Following the Roadmap to 2030

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

In partnership with foodtank

#HalveFoodWasteBy2030
Following the Roadmap to 2030 Discussion Series

Refine Product Management

JULY 28 | 1:00 P.M. ET

ReFED

In partnership with foodtank
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
You're invited to join the

ReFED Food Waste Action Network
Member Benefits:
• Networking
• Office Hours
• Lunch 'n Learns
• Innovation Demo Days
• Blogs & Case Studies

Join a growing list of industry leaders from organizations like:

- Posner Foundation of Pittsburgh
- The Kroger Co.
- Food Law and Policy Clinic Harvard Law School
- Blue Apron
- USDA
- DoorDash
- Spoiler Alert
- The Ohio State University
- Leanpath

bit.ly/JoinReFEDFWAN
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
- Impact Calculator
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.
### Action Areas

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

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

**Refine Product Management**
- Align purchasing with sales as closely as possible and find secondary outlets for surplus. Build out systems and processes for optimal in-the-hand handling.

**Maximize Product Utilization**
- Design facilities, operations, and menus to use as much of each product as possible. Optimize surplus and reduce waste in food production.

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

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

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

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### Optimized Solutions

<table>
<thead>
<tr>
<th>Action Area</th>
<th>Issue Area</th>
<th>Solution Area</th>
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</thead>
<tbody>
<tr>
<td>Optimize the Harvest</td>
<td>Buyer Spec. Expansion</td>
<td>Decreased Transit Time</td>
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<tr>
<td></td>
<td>Cleaning</td>
<td>First Expired First Out</td>
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<tr>
<td></td>
<td>Imperfect &amp; Surplus Produce Channels</td>
<td>Decreased Minimum Order Quantity</td>
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<td>Partial Order Acceptance</td>
<td>Enhanced Demand Planning</td>
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<td>Field Cooling Units</td>
<td>Increased Delivery Frequency</td>
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<td></td>
<td>In-Field Sanitation Monitoring</td>
<td>Markdown Alert Applications</td>
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<td></td>
<td>Innovative Grower Contracts</td>
<td>Early Spoilage Detection</td>
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<td></td>
<td>Labor Matching</td>
<td>Inventory Traceability</td>
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<tr>
<td></td>
<td>Smaller Harvest Lots</td>
<td>Modified Atmosphere Packaging System</td>
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<td></td>
<td>Improved Communication for Planning Schedules</td>
<td>Vibration &amp; Drops Tracking</td>
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<tr>
<td></td>
<td>Sanitation Practices &amp; Monitoring</td>
<td>Optimized Truck Packing, Loading &amp; Unloading (e.g., Cross-Docking)</td>
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<tr>
<td></td>
<td>Optimized Harvesting Schedules</td>
<td>Enforcing Cold Chain SOPs</td>
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<td></td>
<td>On-Farm / Near-Farm Processing</td>
<td>Regular Maintenance on Refrigerated Trucks</td>
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<td>Local Food Systems</td>
<td>Cross-Docking</td>
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<td>Clean Product Ownership</td>
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### Unmodeled Solutions

- Modded Solutions
- Unmodeled Solution
- Best Practices

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**Maximize Product Utilization**
- Active & Intelligent Packaging
- Manufacturing (Produce Utilization & Upcycling)
- Manufacturing Line Optimization
- Edible Coatings
- Improved Recipe Planning
- In-House Repurposing
- Precision Food Safety
- Discount Meal Plans
- Employee Meals
- Larger Quantities for Take Home
- Small and Versatile Menus
- Sous-Vide Cooking
- Smart Home Devices
- Waste Corrosives Promotions
- Frozen Value-Added Processing of Fresh Produce
- Customizable Menu Options
- To-Go Offerings
- Free Items Offered Upon Request (e.g., bread, chips)
- Storytelling (e.g., product impact, sources, upscaled ingredient components)

**Reshape Consumer Environments**
- Meal Kits
- Buffet Signage
- Consumer Education Campaigns
- K-12 Lunch Improvements
- Package Design
- Portion Sizes
- Small Plates
- Discounted Food Labels
- K-12 Education Campaigns
- Trayless
- Food Shelf-Life Extension Technologies
- Unique Meal Platforms
- Smart Home Devices
- Waste Corrosives Promotions
- Frozen Value-Added Processing of Fresh Produce
- Customizable Menu Options
- To-Go Offerings
- Free Items Offered Upon Request (e.g., bread, chips)
- Storytelling (e.g., product impact, sources, upscaled ingredient components)

**Strengthen Food Rescue**
- Donation Coordination & Matching
- Centralized Anesthesia Digestion
- Donation Education
- Community Composting
- Donation Storage Handling Capacity
- Centralized Composting
- Donation Transportation
- Coordination at Wastewater Treatment Plants
- Donation Value-Added Processing
- Home Composting
- Black Coffee to Enable Donations
- Livestock Feed
- Donation Revenue Logistics
- Waste-Derived Agricultural Impacts
- High-Frequency Reliable Partners
- Insect Farming
- Established Relationships with Businesses
- Duddling
- Waste-Derived Processed Animal Feed
- Waste-Derived Bioplastics
- Waste-Derived Biomaterials
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**Recycle Anything Remaining**
- Recycling Anything Remaining
- Enabling Technologies (e.g., reprocessing and re-purposing)
- Separation & Measurement
- Relationships with Waste Haulers
- Waste Audits by Waste Haulers
<table>
<thead>
<tr>
<th>WHAT'S NEEDED</th>
<th>WASTE REDUCTION</th>
<th>IMPACT PER YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>40+ SOLUTIONS</td>
<td>45M ANNUAL FOOD WASTE DIVERSION (TONS)</td>
<td>$73B NET FINANCIAL BENEFIT</td>
</tr>
<tr>
<td>$14B INVESTMENT ANNUALLY</td>
<td>4T GALLONS IN WATER SAVINGS</td>
<td>75M TONS GHG EMISSION REDUCTION POTENTIAL (MT CO2e)</td>
</tr>
<tr>
<td>POLICY CHANGES</td>
<td></td>
<td>4B MEALS FOR PEOPLE IN NEED</td>
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<tr>
<td>INNOVATION</td>
<td></td>
<td>51K JOBS CREATED THROUGH SOLUTION IMPLEMENTATION OVER 10 YEARS</td>
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<tr>
<td>ENGAGEMENT</td>
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“Refining product management” means aligning purchases with sales as closely as possible – and when surplus arises, finding secondary outlets to accommodate it. It also means building out systems and processes for optimal on-site handling.
ACTION AREA #3

Refine Product Management

- **Date Label Concerns**: 5.18M Tons - 49.4%
- **Handling Errors**: 2.14M Tons - 20.4%
- **Spoiled**: 1.49M Tons - 14.3%
- **Equipment Issues**: 1.29M Tons - 12.3%
- **Theft**: 157k Tons - 1.5%

Source: ReFED Insights Engine
Refine Product Management

**Key Indicators (Annual):**
- 4.6M Food waste tons diverted
- $15.8B Net financial benefit
- $3.9B Investment needed
- 14.2M Mt CO2e reduction
- 852.7B Gallons water saved
- 0 Meals saved

Source: ReFED Insights Engine
# Enhanced Demand Planning
- **Net Financial Benefit**: $5.19B
- **Food Waste Tons Diverted**: 1.24M

# Waste Tracking (Foodservice)
- **Net Financial Benefit**: $3.82B
- **Food Waste Tons Diverted**: 1.03M

# Markdown Alert Applications
- **Net Financial Benefit**: $3.81B
- **Food Waste Tons Diverted**: 771K

# Dynamic Pricing
- **Net Financial Benefit**: $1.08B
- **Food Waste Tons Diverted**: 462K

# Minimized On-Hand Inventory
- **Net Financial Benefit**: $621M
- **Food Waste Tons Diverted**: 195K

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**Top Solutions**

**Refine Product Management**

1. Minimized On-Hand Inventory
   - **Net Financial Benefit**: $621M
   - **Food Waste Tons Diverted**: 195K
   - **Actions**:
     - Decreased Minimum Order Quantity
     - Increased Delivery Frequency
     - Assisted Distressed Sales
     - Temperature Monitoring
Enhanced Demand Planning

Waste Tracking (Foodservice)

Markdown Alert Applications

Dynamic Pricing

Minimized On-Hand Inventory

Top Solutions

ACTION AREA #3

Refine Product Management

Decreased Minimum Order Quantity / Increased Delivery Frequency / Assisted Distressed Sales / Temperature Monitoring
Janet Haugan
Vice President of People Operations & Organizational Effectiveness
LEANPATH
Matt Schwartz
CEO & Co-Founder
AFRESH TECHNOLOGIES
Matt Seklecki
Retail Inventory Analyst
GIANT EAGLE
Trevor Sieck
AVP, Relationship Manager – F&A Start-Ups & Innovation
RABOBANK WHOLESALE BANKING, NORTH AMERICA
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Maximize Product Utilization

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Stay Connected

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