
Food Waste: The Climate Connection

April 28, 2022

Presentation Overview

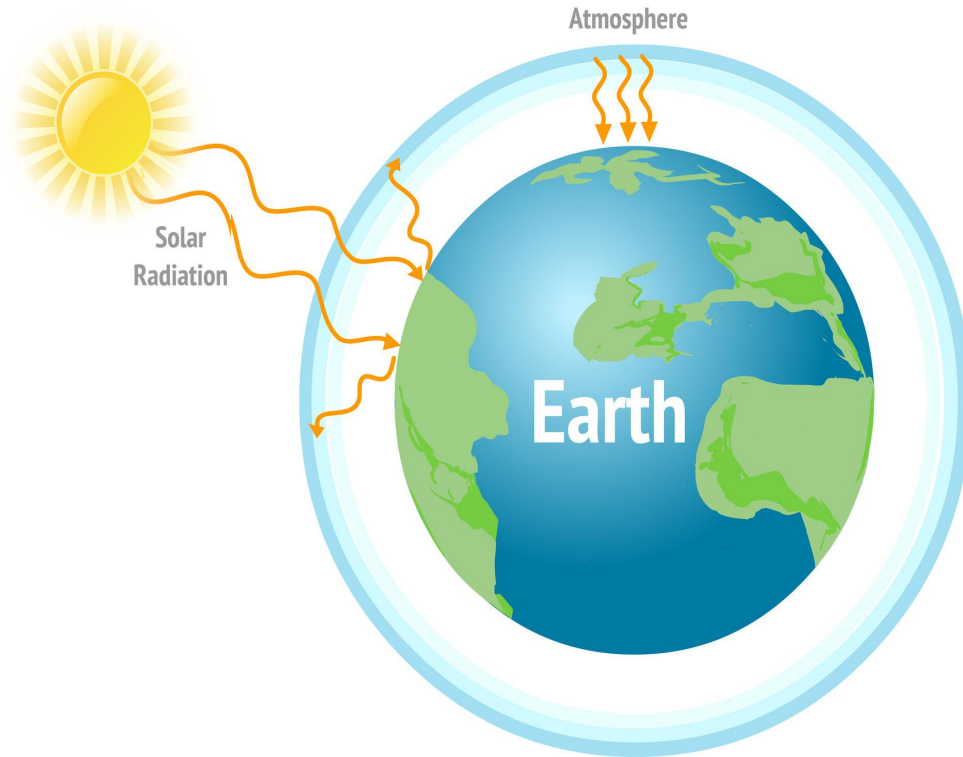
1. Basic Climate Science
2. Climate Impacts of Food Waste
3. Solutions to Food Waste
4. Take Action
5. Q&A

Earth's Atmosphere



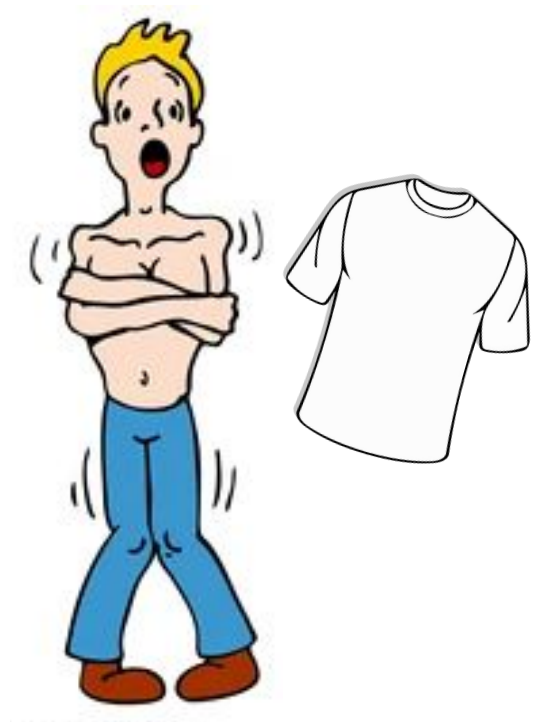
- Several layers
- Mixture of gases
 - Nitrogen, oxygen, carbon dioxide, etc.
- Makes the planet's surface livable
 - Breathable Air
 - Temperature Control

The Greenhouse Effect



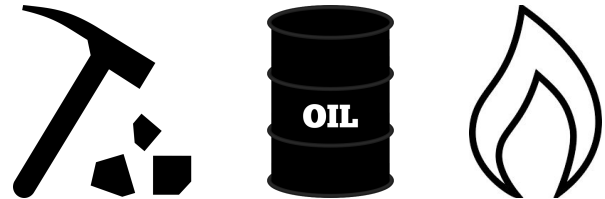
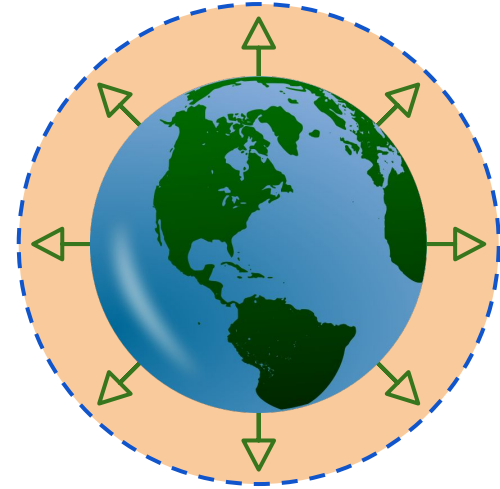
Greenhouse Gases (GHGs)

- Primary Gases
 - Carbon Dioxide (CO₂)
 - Methane (CH₄)
 - Nitrous Oxide (N₂O)
- GHGs are natural and necessary (to some extent)

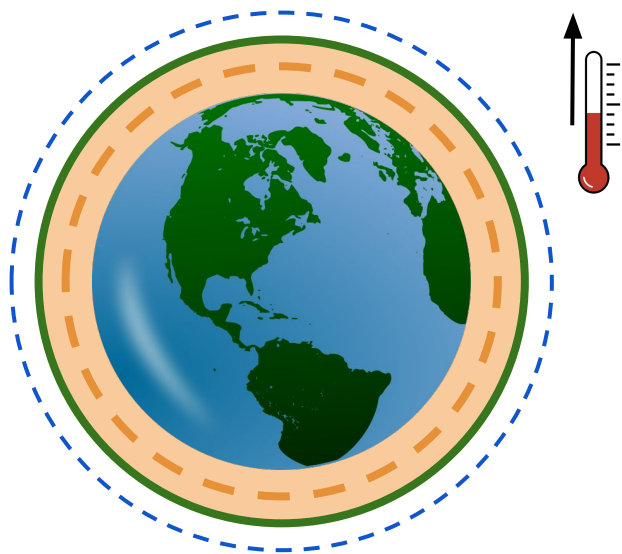


Greenhouse Gases (GHGs)

- Human activity has accelerated the build-up of GHGs in the atmosphere
 - All-time high for the planet
 - 'Fossil fuels' are primary source
- Too many GHGs in the atmosphere can cause problems
 - Sends greenhouse effect in overdrive



Global Warming

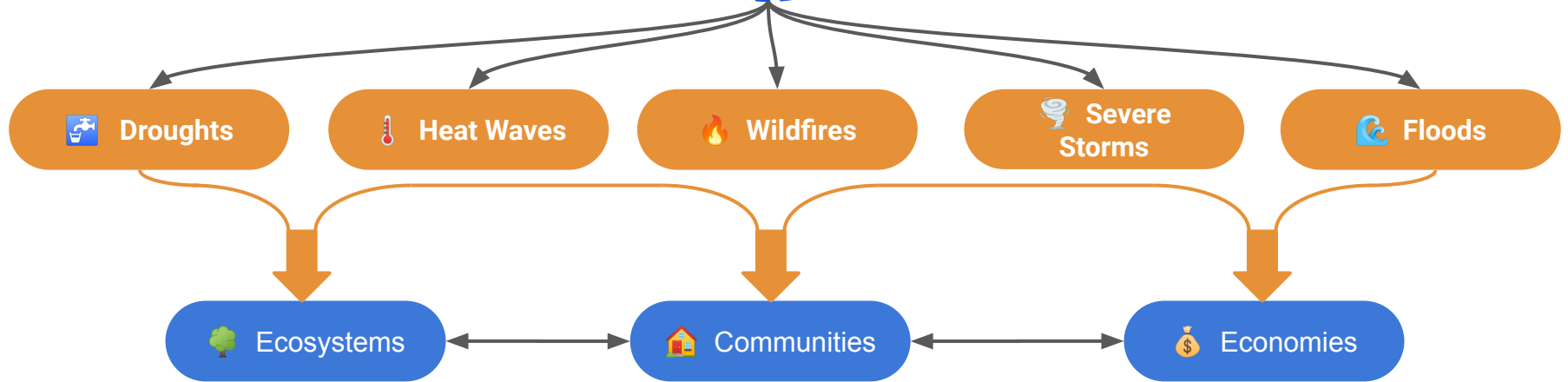
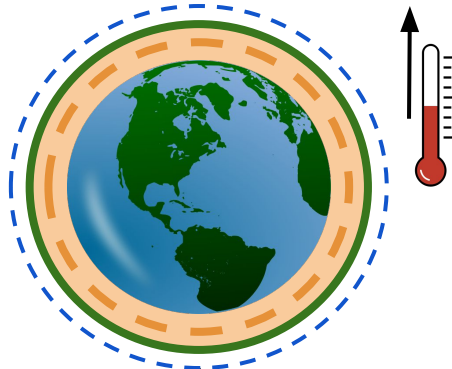


A 3-5°F Warmer World

- A few degrees can make a big difference
- Temperature affects almost all other planetary systems



Climate Change



In Review

**GHG
Emissions**



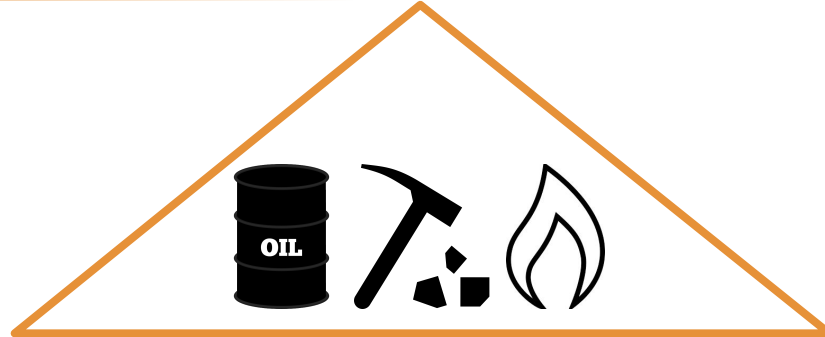
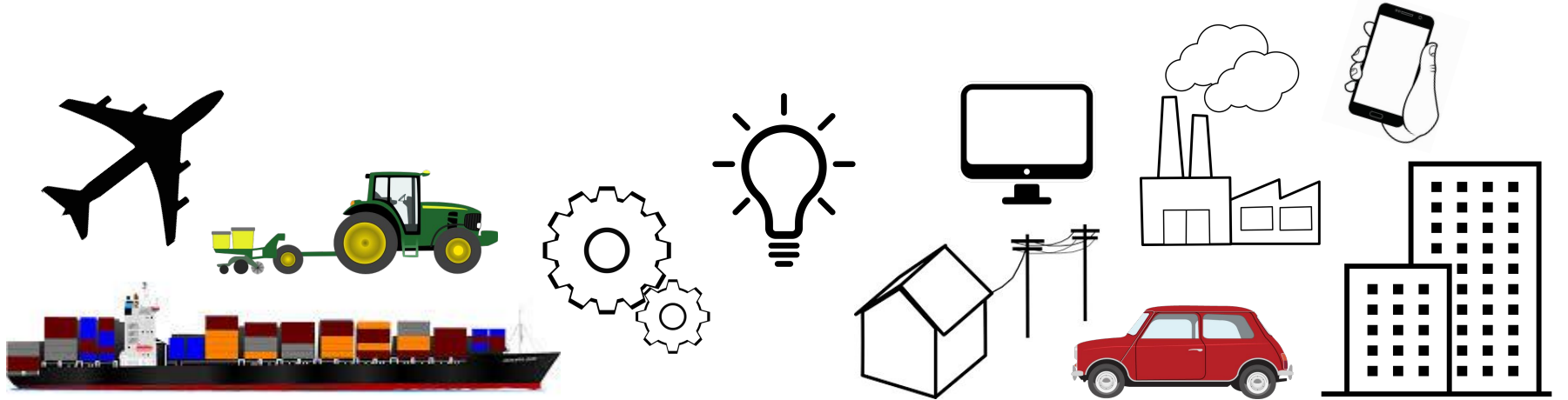
**Global
Warming**



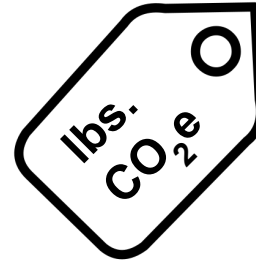
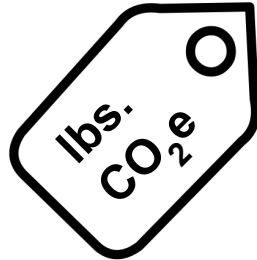
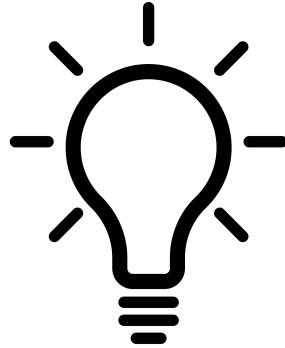
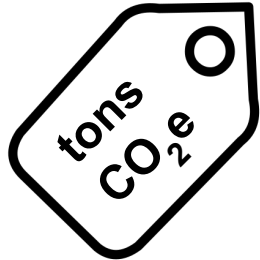
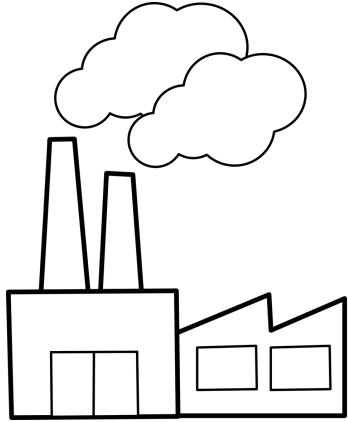
**Climate
Change**



Our Carbon-based Society



Carbon Footprint



The Life Cycle of Food

- Growing
 - Processing
 - Storage & Distribution
 - Consumption
 - Disposal
-

1/3

of all food produced worldwide
is lost or wasted.

4.4 billion

metric tons of CO₂e

Global food waste is the

3rd

largest emitter of GHGs
in the world.

8%

of global GHG emissions are the result
producing food that is never eaten

35%

of all food produced in the U.S.
is lost or wasted.

170 million

metric tons CO₂e

42

coal-fired power plants

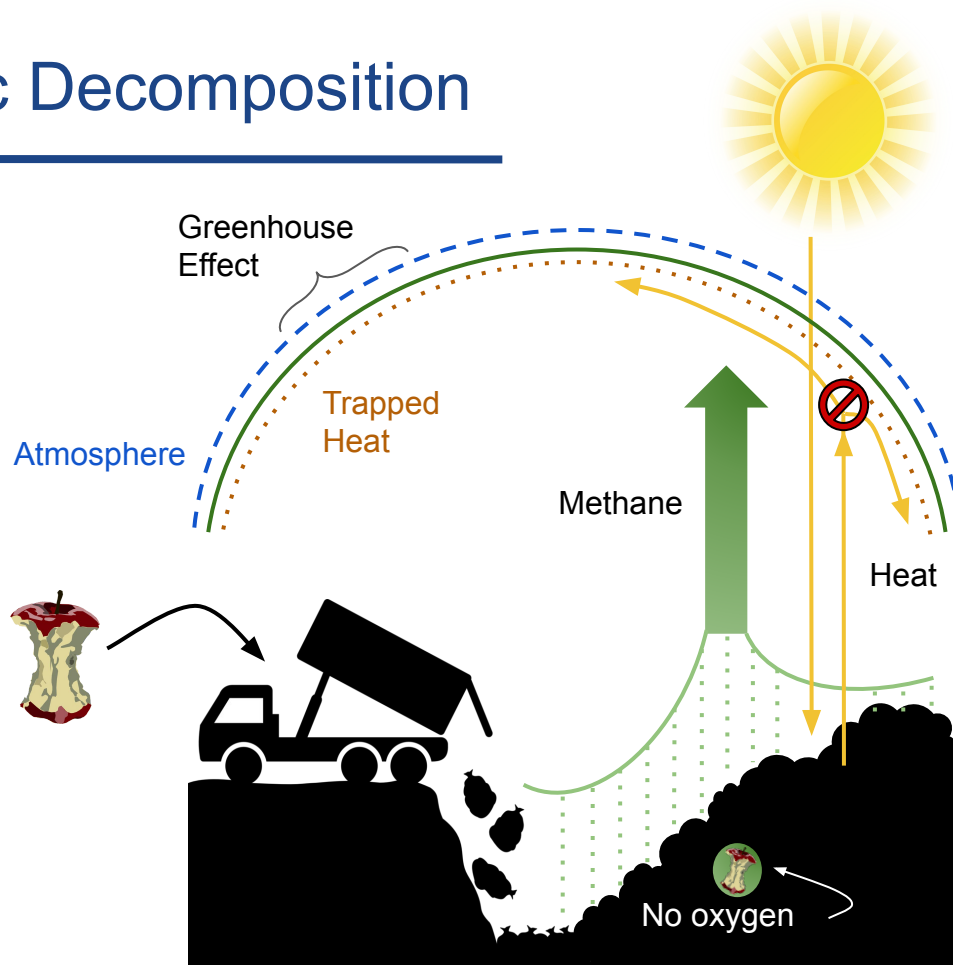
36 million

passenger vehicles on the road

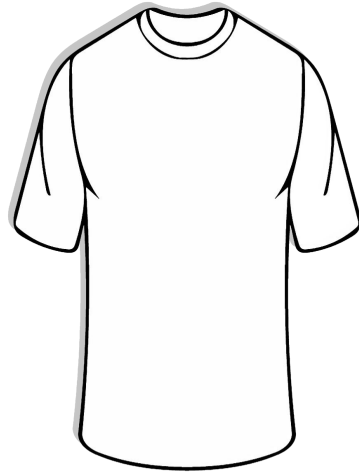
The 'Afterlife' of Food



Anaerobic Decomposition



Methane (CH₄)



Carbon Dioxide

vs.



Methane



Food is the **most common**
material in our landfills,
statewide and nationally.

Landfills are the

3rd

largest generators of methane
in California, the U.S., and the world.

The 'Triple Whammy' of Food Waste

- Life Cycle Emissions
 - Wasted Food = “Wasted” GHGs
 - Mostly CO₂
 - End-of-Life Emissions
 - Mostly CH₄
 - Deforestation
 - Releases stored CO₂
 - Reduces the planet's CO₂ storage capacity
-

The Good News

Preventing and reducing food waste is one of the *easiest* and *most effective* ways to address climate change.

Benefits of Food Waste Prevention

- When we use rather than waste food, we...
 - Prevent 'embedded emissions' in that food from being wasted
 - Prevent that food from generating methane in a landfill
 - Reduce the demand for new farmland to grow more food, which helps to preserve our carbon-storing forests and wildlands

Solutions Around the Globe

- United Nations
 - U.S. Environmental Protection Agency
 - Non-profit Groups, Activists, and Start-ups
-

Solutions in California

- CA Senate Bill 1383
 - “Short-lived Climate Pollutants Reduction Strategy”
 - Reduce methane emissions by diverting organic waste from landfills
 - Affects residents, businesses, and governments
 - Potential GHG savings:
 - Equivalent to taking 2 million cars off the road for 1 year



Statewide Targets

2025

75%↓

Organic waste sent to landfills

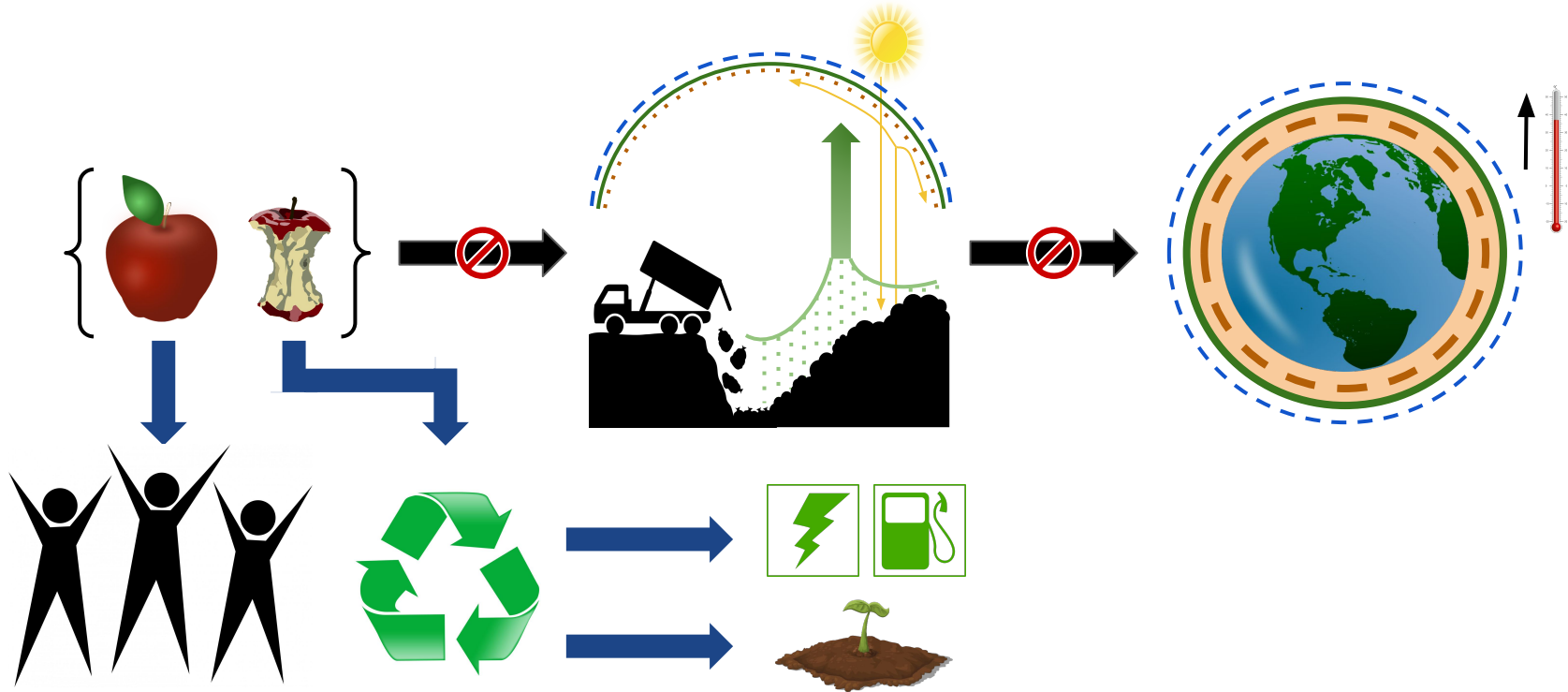
2025

20%↑

Recovery of edible food for
human consumption*

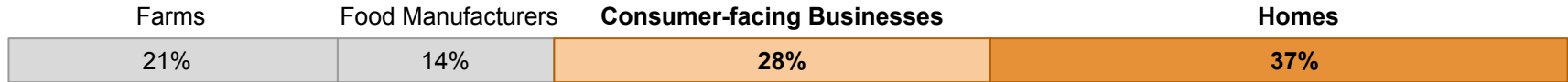
*(which would otherwise be discarded)

SB 1383 at Work



How You Can Make a Difference

Wasted Food in U.S. Supply Chain (81 million tons/yr)



Take Action!

- At Home
 - Appreciate your food
 - Conduct a ‘food-waste audit’
 - Buy only what you need
 - Lower your beauty standards
 - Store food properly
 - Get creative with leftovers
 - Understand “expiration” dates
 - Compost what you can’t eat
-

Take Action!

- At Work
 - Start a conversation with your colleagues and supervisor(s)
 - “What are we doing to prevent food waste?”
 - Cultivate a sense of team pride
 - Lead by example
 - In Your Community
 - Start conversations with friends and family
 - Ask your local shops and restaurants what they are doing to prevent food waste
 - Ask about SB 1383 (where applicable)
 - As a consumer, you have more leverage than you may think!
 - Volunteer with a food-rescue organization
-

Learn More

- Government Organizations
 - [United Nations Food & Agriculture Organization \(FAO\)](#)
 - [U.S. Environmental Protection Agency \(EPA\)](#)
 - [U.S. Department of Agriculture \(USDA\)](#)
 - [California Department of Resources Recycling and Recovery \(CalRecycle\)](#)
 - [SB 1383](#)
 - Other Climate Policies in CA
- Research & Advocacy Groups
 - [ReFED](#)
 - [Natural Resources Defense Council \(NRDC\)](#)
 - [Save the Food](#)
 - [Project Drawdown](#)

Learn More

- Reading Material
 - [From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste](#) (U.S. EPA)
- Documentaries
 - [Wasted! The Story of Food Waste](#) (2017)
 - [Just Eat It: A Food Waste Story](#) (2014)
 - [Dive! Living Off America's Waste](#) (2010)
- Short-form Videos
 - [Global Food Wastage Footprint](#)
 - [UC Climate Lab: Episode Four - Food Waste](#)
 - [TEDx Talk - 40% of Food Grown in the U.S. Is Thrown Away](#)
 - [Expired? Food Waste in America](#)

References

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- [“From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste.”](#) Digital Publication. US EPA, Office of Research and Development. Nov 2021.
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- [“California's Short-Lived Climate Pollutant Reduction Strategy.”](#) Web Page. CalRecycle. Nov 2021.
- [“Food Recovery in California.”](#) Web Page. CalRecycle, Nov 2021.
- [“SB 1383 Edible Food Recovery.”](#) Digital Presentation. CalRecycle. Dec 2020.
- [“Food Waste: The Challenge - Overview.”](#) Web Page. ReFED. Nov 2021.
- [“Surplus Food Occurs Across the Supply Chain.”](#) Digital Image. ReFED. Nov 2021.