

Study and review of washing of clothes their impact on environment and study to save the environment : the greener way to wash.

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Abstract :

When we look at clothes as overall, we consistently find the great environmental impacts of garments over its entire life which is not in its productions, transportation, transformation or disposals, but are its uses by the consumers - washing, drying & ironing etc. It takes that much of energy to heat the washing water and run the dry cycles. So there's huge potential to reduce the personal energy and water uses, and therefore your environmental footprints, by simply greening your laundry habit. Benefit to the environment not with standings, one can also save some greenbacks by following an earth-friendly laundry practice. The average household does almost 200 loads of laundry each year, consuming about 13,500 liters of water according to Energy Star. Switching to an Energy Star-qualified front-loading (or "horizontal axis") machine can save as much as 7,000 liters of water per year.

Such examples are just the tip of the ice-berg when it comes to reducing the carbon footprints associated with our wardrobe. Like many of the tip and ideas we highlight on Green Planet, making your laundry more eco-friendly has multiple benefits: which is better for wallet, your wardrobe, and your planet. Everybody wins when you green your laundry.



Greener or Eco friendly washing

- 1. Wear it more than once** It may not go for everything , but the simplest ways to cut back on laundry's impact is --just do it less of it. Wearing your clothe more than once before washing them is the first step in greening you laundry,habits.
- 2. Use green or herbal laundry detergent :** Conventional detergent can contain ingredient that aren't good for self, your clothes, or aquatic ecosystems where the dirty waters we wash down the drain can end up. **Phosphate** in conventional laundry soap can cause algal bloom that negatively effects ecosystems and marine life. To use for more eco-friendly detergent, look for label that indicate a product is readily biodegradables and phosphates-free, and made from plant- and vegetables - based ingredients (instead of petroleum-based), which means they're healthier for the planet earth , from

productions to rinses cycle. These are often gentler on skins, too. Other alternatives include Ritha, which produces a soapy substances when they come in contact with water, and can be composted after being used up. (A **liquid version** is available, too.) Fabric softener, by the way, can be replaced by sa cup of white vinegar added to the washer during the rinse cycles. Vinegar naturally balances the pH of soaps, leaving your clothes softer and free of chemical residue.

- 3. Choosing of concentrated detergent :** Concentrated laundry detergent have reduced packaging and a lesser carbon footprints (because more useful product can be shipped using less space and fuels).
- 4. Washing with cold water :** Technological advance, in both machines and detergent (not just the cold-specific kind), have made cold-waters washing a highly effective options,”



Sometimes it's safer than using hot waters. For example, protein stain (like blood, sweat) can set in when washed in hot waters, and hot waters may shrink or wrinkle synthetic fabric or clothes. That said, some people find that workout clothes still smell unpleasant after a cold cycles (synthetic materials, like those in some Under Armour, tend to hold on to bacteria and odor). If this is the case, do a cool-water pre rinse with in 20 minute after your workout. This will help eliminate residual odors during the next cold loads. Cold-water detergents is a good choices for gym wear; regular detergent works fine for other clothings.



5. **Makeing your own laundry detergent**

Do-it-yourself laundry soaps is perhaps the greenest way to go. You'll need just a handful of ingredients or materials that can all be found at most of store, and you don't need a Master in chemical engineerings to put them together. Best of all, you'll know exactly what's going in (and what you're keeping out) of your formulas, and, after some practice, you can customizes your mix with essential oils for a fresh fragrances. Ready to get started

6. **Wash by hand** : We know what you're thinking - hand washings is time consuming, but there are some great tool that makes it easier. we have the ideas of a **pedal**

washer - exercises while you wash your laundry! If that's not your things, you could take your clothe into the shower with you, throw in some all-purpose soaps and get stomping! Hand washings really gives you a senses of how much laundry you're going through on a weekly basis so why not give it a try? You might be surprised at your weekly load.

7. **Maximize your washers for energy efficiency.**

For a top-loading washing machines from the last century, chances are it use twice as much water per load than a newer machines. Front-loading washing machine (also sometimes called "horizontal axis" machine) bearing the Energy Star logos typically uses between 18 and 25 liter per load, compared to 40 liters for older machines. But whether or not you're ready to replace your current machines, there are thing you can do to upgrade efficiency. First, wash in cold waters. A whopping 90 percent of energys used for washing clothes goes to heating the waters, costing you more every years. With more and more detergents specialized for cold-waters washing, your white will still get whiter without the hot (or warm) water. Next, be sure to wash only full load of laundry, which ensure that your machines are operating at peak efficiency. If you can't manage to fill them up, the "load size selector option" (if you have one) ensures that smaller load uses less water. The same rule applies to the dryer, by the way.

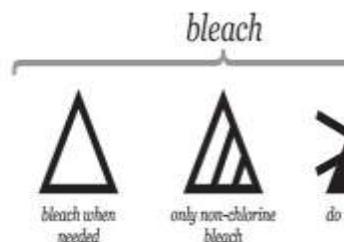


8. **Hang it out to dry** : There are millions of dryers and each emitting more than a ton of carbon dioxide per year. Because dryers use so much energy, skipping it altogether can make a real difference. Clothes last longer when you line dry because there's less wear and tear than when you use the dryer.
9. **Maximize your dryer** : Line-drying doesn't have to be an all or nothing choice. If you're sticking with the dryer for part (or all) of the time, cleaning the lint filter frequently will increase efficiency and shorten drying time. If your dryer has a moisture sensor, use it. This will automatically reduce the amount of drying time or shut off the machine when it senses that clothes are dry, which reduces wear and tear on your threads and saves lots of energy.
10. **Don't iron if you don't have to** : Not only is ironing a tedious chore, it also consumes energy and can deteriorate fabric, simply hang clothes up immediately after the wash cycle is complete. The water still in them will work with gravity to pull most wrinkles out. For wrinkle-prone clothing such as linen, cut the final spin cycle, which will leave even more water in the garments, creating yet more pull. Then fold dry clothes where you want creases to be, and place them under other clothes in your dresser, which will further help to press them.
11. **Avoid dry cleaning** : Conventional dry cleaning is a decidedly un-green process; most businesses use the chemical perchloroethylene (also called "perc"), which research studies have shown may be dangerous to our health. Exposure to this chemical has been linked to increased risks of bladder, esophageal, and cervical cancer; eye, nose, throat and skin irritation; and reduced fertility;. Reducing your exposure--not eliminating it--is a fine goal.

Plus, greener dry cleaners are also on the horizon. Some businesses now use liquid carbon dioxide instead of perc; use the [EPA's list of CO2 cleaners](#) (pdf) to find out if there's one near you. Wet cleaning is another professional alternative that uses water, along with computer-controlled washers and dryers, specialized detergents that are milder than home laundry products, and professional pressing and finishing equipment.

The dirt on conventional detergents Laundry detergents and laundry stain removers frequently contain alkylphenol ethoxylates, or APEs, which are common surfactants. Surfactants, or surface active agents, are chemicals that make surfaces more susceptible to water, allowing cleaners to easily penetrate stains and wash them away. APEs can damage the immune system, and they're suspected hormone disruptors, which means they can mimic hormones in the body that regulate reproduction and development.

avoid chlorine bleach : Chlorine bleach, otherwise known as sodium hypochlorite, is highly caustic and may cause skin irritation and redness. Its fumes can irritate eyes, noses and airways, and it can be fatal if swallowed. Chlorine also poses a hazard because it can react with other cleaners to form toxic gases. If mixed with cleaners containing ammonia, chlorinated cleaning products form lung-damaging chloramine gases. Chlorine mixed with acids, such as those in some toilet bowl cleaners, can form toxic chlorine gas, which can damage our airways.



Vinegar in the washer? Why do we recommend adding a cup of vinegar to the wash instead of fabric softeners? Most commercial distilled white vinegars contain 5% acetic acid--that's CH₃COOH for anyone scoring at home--and have a pH of about 2.4 (that's on the acidic end of things); most laundry soaps have a pH between 8 and 10 (on the basic end). So the vinegar helps neutralize the pH (neutral water occupies the middle of the pH scale at 7), wash the soap out of the fabrics, leaving just your clothes' fluffy goodness behind.

Greener washing : some facts

- **90 percent:** Amount of total of energy used by a typical washing machine to heat the water; only 10 percent is used to power the motor.
 - **34 million tons:** Amount of carbon dioxide emissions that would be saved if every U.S. household used only cold water for washing clothes--that's nearly 8 percent of the Kyoto target for the U.S.
 - **99 pounds:** Amount of carbon dioxide emissions saved per household each year by running only full loads of laundry.
 - **700 pounds:** Amount of carbon dioxide emissions saved each year by line-drying your family's laundry. You'd save 75 bucks, too.
 - **7,000 gallons:** Amount of water saved per year by a typical front-loading washing machine compared to a top-loading washing machine.
 - **88 percent:** Average increase in energy efficiency for a washing machine between 1981 and 2003.
- **49:** Percentage of laundry loads run with warm water in the U.S. 37 percent are run with cold water and 14 percent with hot.

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