

Chapter 17:

Managing Our Waste

&

Sustainability Solutions

(all chapters)

The 5 R's

Refuse

Reduce

Reuse

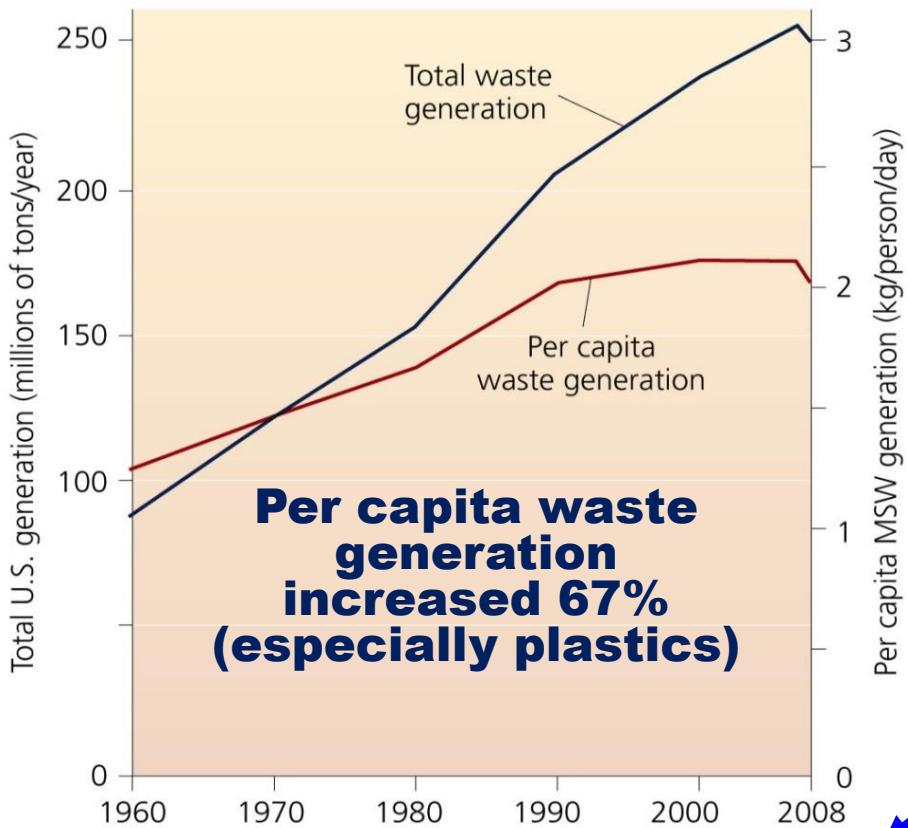
Recycle

Rot

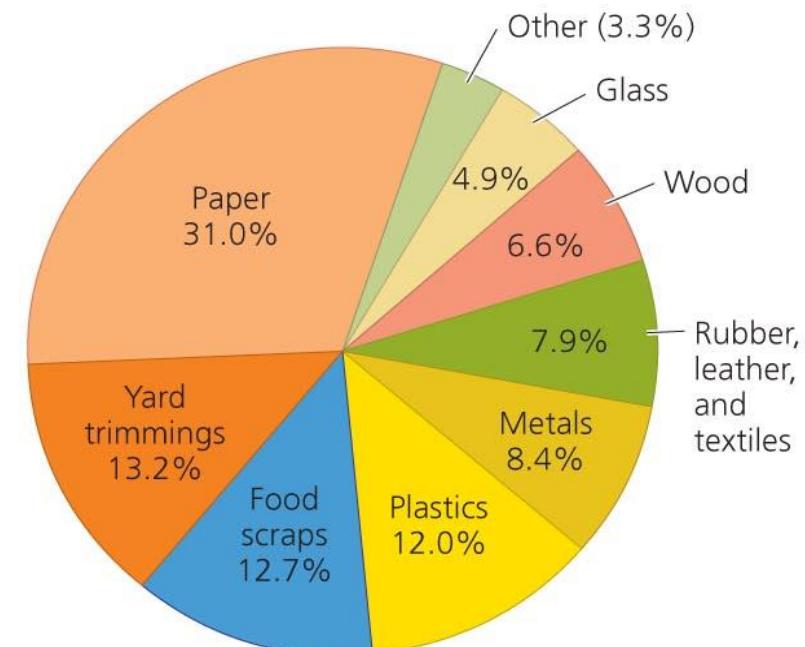


Each American Produces 1 Billion Pounds of trash/year

- Since 1960, waste generation increased by 2.8 times



Since 1951, we've produced
6.3 billion tons of plastic
91% has NOT been recycled

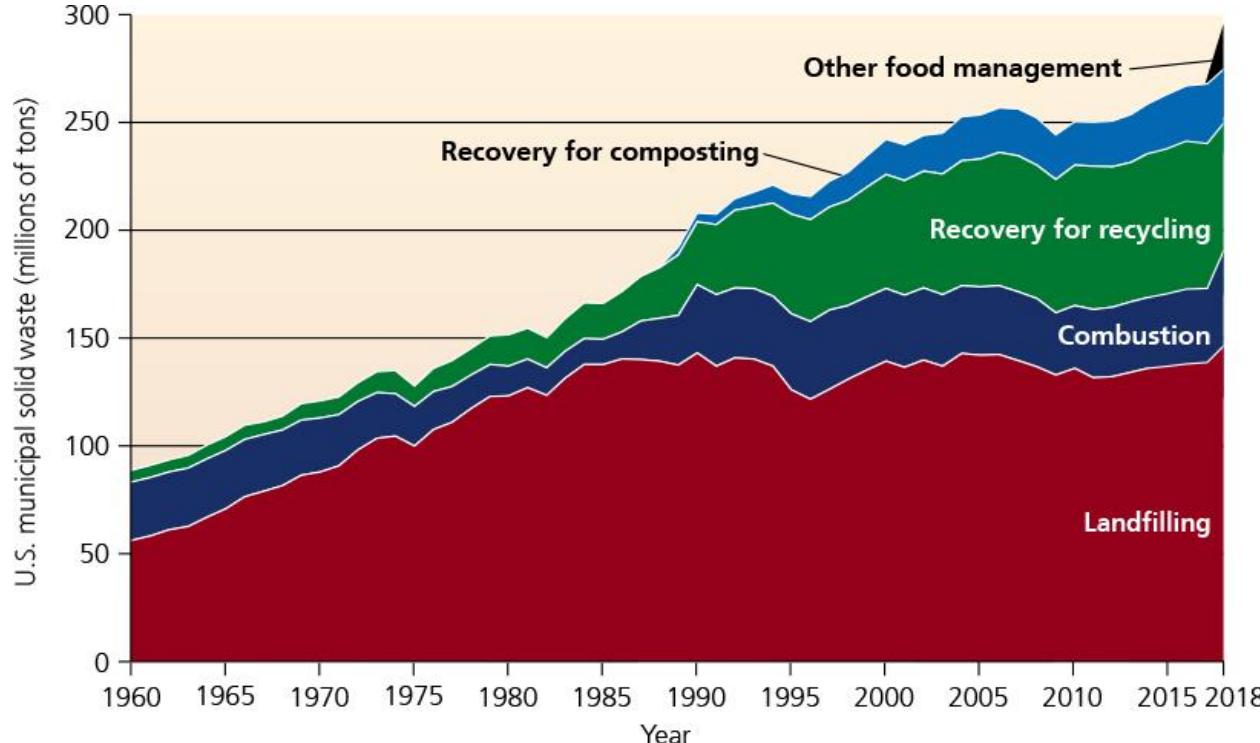


But, isn't recycling
working to reduce
this waste from going
to landfills?

Consumption Leads to Waste

- Waste generation has more than tripled in USA since 1960, due to increased consumption & excess packaging in products
 - Avg. American generates 2.2 kg (4.9 lb) of trash per day, significantly more than people in most other countries
 - As of 2018, 50% of USA waste goes to landfills
 - The other 50% is incinerated, recycled, or composted

As recycling & composting grew in USA, the proportion of waste going to landfills declined



We have created a global crisis of stuff

**If we don't recycle, biodigest, or compost it,
it ends up here in the landfill**



**Prima Deshecha
Canyon Landfill in San Juan
Capistrano (699 acres of landfill disposal, receives
up to 4,000 tons of waste per day)**

World Plastic Recycling is in Chaos

- Recycling of metals & glass are working fairly well, but not PLASTICS
- For decades, China recycled 50% of world waste, 70% of U.S. plastic & 95% from Europe
- January 2018, China banned 99% of plastic & 66% of mixed paper imports for recycling
 - Only 9% of plastic is recycled & 12% is burned, the rest is buried in landfills or dumped
- Many cities have closed recycling facilities & recyclables now are landfilled, burned, or sent to other nations that cannot recycle the waste
 - BUT, many cities are now developing local, recycling processing centers & infrastructure



Manila, Philippines



187 nations
ratified, USA
is not one of
them

**Without China,
nations exported
plastic waste to
developing nations,
often illegally**

**In May 2019, UN's
Basel Convention
made it illegal for
Countries to export
plastic waste
without permission**



Thailand



Recycling works if citizens participate

- Step 1: collection (curbside or designated locations) & processing of recyclable materials
 - Recovery facilities: workers & machines sort, clean, shred, & prepare items
- Step 2: using recyclables to produce new goods
- Step 3: consumers buy goods made from recycled materials
 - Must occur if recycling is to function
 - As markets expand, prices will fall



Technology makes sorting easier
Metals separated using magnets,
spectrometers separate plastic by
polymer type (#1-7)

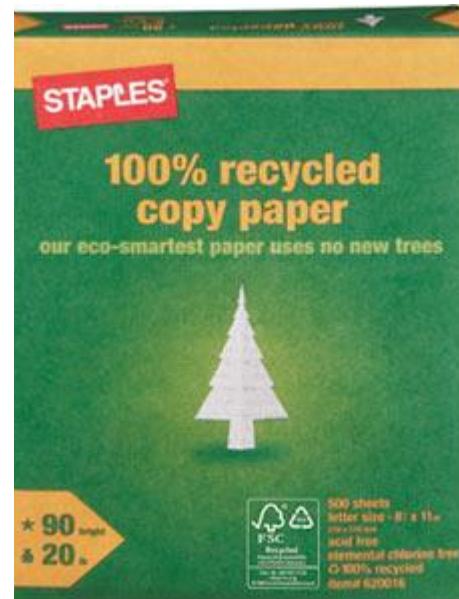
Buying recycled products makes it work



**Recycled
clothing &
bottles**



Recycled yoga mats



Reduce: Prevent waste in the first place

- **Avoids costs of disposal & recycling**

- **Helps conserve resources, minimizes pollution, saves consumers & businesses \$\$**

- **Most waste consists of materials used to package goods**

- Buy products with minimal packaging, made with recycled or recyclable materials**

- Bring your own bags**

- Reduce size or weight of goods & materials (remove water from laundry soap)**



Your metallized chip bag is not recyclable



What Can You Do?

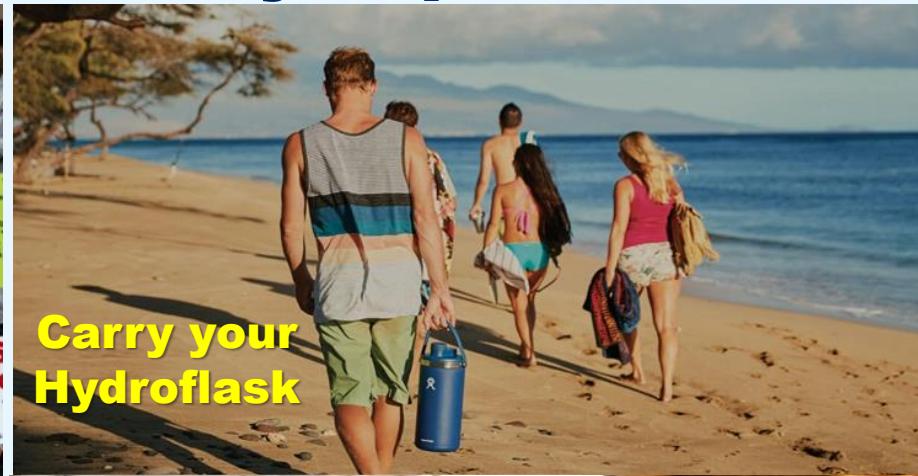
1. **RECYCLE!** California recycling is one of the best in the world, but we ALL must reduce plastic use:
2. **Carry reusable bottle, bag, fork/spoon**
3. **Refuse plastic straws, lids, utensils**
4. **Choose products in glass or metal & recycle them**
5. **Eat in restaurants instead of taking to go**
6. **Buy products with less packaging (no bagged apples, tea in plastic packets)**
7. **Use razors with replaceable blades**
8. **Use toothbrush with replaceable head or bamboo ones**
9. **Buy concentrated cleaners (smaller package)**
10. **Eat in restaurants instead of taking to go**
11. **Buy fewer, higher quality clothes that last longer or shop second hand**



We are in Charge

If we love our planet, we need to protect it!

Don't expect someone else to do the hard work
Vote, speak truth to power, & never be afraid to share your knowledge. It truly is powerful!



Carry your
Hydroflask



Volunteer for habitat
restoration

**Now, Get
Out There &
See It!**



Living Sustainably

- **1. Reduce energy use:**

- **Use mass transit, carpool, don't idle car, inflate tires, make your next car fuel efficient!**
 - **Unplug, turn down thermostat, use cold water**
 - **Support use of renewable energy**

- **2. Save water:**

- **Don't run water & take shorter showers, install faucet aerators, low-flow shower heads & toilets; switch to drip irrigation & xeric landscaping**

- **3. Reduce, re-use, & recycle:**

- **Bring your own bags & skip take-out, eat leftovers, donate unwanted items, use recycling bins, buy recycled products, buy products with less packaging**
 - **Recycle e-waste responsibly**

Living Sustainably

- 4. Eat smart: Buy locally grown & organic foods**
 - **Eat lower on the food chain (less beef); purchase ethically raised meat, dairy, & eggs; buy sustainably harvested & farmed seafood; avoid products containing hormones & antibiotics**
- 5. Reduce chemical use: Use natural fertilizers & avoid pesticides in home gardens**
 - **Avoid bottled water & filter water at home, buy BPA-free containers & canned food**
 - **Use products made of natural materials & fragrances, make your own cleaning supplies (vinegar, lemon juice, baking soda, dish soap is all you need)**
 - **Reduce use of plastics – use glass, metal, etc.**
- 6. Educate yourself & others: knowledge is power**

Recycling Resources

- **Textile recycling (clothes, towels...)**
 - **Goodwill Industries** (if they can't be sold in their shops, textiles are sold to salvage brokers abroad)
- **Shoe recycling**
 - **Nike Grind** (worn athletic shoes made into sports courts & fields, drop off at Nike stores)
 - <http://www.nikereuseashoe.com/>
 - **Soles 4 Souls** (worn, but usable shoes donated to people in need)
 - <https://soles4souls.org/>
 - **Shopping guide for home tissue** (t.p., paper towels, etc.): Recycled content, toxicity:
 - <http://www.nrdc.org/land/forests/gtissue.asp>



SOLES 4 SOULS

WEARING OUT POVERTY™

E-Waste Recycling

- Most or our home garbage & recycling companies offer free, curbside e-waste pick-up



- Goodwill Industries (accepts electronics at all donation centers)

- <http://www.ocgoodwill.org/>

- Best Buy (recycles electronics – look under “support & services” tab):

- <https://www.bestbuy.com/site/services/recycling/pmcat149900050025.c?id=pcmcat149900050025>

- e-stewards (certifies globally responsible recyclers):

- <http://e-stewards.org/>

- e-recycling of California (local)

- <http://www.erecyclingofcalifornia.com>



**Act as if what
you do makes a
difference.**

It does.

~William James



**Unless someone like you
cares a whole awful lot,
nothing is going to
get better.**

It's not

~Dr. Suess