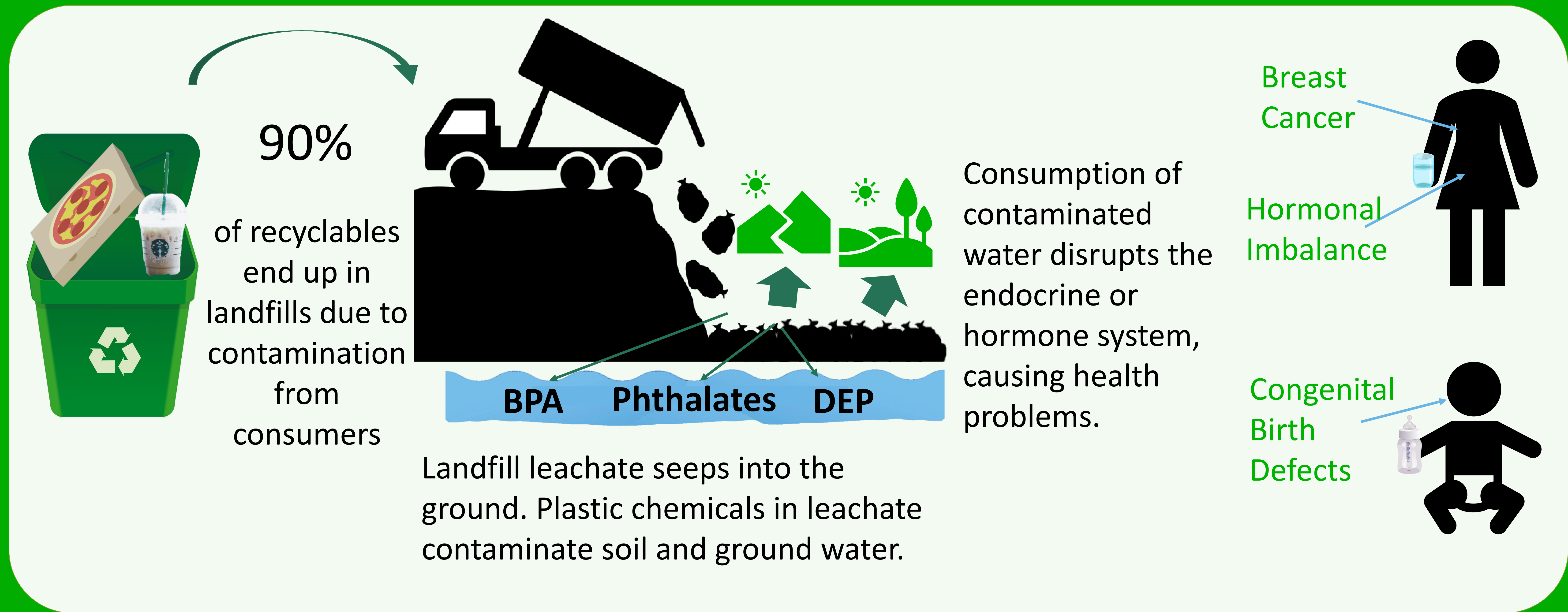


Accumulation of Plastic in Landfills

Alexis Compton, Camille McDonnell, CJ Dunn, Dillon McCarthy
Heal the World, Professor Stoddard and Professor Rao



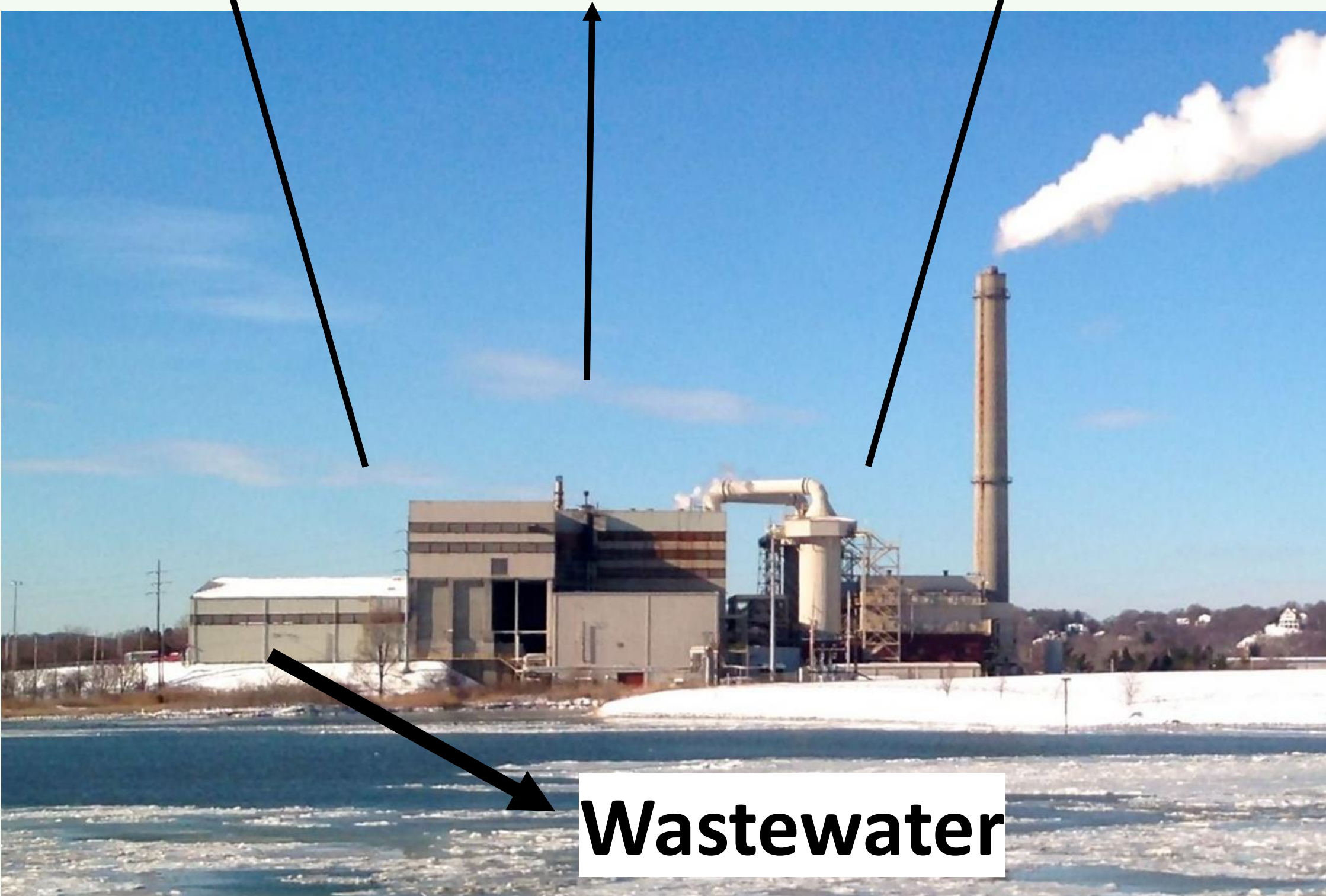
Current Solution

Waste-to-Energy Facilities

Release ash, with heavy metals

Remaining waste goes to landfill

Air Emissions- CO₂, NO_x, and CH₄



Wastewater

Our Solution

How can I recycle this bottle?

1. Open app (Smartcycle)
2. Take picture
3. Scan recycling code (Water bottle #1)
4. Says if recyclable in location (Worcester, MA)
5. How to dispose properly (1. Rinse to clean, 2. Find recycling bin, 3. Recycle)
6. Recycle according to instructions
7. Repeat for any plastic items you have

Implementation and Assessment

Implementation Plan

- Contact RecyclingWorks in Massachusetts to develop app
- Contact Recycle Across America to develop nationwide
- Advertise on social media

Assessment Plan

- Sample recovery, contamination, and landfill rates of towns 3 years after app
- Monitor frequency app is used
- Compare rates and usage data

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Key References

Psomopoulos, C. S., Bourka, A., & Themelis, N. J. (2009). Waste-to-energy: A review of the status and benefits in USA. *Waste Management*, 29(5), 1718-1724. doi:10.1016/j.wasman.2008.11.020

Environmental Protection Agency. (2018). Facts and Figures about Materials, Waste, and Recycling

Halden, R. U. (2010). Plastics and health risks. *Annual Review of Public Health*, 31(1), 179-194. doi:10.1146/annurev.publhealth.012809.103714