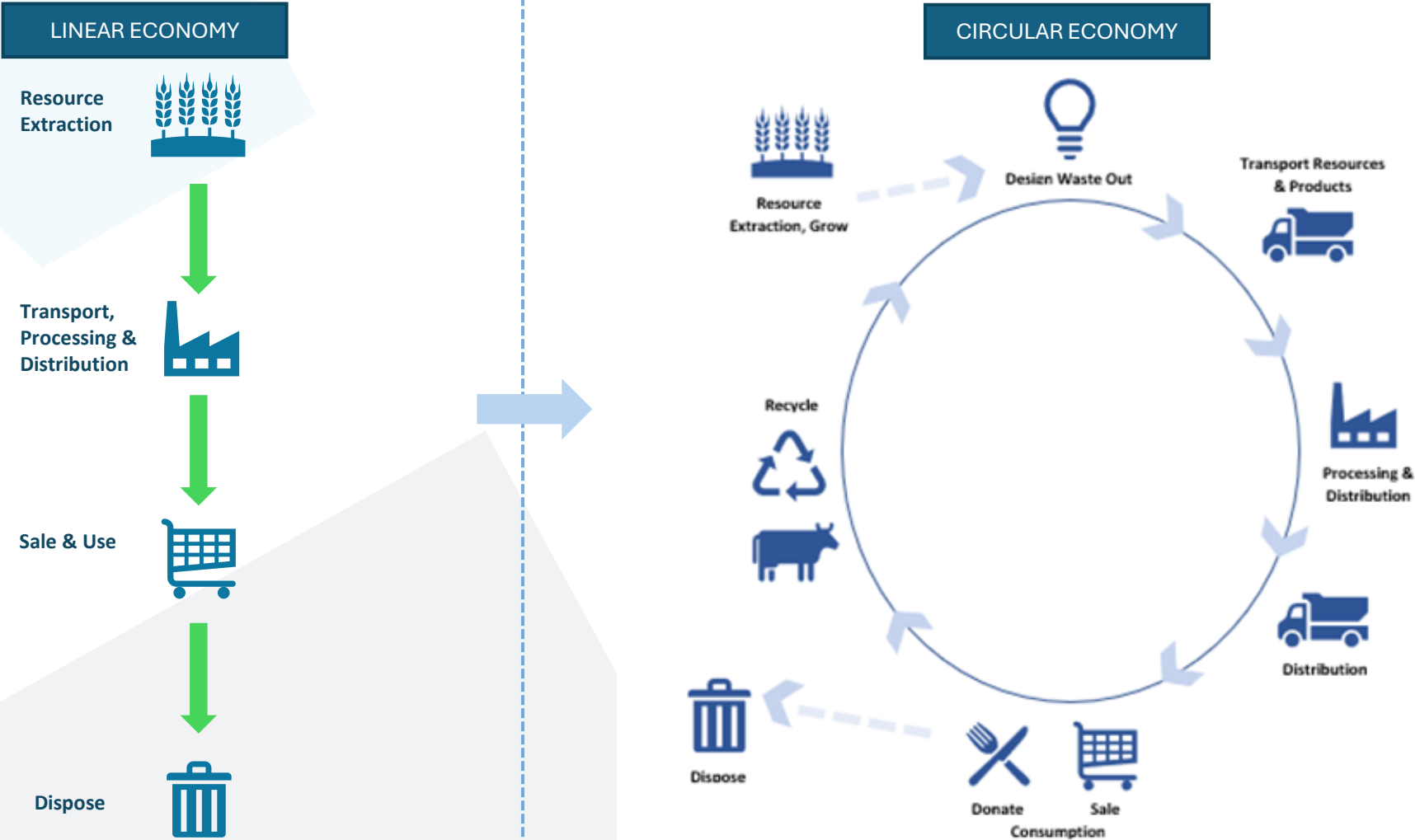
DEDICATED TEAM MEMBERS
SERVING OUR CUSTOMERS

Our Mission:

- Protect the environment by converting resources into valuable products, protecting the quality of water, benefiting the land, and reducing the use of landfills.
- Offer innovative and economical solutions for the management, handling, disposal, and conversion of many types of organic residuals into valuable products.
- Deliver superior service, be environmentally reliable and compliant, and be the best value.

Supporting the Circular Economy

Food waste is a valuable resource and when recycled, is an important part of the circular economy.



Recycling Organics Benefits the Environment: Feed, Fuel, Fertilizer

Animal Feed (Surplus Food)



- Reduces amount of farmland needed
- Saves water & energy

Biodiesel (Used Cooking Oil)



- Substitute for petroleum-based fuel
- Burns cleaner – air quality
- Reduces carbon emissions

Fertilizer & Compost (Biosolids, FPR, Food, Green Waste)



- Reduces need for synthetic fertilizer
- Reduces soil erosion
- Increases water absorption

Organic Recycling Challenges

Collection of Organic Waste

Non-donatable food, unsold food & plants

Considering waste streams

- Packaged vs. De-Packaged
- Food wastes (non-meats vs meats)
- Plant waste
- Compostable products

Buy in & Training

- Commitment by all levels of the organization
- Training and retraining
- Turnover



Location & Collection of Containers

Finding the right receptacle to meet needs

- Small dumpster
- Totes
- Lockable to prevent contamination/dumping

Customer location setup

- Truck access
- Enclosure or not?
- Size of enclosure regulations



"Waste Should Not Be Wasted"

Outlet Availability & Options

Matching waste stream with recycling options:

- Packaged vs. De-Packaged
- Food wastes (non-meats vs meats)
- Plant waste
- Compostable eat ware

Pre-Consumer versus Post Consumer:

- General public involvement
- Controls in place for pre-consumer

Contamination

- Risk to animals
- End product quality



Additional Recycling Challenges

Regulatory

Regionality challenges

- Different levels of legislation
- State, County, City
- Permitting
- Navigating a national infrastructure

Food Waste Mandates

- Landfill bans
- Recycling requirements



Cost of Doing Business

Disposal versus Recycle

- Cost to landfill versus recycle
- Incentives to recycle

We are all connected

- Customer demand
- Volume drives recycling efficiency
- End product market development
- Supply chain engagement
- Infrastructure growth



Driving Behavior

Customer acceptance

- Understanding the benefits
- Understanding the business case
- Cost comparisons – apples to apples

Adapting to change

- Our culture loves the “Easy Button”
- Perception of difficulty
- Everyone doing more with less

