Following the Roadmap to 2030

Taking Action to Reduce U.S. Food Waste by 50%

In partnership with foodtank

#HalveFoodWasteBy2030
Who We Are
ReFED is a national nonprofit working to end food loss and waste across the food system by advancing data-driven solutions to the problem.

Our Vision
A sustainable, resilient, and inclusive food system that optimizes environmental resources, minimizes climate impacts, and makes the best use of the food we grow.

DATA & INSIGHTS
Leveraging data and insights to highlight supply chain inefficiencies and economic opportunities

CAPITAL & INNOVATION
Catalyzing capital to spur innovation and scale high-impact initiatives

STAKEHOLDER ENGAGEMENT
Mobilizing and connecting supporters to take targeted action
ReFED Insights Engine and Roadmap to 2030: Reducing US Food Waste
ReFED Insights Engine: Your Source for Food Waste Data and Solutions

A knowledge hub for food loss and waste, designed to provide anyone interested in food waste reduction with the information they need to take meaningful action.

Insights Engine tools let users:

- Understand the Problem
- Explore Solutions
- Find Solution Providers
- Calculate Impacts
Roadmap to 2030: A Blueprint for Action

The Roadmap to 2030 looks at the entire food system and provides a framework to focus waste reduction efforts. Powered by the Insights Engine, the Roadmap to 2030 is an indispensable resource for reaching our 2030 goal.

ReFED outlined seven key action areas for the food system to focus its efforts over the next ten years to **prevent**, **rescue**, and **recycle** food at risk of going to waste.
# Roadmap to 2030: Reducing U.S. Food Waste by 50%

**Action Areas**

1. **Optimize the Harvest**
   - Avoid overproduction, then harvest as much as possible, for wild-caught products, source only what is needed.

2. **Enhance Product Distribution**
   - Leverage technology to create smart systems that help efficiently move products to maximize freshness and retail time.

3. **Refine Product Management**
   - Align purchasing with sales as closely as possible and find secondary markets for surplus, skill out systems and processes for optimal in-site handling.

4. **Maximize Product Utilization**
   - Design facilities, operations, and inventories to use as much of each product as possible, capture surplus and hypedonts into food products.

5. **Reshape Consumer Environments**
   - Drive consumers towards better food management and less waste by inspiring shopping, cooking, and eating environments that promote these behaviors. Shift culture to place more value on food and less waste.

6. **Strengthen Food Rescue**
   - Further the notion of high-quality, nutritious food by increasing capacity, addressing bottlenecks, and improving communication flow.

7. **Recycle Anything Remaining**
   - Find the highest and best use for any remaining food or feed scraps in order to capture nutrients, energy, or other residual value.

## Optimized Solutions

<table>
<thead>
<tr>
<th>Action Area</th>
<th>Solution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer Spec. Expansion</td>
<td>Optimized Solutions</td>
<td>Decreased Transit Time</td>
</tr>
<tr>
<td>Cleaning</td>
<td></td>
<td>First Expired First Out</td>
</tr>
<tr>
<td>Imperfect &amp; Surplus Produce Channels</td>
<td></td>
<td>Decreased Minimum Order Quantity</td>
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<tr>
<td>Partial Order Acceptance</td>
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<td>Enhanced Demand Planning</td>
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<tr>
<td>Field Cooling Units</td>
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<td>Reduced Warehouse Handling</td>
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<tr>
<td>In-Field Sanitation Monitoring</td>
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<td>Advanced Shipment Notifications</td>
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<tr>
<td>Innovative Grower Contracts</td>
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<td>Early Spillage Detection (Hydrospatial Imaging)</td>
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<tr>
<td>Labor Matching</td>
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<td>Inventory Traceability</td>
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<tr>
<td>Smaller Harvest Lots</td>
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<td>Modified Atmosphere Packaging System</td>
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<tr>
<td>Improved Communication for Planning Schedules</td>
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<td>Vibration &amp; Drops Tracking</td>
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<tr>
<td>Sanitation Practices &amp; Monitoring</td>
<td></td>
<td>Optimized Truck Packing, Loading &amp; Unloading (e.g., Cross-Docking)</td>
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<tr>
<td>Optimized Harvesting Schedules</td>
<td></td>
<td>Enforcing Cold Chain SOPs</td>
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<tr>
<td>On-Farm / Near-Farm Processing</td>
<td></td>
<td>Regular Maintenance on Refrigerated Trucks</td>
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<tr>
<td>Local Food Systems</td>
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<td>Cross-Docking</td>
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<tr>
<td>Clear Product Ownership</td>
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<td>Assisted Distributed Savings</td>
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<tr>
<td>Active &amp; Intelligent Packaging</td>
<td></td>
<td>Manufacturing Process Utilization (Upgrading)</td>
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<tr>
<td>Edible Coatings</td>
<td></td>
<td>Improved Recipe Planning</td>
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<tr>
<td>In-Store Reconsumption</td>
<td></td>
<td>Minimized On-Hand Inventory</td>
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<tr>
<td>Waste Tracking (Foodservice)</td>
<td></td>
<td>Temperature Monitoring (Foodservice)</td>
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<tr>
<td>Large Quantity for Take Home</td>
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<td>Low Waste Event Contracts</td>
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<tr>
<td>Small and Versatile Menus</td>
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<td>Direct to Consumer Channels</td>
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<tr>
<td>Sous-Vide Cooking</td>
<td></td>
<td>Online Marketplace Platform</td>
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<tr>
<td>Home Shelf-Life Extension Technologies</td>
<td></td>
<td>Smart Home Devices</td>
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<tr>
<td>Waste Cartons Promotions</td>
<td></td>
<td>Frozen Value-Added Processing of Fresh Produce</td>
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<tr>
<td>To-Go Offerings</td>
<td></td>
<td>Customizable Menu Options</td>
</tr>
<tr>
<td>Free Items Offered Upon Request (e.g., bread, chips)</td>
<td></td>
<td>Storytelling (e.g., product impact, source, upcycled ingredient components)</td>
</tr>
</tbody>
</table>

## Unmodeled Solutions

- Modulated Solutions
- Unmodulated Solutions
- Ideal Practices
WHAT’S NEEDED

40+ SOLUTIONS

$14B INVESTMENT ANNUALLY

POLICY CHANGES

INNOVATION

ENGAGEMENT

WASTE REDUCTION

45M ANNUAL FOOD WASTE DIVERSION (TONS)

IMPACT PER YEAR

$73B NET FINANCIAL BENEFIT

4T GALLONS IN WATER SAVINGS

75M TONS GHG EMISSION REDUCTION POTENTIAL (MT CO2e)

4B MEALS FOR PEOPLE IN NEED

51K JOBS CREATED THROUGH SOLUTION IMPLEMENTATION OVER 10 YEARS
Following the Roadmap to 2030 Discussion Series

Recycle Anything Remaining

NOVEMBER 17 | 1:00 P.M. ET

ReFED

In partnership with foodtank
THE THINK TANK FOR FOOD
Key Takeaways from the Series:

- Food loss and waste affects all stages of the supply chain – even the spaces in between.
- Solutions already exist!
- Food waste offers a win-win opportunity for funders.
“Recycle anything remaining” means capturing nutrients, energy, or other residual value by finding the highest and best use for any food or food scraps that remain.
ACTION AREA #7

Rescue Anything Remaining

- **Landfill**
  - 27.6M Tons - 34.2%

- **Not Harvested**
  - 13.9M Tons - 17.2%

- **Composting**
  - 12.9M Tons - 16%

- **Animal Feed**
  - 7.66M Tons - 9.5%

- **Sewer**
  - 4.86M Tons - 6%

- **Land Application**
  - 3.63M Tons - 4.5%

Source: ReFED Insights Engine
SURPLUS FOOD - ORIGINAL INTERPRETATION

FOOD LOSS & WASTE

- Food Donation
- Animal Feed
- Biomaterial/Processing
- Co/anaerobic Digestion
- Compost
- Controlled Combustion
- Land Application
- Landfill
- Refuse/Discards
- Sewer
SURPLUS FOOD - ORIGINAL INTERPRETATION

FOOD LOSS & WASTE

SURPLUS FOOD - REINTERPRETATION

FOOD LOSS & WASTE
ACTION AREA #7

Rescue Anything Remaining

**KEY INDICATORS (ANNUAL)**

- **20.9M** Food Waste Tons Diverted
- **$293.7M** Net Financial Benefit
- **$2.2B** Investment Needed
- **6.8M** MT CO2E Reduction
## Top Solutions

<table>
<thead>
<tr>
<th>Action Area #7: Rescue Anything Remaining</th>
<th>Centralized Anaerobic Digestion</th>
<th>Co-Digestion at Wastewater Treatment Plants</th>
<th>Centralized Composting</th>
<th>Home Composting</th>
<th>Community Composting</th>
<th>Livestock Feed</th>
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</thead>
<tbody>
<tr>
<td>2/ Co-Digestion at Wastewater Treatment Plants</td>
<td>3.84M Food Waste Tons Diverted</td>
<td>3.05M Food Waste Tons Diverted</td>
<td>13.8M Food Waste Tons Diverted</td>
<td>93.6K Food Waste Tons Diverted</td>
<td>57K Food Waste Tons Diverted</td>
<td>60.4K Food Waste Tons Diverted</td>
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<td>3/ Centralized Composting</td>
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<td>4/ Home Composting</td>
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<td>5/ Community Composting</td>
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<td>6/ Livestock Feed</td>
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</tbody>
</table>

**Insect Farming / Rendering / Waste-Derived Ag Inputs, Bio-plastics, Biomaterials, and Processed Animal Feed**
Disincentivize, Limit, or Ban Food from Landfills – [State, Local; Legislative, Regulatory]

Incentivize Implementation of State- and Local-Level Organic Waste Bans – [Federal; Legislative, Regulatory]

Eliminate Restrictions and Barriers to Feeding of Food Scraps to Animals - [Federal, State; Legislative, Regulatory]

Increase Landfill Tipping Fees - [State, Local; Legislative, Regulatory]

Provide Financial Support and Reduce Permitting Barriers for Food Waste Reduction Infrastructure - [Federal, State, Local; Legislative, Regulatory]
Justin Kamine
Co-Founder & Co-CEO
DO GOOD FOODS
Lor Holmes
General Manager
CERO COOPERATIVE, INC.
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Stay Connected!

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