



# Household Food Waste: Opportunities for Companies to Provide Solutions

December 2012

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## The Problem With Household Food Waste

In the United States, more than 65 billion pounds of food is thrown away each year, making food waste the single largest component of municipal solid waste reaching landfills and incinerators, according to the U.S. Environmental Protection Agency (EPA).<sup>1</sup> A large portion is from household waste—the food and drink that we buy but don't consume. The amount of food tossed by individuals varies significantly, with waste increasing as disposable incomes rise. In the UK, for example, the organization WRAP reports that almost half of all food waste comes from households, and more than 60 percent of this is avoidable.<sup>2</sup> Overall, in industrialized regions such as Europe and North America, per capita food waste by consumers is 95 to 115 kilograms per year, whereas in Sub-Saharan Africa and South/Southeast Asia, that number is much smaller: 6 to 11 kilograms per year.<sup>3</sup>

Companies, regulators, international organizations, and others are now paying more attention to the economic and societal impact of food waste. For individuals, tossing food is money down the drain. Author Jonathan Bloom estimates that the average American household throws out up to US\$2,200 a year.<sup>4</sup> This wasted food decomposes in landfills, creating the greenhouse gas methane, which is a significant concern for society. And this doesn't account for the wasted energy, water, labor, and other inputs that go into growing, processing, and transporting food from farmers to consumers. While reducing consumer-generated waste is unlikely to increase the availability of food for the needy, many critics contend it is irresponsible to waste so much food when so many people are struggling to find enough to eat.

Helping consumers cut down on food waste is not easy given entrenched habits and norms, but it is possible. Companies that sell, serve, or produce food are increasingly looking at ways to help individuals reduce waste in the first place, use food that is still edible, and encourage composting of food that won't be consumed. The solutions are as varied as the business benefits, which include heightened consumer loyalty, increased brand equity, revenue generation, and cost savings.

## About This Brief

This brief, based on research by sustainability consultant [Nancy Himmelfarb](#), provides an overview of solutions companies can pursue to help consumers reduce household food waste:

<sup>1</sup> <http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm>

<sup>2</sup> WRAP is a not-for-profit organization backed by government funding from England, Scotland, Wales, and Northern Ireland. <http://www.wrap.org.uk/content/new-estimates-household-food-and-drink-waste-uk>

<sup>3</sup> FAO (Food and Agriculture Organization of the United Nations). 2011. Global Food Losses and Food Waste: [www.fao.org/fileadmin/user\\_upload/ags/publications/GFL\\_web.pdf](http://www.fao.org/fileadmin/user_upload/ags/publications/GFL_web.pdf)

<sup>4</sup> Jonathan Bloom, *American Wasteland: How America Throws Away Nearly Half of Its Food (and what we can do about it)*, 2010.

1. Understand the consequences of food waste.
2. “Right size” their purchases to reduce the likelihood of waste occurring.
3. Improve their knowledge about how to keep food fresh, use leftovers, and dispose of scraps.

For an overview of where food waste occurs from farm to fork, its effects, and actions businesses are taking, see BSR’s brief, [“Waste Not, Want Not: An Overview of Food Waste.”](#)

## Helping Consumers Understand the Consequences of Food Waste

Research shows that while most consumers are interested in making environmentally responsible choices, they will do so only when it makes economic sense.<sup>5</sup> One option for engaging consumers on food waste is therefore to talk about cost savings. A central thought of WRAP’s “Love Food, Hate Waste” campaign in the U.K. is that “it pays to be a Food Lover.”<sup>6</sup>



WRAP follows up this message with facts and guidance to make it easy for consumers to change their behaviors. Working with local authorities, retailers, and brands, the group uses advertising, public relations, online communications, community outreach, and events to spread its message. According to WRAP these efforts have helped save 670,000 tons of food waste in the U.K. between 2005 and 2009, far exceeding the target goal.<sup>7</sup>

In non-household settings such as colleges with all-you-can-eat dining halls or in hotels that serve buffet meals, where consumers do not save money when they take less food, businesses are using different incentives to discourage the creation of waste. Food-service distributor Sodexo launched a “Stop Wasting Food” campaign in September 2010 on several U.S. college campuses to educate students about cutting food waste as a means to help curb climate change. Supported by videos and other marketing materials, it asked students to take two small steps: Take only what you plan to eat and come back for more if still hungry.<sup>8</sup>

In the U.K., Unilever has launched a pilot campaign with two local groups to change consumer habits and encourage the recycling of tea bags. According to

<sup>5</sup> <http://www.multivu.com/mnr/52467-sc-johnson-20th-anniversary-survey-green-consumer-attitudes-and-behaviors>, as reported in PRNewswire Oct. 4, 2011.

<sup>6</sup> <http://fhw-pages.wrap.org.uk/partners/retailers/index.rma> (Brand Guidelines).

<sup>7</sup> <http://www.lovefoodhatewaste.com/>; <http://www.wrap.org.uk/cy/node/80>.

<sup>8</sup> <http://www.sodexousa.com/usen/newsroom/press/press10/stopwastingfood.asp>

WRAP, tea is the largest element of unavoidable food waste produced in the U.K., accounting for about 370,000 tonnes of waste annually.<sup>9</sup> The campaign includes widespread advertising encouraging tea drinkers to dispose of their used tea bags in their curb-side food-waste collection.

Direct community outreach and engagement is another tool to consider in raising consumer awareness. While the following examples do not involve business partners directly, there are opportunities for companies to support these efforts as sponsors, contributing gift certificates or other in-kind donations as incentives.

In the United States, in Washington state, the King County Solid Waste Division is working to reduce residential food waste in collaboration with EPA Region 10's pilot program "Food: Too Good to Waste." This includes a recent program that engages families at a local elementary school to measure, reduce, and recycle their household food waste. Gift certificates to local grocery stores were offered as one of the incentives.<sup>10</sup>

In the U.K., WRAP collaborated with the National Federation of Women's Institutes to help 81 households cut their food bills and food waste in half. The program was based on volunteers recruiting and running groups in their own communities. Over four months, the groups exchanged information about making the best use of household food—including shopping, food storage, and cooking tips for leftovers. In addition to throwing away less food, the groups also learned new skills on food management and cooking. The group also produced a simple how-to guide for other community groups.<sup>11</sup>

#### **Unilever's Five Levers for Change**

While raising awareness is an important step, for changes in behavior to be sustained, it is important to consider individual motivations, triggers, and barriers. Here's an approach from Unilever on encouraging change:

1. Make it understood: to raise awareness and encourage acceptance.
2. Make it easy: to establish confidence and make it convenient.
3. Make it desirable: to connect with self-image and aspirations.
4. Make it rewarding: to demonstrate proof and payoff.
5. Make it a habit: to reinforce and remind.

## **Helping Consumers 'Right-Size' Food Purchases**

Businesses can help consumers buy smarter, which reduces the amount of food that might remain unconsumed and therefore be tossed. What follows are four innovative approaches companies are trying to reduce the generation of waste in the first place.

### **REDUCED PORTIONS**

Research shows that consumers increasingly are interested in smaller food portions. According to one survey, 43 percent of 5,000 adults said they ate smaller portions always or most of the time in the past year, and 57 percent said

<sup>9</sup> <http://www.unilever.co.uk/aboutus/newsandmedia/2012pressreleases/recyclingteabags.aspx>

<sup>10</sup> <http://your.kingcounty.gov/solidwaste/garbage-recycling/banana-peel.asp>

<sup>11</sup> <http://england.lovefoodhatewaste.com/content/love-food-champions-0> (describing the Love Food Champions project).

they want to eat smaller portions in the coming year.<sup>12</sup> Various restaurants are offering a choice of portion sizes, which not only addresses health and wellness concerns, but also can reduce consumers' "plate waste" and support the restaurant's sustainability strategy. For restaurants interested in obtaining Green Restaurant Certification, providing smaller portions for entrees is among the actions for which points are awarded.<sup>13</sup>

A key business issue to keep in mind when reducing portion sizes is what consumers perceive as value. At The Sunny Side Café, a California brunch spot, the menu states that "to reduce food waste, we have reduced our standard portion of home fries. *Please ask your server for more complimentary fries if you like.*" Consumers initially embraced the restaurant's policy of offering smaller portions of home fries and free refills. However, when the recession hit a few years ago, consumers complained, and the restaurant had to increase portions.<sup>14</sup> On the other hand, when the MGM Grand Hotel in Las Vegas cut serving sizes to reduce costs, it did not receive any complaints, and the hotel reduced food waste by between 15 and 20 percent over 18 months.<sup>15</sup>

### **TRAYLESS DINING**

Schools and other institutions offering all-you-can-eat fare have found they can reduce consumer food waste by as much as 30 percent switching to trayless dining. Food-service provider Sodexo called on its college accounts to remove dining trays on Earth Day 2008, and by September 2010, approximately 340 campuses had made the switch.<sup>16</sup> In addition to reducing the amount of food waste generated by students, this strategy conserves energy and water otherwise needed to clean trays, and it reduces the introduction of cleaning agents into the water supply. A number of other universities have taken up this practice.

### **ALTERNATIVE FOOD PROMOTIONS**

Buy one, get one free (BOGO), or two-for-one promotions, often tempt consumers to buy items they do not need. With this in mind, U.K. grocers Tesco and Sainsbury's have experimented respectively with "Buy One, Get One Later" and "Buy Now, Free Next Time" offers, giving consumers a voucher or credit on their loyalty card, to get the second food item in the future.<sup>17</sup> In the Netherlands, discount store chain Lidl recently launched a "1 Nu & 1 Later" promotion. Shoppers can buy only one product and one week later come back for the second item with a coupon they receive at checkout.<sup>18</sup> As an additional strategy, businesses can accompany in-store food promotions with advice on freezing surplus food. In a unique twist, Tianchumiaoxiang Vegetarian restaurant in Beijing rewards those customers who finish all their food with a stamp on their frequent diner card, redeemable on future visits for a free pot of tea.

### **BRING-YOUR-OWN-CONTAINER OPTIONS**

When permitted by local health codes, a bring-your-own-container (BYOC) policy gives consumers the option of buying exactly how much food they need rather than relying on manufacturer or store containers, which might be too large. Appropriate-sized food purchases are part of the vision for the Austin, Texas-

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<sup>12</sup> Nation's Restaurant News, July 27, 2011, <http://nrm.com/article/npd-consumers-want-smaller-portions?> (citing report by The NPD Group).

<sup>13</sup> Green Restaurant Association, <http://dinegreen.com/standards/Waste.html>.

<sup>14</sup> Aaron French, telephone conference with Nancy Himmelfarb, August 26, 2011. [http://www.thesunnysidecafe.com/lowcarbon\\_menu.htm](http://www.thesunnysidecafe.com/lowcarbon_menu.htm)

<sup>15</sup> <http://www.washingtonpost.com/wp-dyn/content/article/2008/11/27/AR2008112702155.html>.

<sup>16</sup> <http://news.csUMB.edu/news/2010/sep/13/campaign-targets-campus-food-waste>

<sup>17</sup> <http://news.bbc.co.uk/2/hi/business/8473122.stm>

<sup>18</sup> [http://www.lidl.nl/cps/rde/xchg/lidl\\_nl/hs.xsl/24913.htm](http://www.lidl.nl/cps/rde/xchg/lidl_nl/hs.xsl/24913.htm)

based store ingredients, which encourages customers to use their own containers and also offers reusable and compostable containers.”<sup>19</sup>

## Helping Consumers Keep, Use, and Dispose What They Buy

Once food is bought, there are many ways companies can help consumers get the most value out of their purchase. Moreover, if the items aren’t eaten, companies can also provide composting options.

### MAKING LEFTOVERS EASY

It’s nothing new for restaurants to offer containers for leftovers, but that doesn’t mean customers eat their takeaways. In many circumstances, perceived judgment and stigma might dissuade them. For example, according to one report, 50 percent of U.K. diners are too embarrassed to ask for a doggy bag or think that restaurants cannot allow diners to take home food. In order to destigmatize leftovers and raise awareness about food waste in restaurants, the U.K.’s Sustainable Restaurant Association (SRA) launched its “Too Good to Waste” campaign, distributing 250,000 biodegradable doggy boxes to participating restaurants.<sup>20</sup>

For consumers who do take home leftovers, companies can help by providing guidance on how to store and best use them. According to a 2009 U.S. restaurant survey, 34 percent of consumers want an indicator on when leftovers are no longer safe to eat, and 43 percent want instructions on how to reheat and serve them.<sup>21</sup> Retailers can help consumers take steps in their own homes by stocking tools such as refrigerator thermometers, portioning guides, and airtight storage containers.<sup>22</sup>



Companies can help consumers reduce food waste by posting food-storage guidance, freezing/thawing information, and other tips. ConAgra Foods, for example, partnered with Buca di Beppo restaurants and the American Dietetic Association (ADA) in 2004 to develop labels for leftover and carryout containers that feature safe food handling, storage, and reheating information.<sup>23</sup> In addition, the ConAgra-supported website [www.homefoodsafety.org](http://www.homefoodsafety.org) offers tips for safely using leftovers, and another of the company’s sites, [www.readyseteat.com](http://www.readyseteat.com), has included virtual classes on cooking with leftovers. Other businesses have also adopted some of these ideas, including the Arizona Biltmore Resort and Spa, Williams-Sonoma, and supermarket operators such as Publix Stores.

<sup>19</sup> Good, “Zero-Packaging Grocery Store to Open in Austin, Texas,” June 24, 2011, [www.good.is/post/zero-packaging-grocery-store-to-open-in-austin-texas/](http://www.good.is/post/zero-packaging-grocery-store-to-open-in-austin-texas/); <http://in.gredients.com/>.  
<sup>20</sup> [www.caterersearch.com/Articles/10/08/2011/339699/SRA-calls-on-London-restaurants-to-offer-doggy-bags.htm](http://www.caterersearch.com/Articles/10/08/2011/339699/SRA-calls-on-London-restaurants-to-offer-doggy-bags.htm)  
<sup>21</sup> American Express, “For the Love of Leftovers,” October 2009, [www.technomic.com/\\_files/Newsletters/.../Marketbrief\\_10-09.pdf](http://www.technomic.com/_files/Newsletters/.../Marketbrief_10-09.pdf).  
<sup>22</sup> WRAP, “Helping Consumers Reduce Food Waste – a retail survey,” May 2010, [www.wrap.org.uk/retail\\_supply\\_chain/research\\_tools/research/report\\_helping.html](http://www.wrap.org.uk/retail_supply_chain/research_tools/research/report_helping.html).  
<sup>23</sup> <http://media.conagrafoods.com/phoenix.zhtml?c=202310&p=irol-newsArticle&ID=1008360&highlight=>

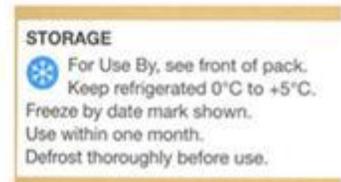
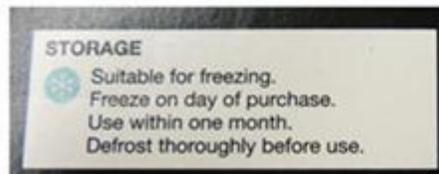
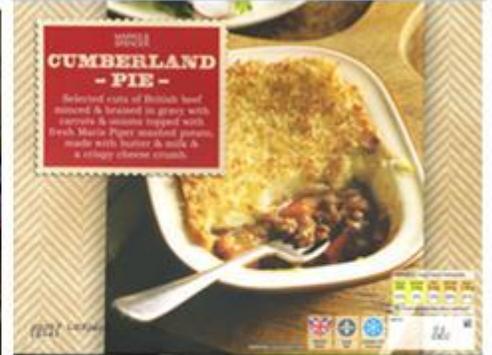
## APPROPRIATE PACKAGING AND GUIDANCE

Functional packaging features such as split packs and resealable packs are another solution for helping consumers keep food at its best

Other packaging innovations are also being explored that extend the shelf life in store and for consumers. This includes strips that absorb ethylene (the hormone that causes fruit to ripen and then turn moldy), which are being used by retailers such as the U.K.'s Marks & Spencer.

Clear packaging labels also can help consumers avoid food spoilage. An example of labeling changes is shown below with Marks & Spencer shifting to the message of “freeze by date mark shown” rather than “freeze on day of purchase.”

MARKS &  
SPENCER



The WRAP report “Helping Consumers Reduce Food Waste: A Retail Survey 2011” recommends that companies use labeling language that resonates with consumers as well as a set of recommendations for retailers that ranges from providing clear and consistent storage, freezing, and usage guidance.<sup>24</sup>

Since labels often confuse consumers, the U.K.'s Department for Environment, Food, and Rural Affairs (DEFRA) recently updated its guidance. Use of the “use by” date is designed to indicate that perishable food could be unsafe after the date versus “best before” dates, which relates to quality and indicates when food is no longer at its best, but is still safe.<sup>25</sup>

<sup>24</sup> <http://www.wrap.org.uk/content/helping-consumers-reduce-food-waste-retail-survey-2011>

<sup>25</sup> DEFRA, “Guidance on the application of date labels to food,”

<http://www.defra.gov.uk/publications/files/pb132629-food-date-labelling-110915.pdf> (Sept. 2011); [www.environmentalleader.com/2011/09/15/defra-scraps-sell-by-dates-to-cut-food-waste/?utm\\_source=twitterfeed&utm\\_medium=twitter&utm\\_campaign=Feed%3A+EnvironmentalLeader+%28Environmental+Leader%29](http://www.environmentalleader.com/2011/09/15/defra-scraps-sell-by-dates-to-cut-food-waste/?utm_source=twitterfeed&utm_medium=twitter&utm_campaign=Feed%3A+EnvironmentalLeader+%28Environmental+Leader%29).

## COMPOSTING BY CONSUMERS

Consumers will continue to discard uneaten food and related scraps for a range of reasons. However, when food is disposed in a landfill, it creates methane as it decomposes, which is a significant concern. Therefore, making composting easier is a step companies can take to keep consumer waste out of landfills. This could include selling composting supplies and providing classes as well as providing organic waste-collection options.

Some companies like the Washington, D.C.-based chain of Sweet Green restaurants ensure that all waste can either be composted or recycled. In these places, compost and recycling bins are available instead of trash cans.<sup>26</sup> In another example, the North Terminal Food Court at Portland's International Airport in Oregon set up one of the first public-area food-collection stations in the United States, with separate bins for food scraps and ice/liquids.<sup>27</sup> This saves the Port of Portland money each year, based on the differential between its net costs for hauling organics and landfilled waste.<sup>28</sup>

While a lack of organic waste-collection facilities is among the barriers to composting, this is changing. In cities like San Francisco, collection systems are well developed; in other areas, companies are working with local groups and authorities to developing successful collection programs. A good example of this is the U.S. National Restaurant Association's collaboration with Atlanta-based Zero Waste Zone, which is focused on enhancing recycling and composting options as well as measuring the impact of perishable organic waste-management efforts and providing best practice resources to restaurants.<sup>29</sup>

## Conclusion

While this brief describes actions being undertaken by companies that are focused on serving, selling, or producing food, there is also a clear opportunity for collaboration with those that can provide related solutions, whether in waste management, packaging, preservation, or information technology. Innovative solutions are emerging and more will be needed given the multifaceted nature of food waste, its financial and societal impacts, and emerging regulatory measures.

Reducing food waste, whether generated at the household level or elsewhere in the food value chain, will also require changes in habits and behavior. Companies can play an important role in motivating individuals to change and making it easy for them.

This brief offers some of the possible interventions and innovations. As companies consider the steps they can take, it's worth investigating all of the options. Even the small steps matter. Just as the actions of individuals add up to a lot of waste, the individual actions to reduce it also add up—and, collectively, small steps can make a significant dent in reducing the waste.

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<sup>26</sup> <http://sweetgreen.com/sustainability/>.

<sup>27</sup> Nate Forst, Project Coordinator, Community Environmental Services, Portland State University, Port of Portland Waste Minimization Project, Email to Nancy Himmelfarb, Sept. 22, 2011.

<sup>28</sup> *Ibid.*; <http://www.environmentalleader.com/2008/12/01/industry-deals-with-rising-cost-of-food-waste-with-innovation/>.

<sup>29</sup> [http://www.restaurant.org/nra\\_news\\_blog/2011/02/nra-to-work-with-zero-waste-zone-to-reduce-organic-waste.cfm](http://www.restaurant.org/nra_news_blog/2011/02/nra-to-work-with-zero-waste-zone-to-reduce-organic-waste.cfm)