



ENDGAME FOR FOOD WASTE



HOW THE FOOD

INDUSTRY CAN USE

TECHNOLOGY AND

A FOOD WASTE

INNOVATION

FUND TO

DRAMATICALLY REDUCE

WASTE AND END THE

SUPPLY SIDE CAUSES

OF HUNGER

TECHNOLOGY AGAINST WASTE

ENDING FOOD WASTE WOULD REDUCE U.S. METHANE

EMISSIONS AND FRESH WATER CONSUMPTION BY 25%¹

INDUSTRY, GOVERNMENT AND CONSUMERS ALL ARE LOOKING FOR A SOLUTION TO THE URGENT PROBLEM OF FOOD WASTE. HOWEVER, ALTHOUGH THE HUMAN AND ENVIRONMENTAL CASES FOR ENDING WASTE ARE CLEAR, A PRACTICAL, SCALABLE, AND ECONOMICALLY FEASIBLE SOLUTION – A BUSINESS CASE – HAS YET TO BE FOUND.

The problem is so large that non-market based solutions – those powered by goodwill, volunteerism or philanthropy alone – have not succeeded at scale. This paper lays out a strategy for financing the investments in infrastructure and technology required to make an economically meaningful impact on food waste.²

Food waste is like climate change – a complex network problem that is difficult to solve part way. Meaningful change will be impossible without a coordinated strategy involving industry, government, charities and consumers.

Nevertheless, pressure to reform is building and some states and municipalities are beginning to act unilaterally. For example, some have enacted landfill bans even before the necessary infrastructure is in place.³ The emerging patchwork of federal, state and county regulations would not only be inefficient and expensive to comply with, but they would likely displace more effective market-based solutions. The fact that some food industry executives believe donating to food banks is a response to food waste, when in fact it is a response to hunger, also impedes the search for real solutions.

FOOD COWBOY HAS DEVELOPED A HIGH IMPACT STRATEGY TO TACKLE BOTH WASTE AND HUNGER.

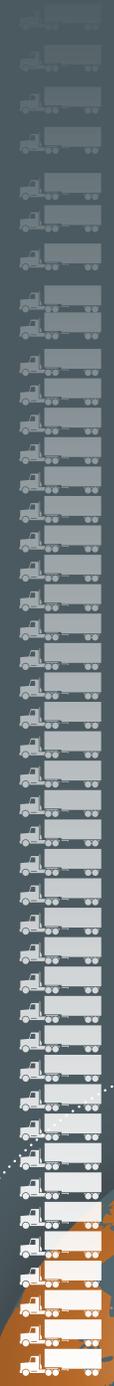
¹ NRDC, *Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill* (2012).

² The USDA and EPA recently announced a national goal of reducing food waste by fifty percent by 2030.

³ Food waste has been banned from landfills in California, Connecticut, Massachusetts, New York, Oregon, Vermont and Washington. However, at least one state has quietly decided not to fund enforcement because there simply is nowhere else to dispose of the food.

25 TIMES HIGHER than the International Space Station

The food wasted in the United States in just one year would fill a stack of 18-wheelers that reached 5000 MILES into space.



WHY WASTE HAPPENS

Commercial food waste happens because food is perishable and expensive to move. If it cannot be sold for more than it costs to harvest, preserve and transport, it must be left in the field or disposed of. The problem also applies to food that companies wish to donate: If a charity cannot be found in time and the food transported to it cost-effectively (taking into account fuel, travel time, and tax benefits), then it must be disposed of.

Forty-four million tons of consumable food goes to waste in the supply chain each year.⁴ By contrast, food banks distribute fewer than two million tons of food annually.

COMMERCIAL FOOD WASTE IS AN INFORMATION AND LOGISTICS PROBLEM

Today, food banks lack the information systems, cold storage capacity, transportation, and disposal capabilities necessary to accept all the food that could be donated to them.⁶ They cannot even afford to be open late at night, which is when surplus food most often becomes available.

Large food banks, such as those in the Feeding America network, are modern, well-run operations. But, even with the assistance of a top-notch national procurement team, they do not have the resources to handle the thousands of refused deliveries of all types and sizes that become available without notice at all hours every day in the supply chain. As a result, rather than donating all its unsold food, the food industry spends \$1.3 billion a year to dispose of it, even while food banks pay millions of dollars to purchase food for their clients.⁷ Without a significant upgrade in food charity logistics, nothing will change.

⁴ USDA Agricultural Refrigerated Truck Quarterly; Bureau of the Census: Transportation–Commodity Flow Survey (2012); USDA Supermarket Loss Estimates (2009), NRDC, Wasted (2012)

⁵ The food industry wasted 34 million tons of food in 2014 (USDA and NRDC) while Feeding America food banks sourced 1.8 million tons of donations (Feeding America 2014 Annual Report).

⁶ Table 9, Barriers to Donating Food, Business for Social Responsibility/Food Waste Reduction Alliance, Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Wholesalers (April 2013)

⁷ Buzby, et al. The Value of Retail- and Consumer-Level Fruit and Vegetable Losses in the United States. Journal of Consumer Affairs, Fall 2011: 492-515

⁸ Consumer Demand Trends and Issues in Quality and Safety (June 2015), Prof. Roberta Cook, U.C. Davis

THE FOOD INDUSTRY WASTES MORE

FOOD IN 19 DAYS THAN IT DONATES TO

FOOD BANKS IN AN ENTIRE YEAR.⁵



bit.ly/10el7nc

Why truckers throw away two million tons of fresh produce every year.

WHY DO CONSUMERS WASTE FOOD?

Consumer food waste comes down to behavioral economics: People do not need to actually consume food in order to benefit from it. They enjoy seeing, choosing, preparing and serving food, not just eating it (which helps to explain why leftovers often go to waste). This implies that as food companies get better at adding utility to their products, and the ratio of intangible to nutritional value increases, consumers will waste more food.

Food waste is also driven by the gap between consumers' aspirational purchasing (healthy eating) and their established tastes. People shop with their heads but eat with their hearts. Unless their tastes change along with their purchasing habits, as consumers come under more pressure to eat better, waste is likely to increase.

These tensions should concern the food industry because food waste makes consumers feel bad about themselves, about their food, and about the businesses who sell it to them. People who feel bad about a product don't buy it as much.⁸

A POWERFUL TOOL TO FINANCE THE END TO FOOD WASTE

The Internal Revenue Code permits food companies to deduct half their foregone profits in addition to their costs when they donate surplus inventory instead of throwing it away.⁹ However, the benefit does not extend to trucking companies, warehouse operators and others who must contribute their services to make those donations possible. Food Cowboy believes it is possible to achieve more beneficial tax treatment for them as well as for donors. For example, certain donors now receive tax credits in California, Colorado, Iowa, Kentucky, Michigan, Missouri and Oregon. A federal tax credit would be a far stronger incentive.¹⁰

Improving food bank technology and capacity would enable the food industry to donate an additional 3.0 million tons of food annually (a 224% increase) within three years and to reduce its taxable income by an additional \$500 million.¹¹

A portion of the incremental tax savings could be put into a food waste investment fund to underwrite food bank improvement projects, support food recovery and diversion organizations, invest in new technologies and enterprises, and educate young people about nutrition and sustainability. Private foundations could provide seed funding until the donation system developed sufficient throughput to be self-sustaining.

RECOVERABLE U.S. FOOD WASTE

	TOTAL SHIPPED		TOTAL WASTED		RECOVERABLE			SPECIAL DEDUCTIONS	
	TONS*	VALUE**	TONS	VALUE	%	TONS	VALUE	ALL WASTE	RECOVERABLE
FRESH PRODUCE	32	\$35	3.5	\$3.8	15%	0.5	\$0.6	\$1.4	\$0.2
OTHER	773	\$1,115	41	\$60	6%	2.4	\$3.6	\$4.6	\$0.3
TOTAL	806	\$1,150	44	\$64	6.7%	3.0	\$4.2	\$6.0	\$0.5

* Tons in Millions

**Fair Market Value (\$) in Billions

SOURCES: USDA AGRICULTURAL REFRIGERATED TRUCK QUARTERLY; BUREAU OF THE CENSUS: TRANSPORTATION – COMMODITY FLOW SURVEY (2012); USDA SUPERMARKET LOSS ESTIMATES (2009), NRDC, WASTED (2012)

IN THE FUTURE, FOOD BANKS WILL BE “FOOD HUBS” THAT ACCEPT

BOTH DONATIONS AND ORGANIC WASTE FOR COMPOSTING,

ANAEROBIC DIGESTION AND ANIMAL FEED.

⁹ Internal Revenue Code Section 170(e)(3)(C)

¹⁰ In essence, people could be fed more food by feeding the government less money.

¹¹ Those 3.0 million tons represent 6.7% of commercial food waste. Donating 100% of its wholesome unsaleables would allow the industry to reduce its taxable income by \$6.0 billion annually.



INFORMATION AND LOGISTICS SOLUTIONS

FOOD COWBOY HAS DEVELOPED A SUITE OF SOLUTIONS POWERED BY MOBILE TECHNOLOGY AND SOCIAL MEDIA THAT ALLOW FOOD COMPANIES TO REDUCE WASTE IN THEIR SUPPLY CHAINS AND TO TURN THEIR CUSTOMERS INTO PARTNERS IN THE FIGHT AGAINST WASTE AND HUNGER.

FOOD COWBOY | SUPPLY CHAIN

Growers, truckers and wholesalers can use the Food Cowboy app to find buyers for refused deliveries or to route them to charities, composters, anaerobic digesters or farmers anywhere in North America.¹² The system includes scheduling, routing, food safety, customer service, receipting and reporting tools. The system can handle non-food donations as well and is free to both donors and charities.¹³

HOW IT WORKS

You are a trucker. The receiving manager told you not to take that last pallet of tomatoes off the truck – too ripe he says. So you post them on Food Cowboy, saying you're leaving for Abilene at 3 AM, and then crawl in back to get some sleep. When you wake up you've got messages from three food banks along the way offering to take the tomatoes off your hands. One will even send a volunteer with a pickup truck to meet you at a truckstop and send you an e-coupon for breakfast. We have a winner!

LEARN HOW FOOD COWBOY USES MOBILE

TECHNOLOGY TO ROUTE UGLY FRUITS AND

VEGETABLES TO PEOPLE IN NEED.



bit.ly/1lWi4dQ

¹² Food Cowboy's systems can be adapted for other markets.

¹³ For safety reasons, Food Cowboy is strictly a B2B system. It may not be used to facilitate donations to or from individuals.

FOOD COWBOY | DONATION MANAGER

Managing a donation program can be difficult even for a single store, but for a large chain the challenges can be overwhelming. Food Cowboy's Donation Manager solution gives retailers the tools they need to execute safe and successful enterprise-wide recovery and diversion programs. It helps them identify and screen nonprofit partners, schedule donations, collect receipts, monitor performance, and generate store- and company-level reports.

“We have thousands of shops and tons of food left over every day that we would love to donate, especially to military families in need, but how do we work with hundreds of small nonprofits all over the country that all do things their way?”

– SUSTAINABILITY MANAGER
MAJOR COFFEE CHAIN

FOOD COWBOY | FOOD POSSE

Food Posse is a crowdshipping solution to the problem of transporting small last-minute donations from supermarkets and restaurants to charities safely and efficiently.¹⁴ A retailer can use the system to alert its Posse members – customers who have signed up with Food Cowboy and are social media friends with the retailer – who are in or near the store, about a donation available for pick up. The app provides safe handling instructions, tracks delivery, and issues a receipt. It's like Uber for food donations.

“Can you take two crates of apples to the aftercare center at 23rd and Mission? ([map](#)).” The produce manager knows they won't sell so she's posted them on Food Cowboy. It's on a Posse member's way home so she taps “OK.” This evening every child will be able to take home a bag of apples. Tomorrow, she sees a thank you note from the center on Facebook and the next time she goes shopping, the manager hands her a coupon for a free baked good.”

¹⁴ See Reuters, *Wal-Mart may get customers to deliver packages to online buyers*, March 28, 2013.

FOOD POSSE TURNS LOYAL CUSTOMERS INTO VALUED

PARTNERS IN THE FIGHT AGAINST WASTE AND HUNGER.





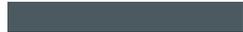
CUSTOMER ENGAGEMENT SOLUTIONS

FOOD COWBOY | LIMO FOR THE LEFTOVERS

Caterers and event planners go through a lot of effort to ensure their clients enjoy themselves, but when guests see good food being thrown away, it diminishes their experience.

For just a dollar per guest, Food Cowboy will arrange to have any unserved food from a catered event of 250 guests or more delivered to a local charity. The fee covers the cost of packing and transporting the food and of having someone standing by to receive and inspect it no matter what time of day it arrives.

The wedding went off without a hitch. Everyone had a good time – only one thing left to do: You give the caterer a nod. She does a quick inventory and then taps “Ready” on her phone. A few minutes later, a transporter arrives to take the unserved dinners and desserts to a domestic violence shelter.



PERSONAL HUNGER SOLUTIONS

HUNGER IS A SYMPTOM NOT A DISEASE

Hunger in developed economies is not simply a matter of not having enough food. It is linked to employment status, mental and physical illness and other life complications. A “one spoon feeds all” solution is not enough.

Food charities know this, of course, but they do not have the resources to individualize their services. But just as businesses can offer individual consumers products tailored to their needs and preferences, Food Cowboy’s technology can enable charities to do the same for their clients.

A VETERAN HAVING TROUBLE GETTING BACK ON

HER FEET NEEDS A DIFFERENT “HUNGER PLAN”

THAN AN ISOLATED SENIOR CITIZEN WITH SPECIAL

NUTRITIONAL NEEDS.¹⁵

BANKS AND STORES ARE NO LONGER DEFINED BY BRICKS AND MORTAR — CHARITIES SHOULDN'T BE EITHER

¹⁵ Jennifer Woltzil, *The Impact of Emotional Social Support on Elders' Food Security*, *Sociation Today* (V.10, No. 2) Fall/Winter 2012



CONCLUSION

FOOD WASTE IS A COMPLEX PROBLEM THAT NO SINGLE COMPANY, CHARITY OR GOVERNMENT AGENCY CAN SOLVE ON ITS OWN. RATHER, IT IS A NETWORK PROBLEM THAT REQUIRES COORDINATED ACTION BY ALL STAKEHOLDERS. FOOD COWBOY IS POSITIONED TO FACILITATE THAT PROCESS.

THE FIRST STEP IS TO CREATE A UNIVERSAL FOOD WASTE INFORMATION AND LOGISTICS PLATFORM. THE SECOND IS TO REIMAGINE AND INVEST IN CHARITIES AND IN NEW TECHNOLOGIES AND BUSINESSES. THE THIRD IS TO ENGAGE WITH CONSUMERS AS PARTNERS.

IF YOU DO YOUR PART, WE'LL DO OURS. THAT'S THE COWBOY WAY.



Food Cowboy is a social venture enterprise founded in 2012 by Barbara Cohen, Ph.D., MPH, the food systems and food security policy expert who authored the USDA's Community Food Security Assessment Toolkit; Richard Gordon, a long-haul truck driver, terminal manager and FEMA responder who transported fresh produce exclusively for 15 years; and Roger Gordon, JD, MBA, a former lawyer, management consultant, nonprofit director, and catering company general manager. While in law school, Roger clerked for future White House Domestic Policy Advisor Melody Barnes and the U.S. House of Representatives Committee on the Judiciary.

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