What It Really Takes To Make The Textiles We Use Every Day

Used Clothing Recycled

Scott A Cynamon
President and Founder OF Cyntex Co. Member Of SMART And The Council For Textile Recycling
Once we better understand all the steps involved, including the energy, carbon, water and pollution created in making and owning the textiles and textile products that end up in the waste stream, that knowledge will help us to motivate others to reuse and recycle them.
Textiles are all around us. The clothes we wear, the shoes on our feet, blankets and sheets on our beds, towels in our bathrooms, rugs on the floor, diapers on the baby.

Certainly not all of them can be recycled. Yet the ones that can and the directly proportional impact made through reuse and remanufacturing is significant.
Consider Are All The Steps Required To Manufacture And Transport What We Use Every Day

What Is The Human Cost And Pollution Left Behind

Look At Just One Popular Garment We All Know Love And Own
If every American buys only 1.5 pair of jeans every year, that is roughly 450 Million pairs. *

*98% of denim jean available at U.S. retailers are imported.

In 2010, approx. 604.9 million denim jeans were sold in the U.S.
Certainly we all own more than a pair and a half and this is just one garment in the total inventory of what we own, wear and use up and replace in a single year.

Just one type, one style.
In The Beginning....

Prepare The Field
Fertilize
Plant The Seeds
Water The Field
To grow, finish the cloth and dye one pair of jeans, 2,900 gallons of water are needed. 
1,305,000,000,000 Gallons to build 450 million Pair
1.305 Trillion Not Billion
*In 2013, 99 percent of the U.S. upland crop was planted in Transgenic varieties – genetically engineered varieties resistant to worms, herbicides, or both.
PICK THE COTTON
Gin The Cotton
BALE THE COTTON
Ship The Cotton Offshore

US 2014 Cotton Exports Estimated 2.9 Million Tons
Carding/Combing

Spinning
Dyeing The Yarn
How Much Dye Goes Down The Drain?
What Impact Is There to Countries With Unregulated And Lax Environmental Enforcement?
Chemicals used to dye pollute the air, waterways and workers' skin and lungs.

Offshore manufacturing, where there is no equivalent to our EPA or OSHA, plus irresponsible manufacturing and processing, adds even more environmental stress and damage.

Workers Health Is A Factor Using Dyes And Other Chemicals

High Cotton Dust Particulates

White Lung Disease
Loom  Weaving The Cloth

An Ultra Modern Mill
Manufacturing The Jeans
After Packing For Retail and Bringing To Port

Shipment Back To The USA
Every Single Step Requires Fuel

Operating Farm Equipment
Transport To Each Processing Step
Fork Lifts To Handle Materials
Electricity To Run The Machines At Mills
Heat The Water For Dying
Keep Workers Warm Or Cool
Transport To Ship Overseas
Ship The Cotton Off Shore
Bring The Finished Garments Back To Market
Transport To Warehouse
The life cycle of jeans can be divided into two major categories: the manufacturing stage and the use of the jeans including cleaning and ironing until the end of their life cycle.

The production process is believed to be responsible for approximately 59 per cent of the climate change impact, while the use of the jeans and end of life process (i.e. heading to a landfill) accounts for the remaining 41 per cent.
The manufacturing process all the way to the end of their life cycle, the jeans will be responsible for about two kilograms - or 4.4 lbs - of carbon dioxide per functional unit. Washing them once per week, after wearing them three times.
If each functional unit in the study indicates one use of the jeans per week, we can take that 4.4 pounds and multiply it by the 52 weeks in the year by the estimated four years before they are disposed of or passed on to a new use, each pair of blue jeans accounts for 915 pounds of carbon dioxide during their average life cycle.

*Department for Eco-Design and Sustainable Development of the French Environment Agency.*
The many types of textiles in our lives, all have different manufacturing processes and diverse origins, be they synthetic or natural fibers and materials.

Some require less processing and some even more than a pair of jeans.
Textiles versus a simple product that we all recycle like glass or plastics, need so much more human, agricultural, chemical, mechanical, engineering, caloric, carbon, environmental, transportation and capital to make and bring them into our lives.
Textile Recycling

Reused

Wiping Rags

Reprocessing
Either as hand me downs, resale at a thrift store or via a used clothing grading company, textiles find a new life as a second hand product.
Where Does It Go?

Largest Market is Africa

Other Regions Include

The Caribbean
South And Central America
South Asia
The Middle East
Eastern Europe
Vintage Clothing To Developed Nations
Wiping Cloth Manufacturing

Absorbent Textiles Cut For Wipers
Also Includes Laundry Discards

The Most Common Fabrics

Tee Shirt Knit
Fleece Knit
Flannel
Terry Cloth
Sheets
Corduroy
Wipers Are Cut Using A Rotating Circular Blade. Buttons And Zippers Are Removed And And Wipers Are Cut to Various Sizes
Reprocessing

Garneting And Shoddy Production

Spinning Waste Fiber Into Yard

Thread Waste For Absorbency
Shoddy Has Been Mechanically Produced Since 1813

End Uses

Automotive Applications

Acoustic Material

Insulation

Stuffing Purposes
Garneting

The process of recovering the fibers from various types of textiles waste. In Broadalbin New York, Fiber Conversion Inc, has been in the trade almost 100 years.
Textile Shredding
Garneting Wheel
Raw Shoddy
Baled Shoddy
Offshore Fabric Used Clothing Reprocessing

300 Mills In Panipat India Import About 100,000 Tons Of Used Clothing Each Year
Textiles we use every day not only takes more to make than we knew.

It costs more energy, mechanical, caloric, and human than we typically consider.

Pollutes more and leaves a bigger carbon footprint.

A 2 ounce PET bottle with 50% recycled content, produces 13 ounces of CO2 per bottle.

A pair of jeans over 900+ pounds.
Next Time You Put On Your Blue Jeans

THINK
Foreign Factories
Little Or No Safety Controls
Workers Making $400.00 A Month
Our Cotton Traveling Around The World And Back

Energy
Pollution
Water
Pesticides
Harsh Processing Chemicals
Your can help change the future of textile recycling in the state of New York.

As recycling professionals you have the power to teach, educate and promote.
Every Piece Of Textile Reused and Recycled Has A Significant Impact

Now That You Know

Please Spread The Word