

Consumers & Green Advocates

"A small group of thoughtful people could change the world. Indeed, it's the only thing that ever has."
Margaret Mead

Glass, cans and paper can all be recycled. What about **t-shirts**? Yes, in fact all forms of textiles can be recycled. The EPA estimates that the average person throws away 70 lbs of clothing per year. That adds up to 3.8 billion pounds of unnecessary waste added to our landfills.

Read below to find out why, where and how your old clothing, towels, shoes, toys, rugs, etc. can be repurposed!

Textile Recycling FAQ

Why should I recycle used clothing and household textiles?

You can reduce the amount of textile products going into landfills. Clothing and household textiles currently make up 5.2% of the waste stream. The used clothing industry provides lower income people around the world with affordable clothing. Clothing that is damaged, is recycled into wiping rags, paper, yarn, insulation and padding for carpets. Here are some more textile recycling facts:

- Reduces the need to create more landfill space.
- Reduces pollution created by incinerators.
- Provides low cost clothing to low income households all over the world.
- Polyester, the most commonly used manufactured fiber, is made from petroleum in an energy-intensive process that emits volatile organic compounds (VOCs) and acid gases into the air. The process also uses a large amount of water for cooling.
- The manufacturing of nylon emits nitrous oxide, a greenhouse gas with a carbon footprint 310 times that of carbon dioxide.
- Rayon, derived from wood pulp, often relies on clearing old growth forests to make way for water-hungry eucalyptus trees, from which the fiber is derived.
- Cotton, found in most clothing, is the most pesticide-dependent crop in the world. It takes one-third of a pound of pesticides to make one t-shirt.
- When manufacturing clothes, dyeing requires a hefty amount of water, and its fixatives often flow into rivers and sewers. Also, all "easy care" and "permanent press" cottons are treated with formaldehyde.

Recycling textiles does much more than this. It saves the environment from tons of harsh chemicals, waste products and waste water used in the manufacturing of clothing as well. Visit Earth911.com for more information.

What can be recycled?

Textiles in any condition (**worn, torn or stained**) can all be recycled. All items should be clean and dry. Click here for a list of textiles that can be recycled. Click here to see a video about home textile recycling.

How are textiles recycled?

Some communities include clothing and household textiles in their recycling programs. Many charities sponsor neighborhood collection boxes and have door-to-door pick-up services. Some areas host community recycling events such as winter coat collections in cold weather areas. You can also take clothing to for-profit consignment and thrift shops for resale. Some other recycling tips include:

- Keep separate from other recyclables such as paper, glass, and metal
- Make sure all materials are clean (stains and tears are ok)
- Place in a dry plastic bag.
- Tie shoes together by the laces keeping in pairs or use an elastic band

Where can you recycle your textiles?

Look for collection boxes in your neighborhood. Check with your local charities, thrift stores, or government recycling coordinator for drop-off locations or to get pick-up information.

- Your favorite local charity
- Ask your town or city if they have a textile recycling program
- Call or visit the website of your local transfer station or town landfill or dump to see if they have collection boxes
- Check your mail for charities that offer curb side pick-up

Who besides consumers can help recycle and divert textiles from the landfill?

- Healthcare and hospitality facilities
- New textile mills and manufacturers
- Cut and sew plants
- Textile dye facilities
- Retail stores (returned and obsolete merchandise)

How can I learn more about what happens to clothing I donate and textile recycling in general?

Read these books:

Travels of a T-shirt by Pietra Rivoli, professor at Georgetown University

Salaula: The World of Secondhand Clothing and Zambia by Karen Tranberg Hansen, professor Northwestern University

Listen to Georgetown business professor Pietra Rivoli reveal the economic and political lessons from the life story of a simple t-shirt. –[Click here](#).

See how kids set a recycling "record."

Kids from all over the country participated, sending in one pair of jeans or truck loads of jeans collected in community projects. The clothing will be recycled by COTTON. FROM BLUE TO GREEN.®, and made into home insulation for houses damaged in natural disasters - [Click here](#)

A short video on Dr. Hawley and her research on textile recycling - [Click here](#)

Dr. Hawley's article on the Economic Impact of Textile and Clothing Recycling – [Click here](#)

A sample from the book Sustainable Textiles: Life Cycle and the Environmental Impact - [Click here](#)

Dr. Hawley's article: Digging for Diamonds: A Conceptual Framework for Understanding Reclaimed Textile Products – [Click here](#)

Dr. Hawley's article: Textile Recycling: A System Perspective - [Click here](#)

What else can you do?

- Buy products made from recycled textiles
- Ask your employer to purchase wiping cloths made from recycled textiles
- Encourage your city or town to institute a textile recycling program.

Disposable Wiper FAQ

How are reclaimed (rag) wipers the better, "green" choice?

Recycled Textiles Are the Original "Green" Product

Worldwide, there is a big push for companies to promote "green" products. Many people are surprised to learn that reclaimed (rag) wipers are actually better for the environment than laundered shop towels because they decrease our global carbon footprint.

- Most disposable wiper products are manufactured from recycled textiles that have been diverted from landfills.
- Most cotton shop towels are manufactured outside of North America from virgin cotton fibers.
- Cotton, used to make shop towels, is the most pesticide-dependent crop in the world. Copious amounts of pesticides and water are used to grow cotton.
- When manufacturing cotton towels, dyeing requires a hefty amount of water and its fixatives often flow into rivers and sewers.
- 17 gallons of water and 66 BTUs of energy are used to create one cotton shop towel where no water or energy is used when creating a reclaimed (rag) wiper.
- Contaminants found in laundry waste water for cotton shop towels contain lead, toluene, xylene, zinc, and other heavy metals. The EPA estimates that five million pounds of untreated contaminants per year flow into our waterways.
- EPA-commissioned data indicates that laundering industrial shop towels results in 10 million pounds of hazardous contaminants being discharged to our nation's waterways each year with many contaminants ending up in public sources of drinking water.[i] Specific examples of contaminants include: 1) metals such as cadmium, chromium, copper, lead, zinc, magnesium, and titanium; and 2) chemicals such as butanone, naphthalene, tetrachloroethene, toluene, and xylene.[ii]
- According to the EPA's Office of Research and Development and Lockheed Martin Environmental Systems and Technologies, the laundering process sends more solid waste to landfills than disposable wipes.
- As the Gradient Corporation noted in a 2003 peer-reviewed paper, laundered shop towels contain a variety of heavy metals that may be accidentally ingested in amounts exceeding California Environmental Protection Agency's (CalEPA) Proposition 65 limits for lead, and CalEPA Prop 65 limits, U.S. EPA toxicity criteria and Agency for Toxic Substances and Disease Registry toxicity criteria for antimony, cadmium and lead.[iii]

i. Technical Development Document for Proposed Pretreatment Standards for Existing and New Sources for the Industrial Laundries Point Source Category, EPA Document Number 821-R-97-007, November 1997, Chapter 11, "Pollutant Loading and Removal Estimates."

ii. EPA Document Number 821-R-97-007, November 1997, Chapter 11, "Pollutant Loading and Removal Estimates."

iii. "Evaluation of Potential Exposure to Metals in Laundered Shop Towels," Winter 2003.

How are disposable wipers safer for workers and companies?

- According to peer-reviewed, independent study, laundered cotton shop towels routinely contain dangerous levels of lead, cadmium, and antimony that exceed government toxicity limits and these contaminants may be ingested by workers or anyone else who handles them.[iv]
- Testimony from respected lawmakers and other groups have documented countless, repeated and flagrant health/environmental and safety violations involving industrial shop towel laundering operations.[v] The administrative record details hundreds of wastewater discharge violations, employee illnesses due to repeated exposures to known carcinogens and other dangerous chemicals, and numerous and accounts of dangerous working conditions, including citations for workplace explosions and fires resulting in injuries and deaths.

- Disposable wipers, meanwhile, have been shown to contain no residual solvents or foreign objects.

For more information on worker safety - [Click Here](#)

iv. "Evaluation of Potential Exposure to Metals in Laundered Shop Towels," Winter 2003.

v. "Testimony of Hon. Rosa DeLauro, Sierra Club and UNITE during March 9, 2004 Public Hearing," Proposed Conditional Exclusions from Hazardous and Solid Waste for Solvent Contaminated Industrial Wipes.

Secondhand Clothing FAQ

I've heard my donated clothing is actually sold instead of being given to poor people. Isn't this deceptive and unethical?

Recycling is not unethical. If you dropped off your clothing at a charity's staffed location or a box marked with a charity's name, that group will be using the clothing either by directly giving it to persons in need or by selling it to fund its charitable programs.

Doesn't the used clothing market undermine new clothing businesses in developing countries?

Absolutely not. In fact, respected non-governmental organizations like Oxfam applaud the secondhand clothing industry because its clothing sales create jobs and affordable apparel in numerous lesser developed countries. [vi] Many people in these countries cannot afford locally made new clothing. Many people in these countries earn their livelihood by selling used clothing. New clothing businesses in developing countries can make more money producing clothing for export to wealthier countries in Europe and North America than selling them locally.

vi. "The Impact of Second Hand Clothing Trade on Developing Countries", Oxfam, 2005.

START
HERE

Consumers determine which clothing, shoes, purses, etc. are no longer needed. Consumer donates clean and dry items to charity or recycles them with a municipality or collection bin operator.

Charity sells 10-20% of donated items at storefront locations. The remainder of the material (80%) is sold to rag graders or brokers to help generate additional revenue to support charity's programs.

Nearly 100% of donated clothing and textiles can be reused and recycled. The materials are separated into 3 grades: usable clothing, wiping cloth grades and fiber conversion grades.


45%
USABLE
CLOTHING


20%
FIBER
CONVERSION


30%
WIPING
CLOTH


15%

It is estimated that only 15% of used clothing and textiles are being diverted from the waste stream for recycling purposes. More can and must be done to recapture these vital resources.

3.8
BILLION LBS.

SMART member companies help prevent more than 3.8 billion lbs. of post-consumer textile waste from ending up in landfills each year.

The reuse and recycling processes of SMART member companies rely largely on human labor and are far less energy/water/resource-intensive or polluting than other recycling industries.

Reused and recycled textiles return to the consumer as used clothing, home insulation, carpet padding and wiping rags.

the lifecycle of rags