REDUCED FOOD-WASTE

OVERVIEW OF A HIGH-IMPACT DRAWDOWN SOLUTION

Food waste refers to food that is produced but not eaten. This can occur for a variety reasons such as people purchasing more food than they need or customers rejecting bruised or mis-shaped produce. Food waste also can occur when food rots on farms or in the distribution process. Food waste generates GHGs in every step of the food production and distribution process. Organic matter also produces methane, a potent GHG, when it decomposes in landfills.

TECHNOLOGY AND MARKET READINESS

Multiple interventions are required both at the consumer and retail levels to reduce food waste. Major interventions have already been identified – Prevention; Recovery & Recycling (ReFED, 2016). Recent case studies by restaurants and hotels indicated that simple interventions would not only reduce food wastes, but also cut costs. A coordinated effort along the supply chain and policy changes are required to mitigate food wastes.

LOCAL EXPERIENCE AND DATA AVAILABILITY

According to USDA-ERS, about 67-63 million tons of food is wasted annually in the United States. Although no state-specific food loss data is available, several estimates are available at the national and global levels and also in specific sectors. USDA-ERS has national-level data on food wastes and the state-specific data can be obtained. However, the potential food waste from the State of Georgia can be estimated from the population data.

TECHNICALLY ACHIEVABLE CO2 REDUCTION POTENTIAL

For the state of Georgia with a total population of 10.52 million (2018), the estimated food waste is about 2.03 million tons. We assumed that for every ton of food waste diverted, about 1.35 tons of CO2 could be reduced depending on the interventions based on the study by ReFED (2016). If Georgia could reduce 50% of the food waste by 2030, it could reduce about 1.38 Mt CO2-e each year.

COST COMPETITIVENESS

According to ReFED organization, about $18 billion investment is required to reduce 13 million tons of food waste that would yield $100 billion net economic value (ReFED, 2016). However, costs depend on the potential food waste reduction solutions – Prevention, Recovery and Recycling.

BEYOND CARBON ATTRIBUTES

By reducing food waste, land use and landfill use decreases, aiding in environmental health. Around 56.7 million tonnes of food is wasted from farms to consumers in the United States, which entails using 16 million hectares of land, 3.9 million tonnes of fertilizers, and 17 billion cubic meters of irrigation (CAST, 2018). Water quality and air quality can be improved from less pesticide use (Tilman & Clark, 2014). Public health is improved from increased food security and safety, especially through donating food that would otherwise be wasted to those in need (Snyder et al., 2018).

Some potentially adverse effects include lower profits for farmers, since they may be encouraged to produce and sell smaller quantities of food. Overall, education needs to be spread to encourage changes in consumer and producer habits to lower food waste across all sectors (FAO, 2011).

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Endnotes:

1. https://www.drawdown.org/solutions/food/reduced-food-waste
2. https://www.usda.gov/oce/foodwaste/faqs.htm
3. www.refed.com

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