

## Summary

Between 2018 and 2040, the food system in the United States was significantly restructured and redesigned to promote sustainable agricultural production and ensure a closed food loop. In 2018, about 40% of food in the United States was wasted, millions of pounds per year ending up uncaptured and rotting in landfills. Both the patterns of food production and consumption contributed significantly to the staggering amounts of waste, industrial practices of agriculture and over purchasing of cheap food leading to the tremendous scale of the problem. According to the EPA, food waste solutions followed a six step process moving away from landfill disposal and towards original source reduction. After many years of unsustainable food growth and consumption practices, a severe drought in 2019 forced the country to more seriously recognize the necessity to shift away from the current systems of that time. The elimination of food waste and adoption of a sustainable system required changes in production, consumption, and waste practices on both a large and small/individualistic scale.

There were many changes on the way from 2018 to 2040, and different aspects of the food system were restructured throughout this period of time. In 2018, industrial farms used to produce to surplus, using unsustainable agricultural practices to grow as much food as was possible, instead of just enough to fulfil the needs of the population. Food production was extremely disconnected from those who were actually the consumers of such products, resulting in a significant disparity between how much food was actually needed and how much was being produced. To solve this part of the problem, industrial farms were slowly closed and food production shifted to smaller, localized household and community farms, supported by government subsidies and assistance. This was the first major step of source reduction in efforts to eliminate food waste. In 2040, almost all food consumed by communities is produced within that community, promoting local self sufficiency and eliminating the production of unnecessary and wasteful agricultural surplus. Smaller sized, community farms can more accurately assess the consumptive needs of local populations, therefore producing only to match consumption rather than for a surplus. Understanding more accurate assessments of food demand was imperative in making changes to production. However because it is challenging to perfectly match production to consumption, if extra food is produced beyond what the community eats, it is distributed to people in need, charities, or as animal feed at farms. To eliminate confusion about food dates and their various meanings, a standardized “eat by” date was adopted by all food producers to represent a singular definition of when food was safe to eat by. Before this standardization, there were different labels such as “best by” and “good until” which had ambiguous meanings about the health and safety of food beyond certain dates.

After the systemic agricultural shifts were made to tackle source reduction, the post-consumption side of food waste was addressed. In addition to localized sustainable agriculture, waste systems evolved to include compost as an alternative/addition to the traditional two-part trash and recycling model. This way, food that is not eaten or used is repurposed through a compost system rather than thrown out and eventually rotted in landfills. When food in landfills became illegal in 2025, the American population was obligated to accept compost as the singular disposal option for uneaten food. Not only does a composting system

eliminate the disposal and buildup of food in landfills, but it helps close the food loop by repurposing uneaten food into new agricultural growth and production. To make composting convenient and effective, it became a full municipal service by 2030, food scraps collected weekly by compost trucks and brought to composting centers. At these composting centers, food waste is processed and made into fertilizer, which is then redistributed to household, community, and regional farms to aid in the food growth process. By slowing agricultural and food production, investing in sustainable agriculture, and composting any uneaten food, a once broken and inefficient food system has become environmentally considerate and virtually waste free. It took many steps over 20 years to achieve this closed food loop, but the benefits of these systemic changes is widespread and society is better off for it.

To explain the workings of this new world, and how we were forced to change our lifestyles to accompany it, we have found four normal citizens, one scientist, and two archivists to write about their lives today in 2040. To accompany this we also looked to the past and found one account from a scientist in 2018 who wrote about their problems with food waste at the time, as well as what potential solutions they saw as possible. Those picked will write about what they see as the most important differences that have grown in the past twenty-one years since the beginning of the drought which shook our economy and culture to the core, and how it affects and changes their lives today compared to the lives of those living in 2018. To read more about their lives, see Appendixes 1-3.