

## *Environmental actions by individuals*

1. *Reduce Water Usage, especially hot water usage*
  - a. Great amounts of energy are expended to purify and deliver tap water to your home.
  - b. Hand washing
    - i. Studies show no significant benefit to washing hands in hot or warm water
    - ii. Dry hands using either one paper towel, no paper towels, and no blower
  - c. Clothes washing
    - i. **6 kWh** - Hot wash & warm rinse
    - ii. **3 kWh** - Cold wash & cold rinse (liquid soaps only)
  - d. Clothes drying
    - i. **1.5 kWh** per load, ½ hour; add methane usage for heat
      1. Note: one reason to stop using electric dryers? They beat up your clothes
    - ii. **0 kWh** drying rack or outdoor drying
  - e. Showers – water usage reduction
    - i. Install a shower head with a toggle switch to slow the flow to a dribble as needed (Amazon, Meijer, Lowes, Walmart)
  - f. The production of ice is energy intensive
    - i. Reduce your use of ice as you are able.
  - g. Avoid bottled water
2. *Reduce, Reuse, Recycle*
  - a. Reduce your use of plastic as you are able.
  - b. Of plastic packaging material worldwide:
    - i. 40% is landfilled
    - ii. 32% is leakage (winds up in lakes, rivers, oceans, etc.)
    - iii. 14% is incinerated
    - iv. 14% is recycled; of the 14% recycled ...
      1. 4% is process losses (landfilled, incinerated)
      2. 8% is cascaded (park benches, hangers, containers, etc.)
      3. 2% is close-looped (as good as virgin feedstock)
3. *Reduce in the kitchen*
  - a. Replace paper towels with washable cloth towels
  - b. Buy pick-a-size paper towels if you must use them.
  - c. Use brown paper (natural) instead of white paper (bleached) when available
    - i. The bleaching process produces pollution that enters lakes at the site of the factory
4. *At your desk*
  - a. Use 100% recycled printer paper; print in greyscale; duplex print; use scrap paper
  - b. Cut phantom energy use with power strips
    - i. Connect computer, printer, fax, chargers, etc., to a power strip; turn off the power strip
5. *Outdoor Nighttime Lighting*
  - a. Avoid outside decorative nighttime lighting
  - b. Security lighting
    - i. Studies are mixed showing cause/effect between security lighting and reduced crime rates
  - c. If home security lighting is deemed necessary
    - i. Use Dark Sky principles (International Dark-Sky Association)
      1. Use a minimal number of fixtures that emit a minimal number of lumens
      2. The fixtures must be shielded so that no light is emitted above the horizontal plane of the bottom of the bulb
      3. The light must fall only on the area intended to be lit

4. The light source should emit in the warm spectrum of light (2700k or less), not in blue/white spectrum of light (4000k or more.) The blue/white spectrum produces glare, loss of night vision, distraction, and difficulty seeing

#### 6. *Automobiles*

- a. Electric motors & electric engines are 80% efficient; gas motors & engines are 30% efficient
  - i. Buy a hybrid or electric car
- b. Drive with energy efficiency in mind
- c. Don't idle unnecessarily

#### 7. *Appliances*

- a. Buy appliances with Energy Star ratings or other energy ratings in mind.

#### 8. *Restaurants and stores*

- a. Refuse a bag at the store when not needed; keep reusable bags in the car
- b. Ask restaurants to switch to brown paper napkins & only provide straws and water upon request
- c. If you are not handicapped, don't use handicapped door openers
- d. Limit the use of expanded polystyrene (Styrofoam); repackaged carryout food when home

#### 9. *Reduce Pollution*

- a. Use steel fishing weights and steel birdshot instead of lead
- b. Recycle lithium batteries, alkaline batteries go in the trash

#### 10. *Stay Healthy and Fit*

- a. Exercise regularly
- b. Avoiding red & processed meat is better for your health & reduces resource-intensive cattle production
- c. Buy foods produced closer to home to support local farmers and minimize transport
- d. Reduce your exposure to harmful chemicals
  - i. The labeling "Caution", "Warning", "Danger" reads from least to most dangerous
- e. Don't use "waxed" dental floss; buy Natural Floss without PFAS's like Radius Pure Silk Unscented or Tom's Naturally Waxes, both available at Whole Foods

#### 11. *In the Yard*

- a. Start a compost pile or buy a compost barrel or container to put uncooked kitchen scraps in
- b. Consider purchase of a rain barrel
  - i. MiRainBarrel.com sells previously-used food-grade 55-gallon barrels
- c. Native plants
  - i. Replace turf grass with native plants, native grasses, a rain garden. Start a vegetable garden
  - ii. Native plants need less watering and fertilization and support native birds and insects
  - iii. Native plants, with their deep root systems, keep water out of storm systems
  - iv. Don't worry about getting the "right" native plants; buy what looks good and experiment
  - v. Most local nurseries don't have native plant sections
    1. Look for special native plant sales by cities and groups, or order online from Michigan native plant nurseries
- d. Lawnmowers, blowers, etc.
  - i. "Leaves the leaves" under trees and bushes for the winter; they support over-wintering insects
  - ii. Electric motors are 80% efficient; gas motors are 30% efficient
    1. But electric when purchasing lawn mowers, blowers, edgers & hedgers
    2. Use a broom or a rake instead of the blower
  - iii. Mowing
    1. "Mow it high & and let it lie"; mow grass at your mower's top height
      - a. The grass will be healthier, especially through dry months, & need less watering
    2. Leave grass clippings on the lawn; clippings contain nitrogen which is a fertilizer
    3. Mulch instead of bagging leaves; collection & transport of leaf bags uses energy