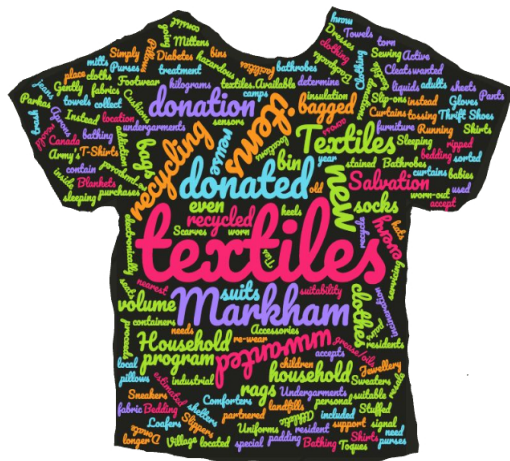


Our Common Language: Textile Diversion Lab November 2017



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Charity vs Non-Profit:

Charities are organizations with a social purpose. They must register with Canada Revenue Agency (CRA) as a charity to give charitable tax receipts. Charities are often referred to as non-profit organizations (NPOs). While both types of organizations operate on a non-profit basis, the two types are defined differently under the *Income Tax Act*. A chart distinguishing between charity and non-profit businesses can be found here: <http://www.charitycentral.ca/docs/rcornot-en.pdf>

Circular Economy:

As Glen Murray, former Minister of the Environment and Climate Change for the Government of Ontario puts it, a circular economy is “a system in which products are never discarded, but reused, recycled and reintroduced into new products.” A circular economy keeps the material flow in a “closed loop”, in which resources circle around the economy becoming a source material for new goods. This approach tries to optimize resources during all stages of the value chain and tries to eliminate waste. A circular economy approach helps to overcome resource scarcity and environmental degradation while sustaining economic development by decoupling economic growth from environmental pressure.

With textiles, the immediate aim is to have consumers keep and wear their products as long as possible and therefore reduce consumption, and donate them for reuse after. Additionally, garments at the end of their life cycle should become resources for new products. One step further than a circular economy is a performance economy. In a performance economy, products are rented or shared and only temporarily owned.

Closed-loop recycling:

Recycling processes that produce the same type of material. For textiles, this means the creation of fibres and yarn. In the textile and fashion industry, this

process remains very rare. Focusing on the exact same raw component nevertheless restricts recycling options. The chemical recycling of polyester creating new yarns would be considered closed loop, but the new product would be marketed as recycled polyester.

Design for circularity:

In the current linear fashion business model, products are designed for short-term use, while in a circular economy garments should be designed for longevity, quality and long-term satisfaction. Garments need to be designed for service, reuse in manufacturing and material recycling (Kirsi Niinimaeki, Fashion in a Circular Economy 2017).

Disposal:

Methods of waste disposal in Canada are defined as landfills and incineration; disposal does not include recycling or composting.

Dispose vs Discard:

Both terms mean throwing unwanted materials into the waste. The word “discard” mainly describes impulsive disposal. However, consumers often use the term “disposal” or “discard” interchangeably for anything they want to get rid of. For example, they dispose or discard clothing in a donation bin. From a waste management perspective, however, this is not considered disposal or discard but donation.

Distressed goods:

Retailer inventory items which are never sold, not even on clearance (Kunz & Garner, 2011).

Distribution Channels:

Businesses that are connecting the producer of a product with the end consumer by providing different services, for example: providing stores, counselling, information etc. Distribution channels can include wholesalers, retailers, distributors and others.

Down-cycling:

The recycling of unwanted garments into other textile products of lower quality or into less valuable products such as insulation materials. Nevertheless, the down-cycled insulation products might become a longer-lasting product than the original apparel product. The “lower quality” refers to the fact that the new product cannot be returned to the loop—no new textiles can be made from this material and therefore the lifecycle cannot be closed. Down-cycling is also known as open-loop recycling (compare to **closed-loop recycling**).

Duty draw-back:

Often retailers have surplus/unsold/defect items and leftover garments, if those garments are dumped at the landfill or shipped back to their country of origin, the retailer receives the import duty back because the garments are not used in Canada and are considered a

loss. The back payment is usually done as an exchange process. This means the retailer is not getting money back, but when it imports new garments those duties are compensated. This practice makes dumping garments more financially viable than recycling them. Further compounding the problem is that if the retailer donates their leftover clothes to a charity, it will receive a donation credit but the back pay will not be given.

End of Life Textiles (EoL):

EoL is bottom of the barrel textiles that are not suitable for reuse due to wear and tear. EoL textiles can be recycled into textile-based products such as insulation, flocking for mattresses, automotive felt, and fibre-to-fibre products. A common definition used in several reports on textile waste by WRAP, EoL can help to distinguish reuse-grade from recycle-grade textile material.

Extended Producer Responsibility (EPR):

A system in which a manufacturer or brand owner becomes responsible for their product's entire life cycle. This includes the upstream and downstream impacts of the product materials from resource extraction until the consumer wants to get rid of the product. The producer remains responsible for its products even after a consumer has bought it. Various EPR – programs exist,

but the majority of EPR programs focus on the impacts of the products and the waste.

The following are goals that can be achieved through (EPR) programs:

- Reduce the costs to government for waste management
- Reduce environmental impacts of waste management by decreasing amounts of waste going to disposal
- Reduce resource and energy use by decreasing waste generation
- Redesign products to protect the environment

The Federal government in Canada is responsible for hazardous (paints, solvents, pesticides etc.) and radioactive waste, and for the international and interprovincial transportation of toxic substances. The provincial governments manage the residential waste and recycling services, which are carried out by the local municipalities. Hence, each municipality in Ontario develops its own waste management program (Weber 2015). As a result, there is no federal policy on EPR. Nonetheless, 8 out of 10 provinces now have extended producer responsibility on at least one material. Typical EPR products are: Tires, batteries, electronics, appliances, etc. British Columbia and Quebec are leading the way in EPR programs. British Columbia has more than 15 EPR programs. In Canada, stewardship

program regulations are considered EPR programs. In a consumer product stewardship program, producers pay a specific amount of money to cover waste management costs such as the blue box program. Actual costs for waste management are usually higher than the financial support.

Fake leather:

A common garment are jackets made of fake or **Vegan leather**. The materials used for these products are usually polyvinyl chloride (PVC) or Polyurethane (PU). The material consists usually of a very thin, 100 percent polyester, knitted fabric which is used as a carrying material on which a plastic material is sprayed. Products made of PVC and PU do not currently offer recycling possibilities and like other plastics they will stay in a landfill forever.

Fibres:

Large polymer molecules which lay alongside each other and are bonded together (Clothing Technology 2007). In general: The longer the fibre the stronger the fibre. Natural fibres can come from vegetable fibres such as Cotton, Hemp, Jute, Ramie or animal fibres such as wool, hairs, or silk. Synthetics or man-made fibres are produced in a spinning process from a polymer solution. If the solution is made of natural fibres, the material is cellulosic-based and the products are Viscose, Modal, Cupro, Tencel etc. If the solvent is made of petroleum or raw oil, the products are Polyester, Nylon, Acrylic etc.

Fibre Blends:

A mix of various fibres. They are used “either to improve performance, by compensating a weakness in the properties of a given fibre type, or to achieve special optical effects. Blending may also influence processing efficiency, yarn fineness, and cost” (Clothing Technology 2007).

Fibre Regeneration:

A new fibre is regenerated with innovative recycling technology by using discarded textile material.

Generic fibre content:

A list of fibre types used to produce a given garment. Section 31 of the *Textile Labelling and Advertising Regulations* clarifies that “[t]he generic name of each fibre present, in an amount of 5% or more, must be stated as a percentage of the total fibre mass of the article. Generally, the fibres must be shown in order of predominance.” Further rules apply according to the *Regulations* and the *Textile Labelling Act*. See also **textile labelling**.

Industrial, Commercial and Institutional (IC&I):

Examples for producers of IC&I waste are offices, hospitals, malls, and factories. Collection systems and waste policies will differ between residential (private homes) and IC&I sectors. Typically, collection services in

IC&I sector is tailored to the customers’ needs and can include added-value services such as data destruction services, direct collection by recyclers. Some IC&I clients have access to rebates when commodity prices are higher. Final disposal can also differ: Toronto’s residential waste goes into London’s landfill, while the waste from the IC&I sector ends up in Michigan’s landfill.

Industrial Symbiosis:

An Industrial symbiosis occurs when one industry sector uses the leftover materials from another industry as an ingredient for its products. Both sectors benefit from this partnership, because there will be less waste and fewer costs for virgin resources.

Linear Business Model:

The common business model of the fashion industry today is buy, use, and then dispose of clothes.

Multi-Family Homes:

Also called multi-unit residential buildings (MURBs), homes which have more than five buildings with six units each. In residential waste management, multi-family homes can provide a special challenge. First, these units produce a lot of waste per m² due to the high number of residents, second, those buildings often have different waste collection systems in place

compared to the single homes waste collection programs rolled out by municipalities.

Ontario's New Zero Waste Plan:

The *Waste Free Ontario Act* announced in 2016 includes the *Resource Recovery and Circular Economy Act* and the *Waste Diversion Transition Act*. It demonstrates Ontario's goal of zero greenhouse gas emissions from the waste sector. This goal includes a shift towards a circular economy predicated on reuse, recycling and repurposing. For more information about the Government of Ontario's strategy for a waste-free Ontario, visit their website at <https://www.ontario.ca/page/strategy-waste-free-ontario-building-circular-economy>.

Post-Consumer Textile Waste:

Textile waste which occurs after the consumer use phase.

Pre-Consumer Textile Waste:

Pre-consumer textile waste occurs before the consumer takes ownership for a textile product. Textile waste that is mainly caused during garment production (so called offcuts from fabrics), or garments which are produced but can't be sold due to various reasons.

Recovery – Recycling:

Both terms try to minimize resources going into landfill by using the material for something new, however, recovery is a broader term than recycling, since it includes making energy (incineration) out of the material.

Recycling:

A process of recovering resources by converting waste into usable materials. Recycling is an important part of waste management. An integrated waste management strategy uses all possible waste management technologies: Reduction, Reuse and Recycling, known as the 3 R's. Composting is a specialized part of recycling.

In the European Union, incineration is usually accompanied by the generation of electricity, steam, or heat, therefore incineration is viewed as a form of recycling. This is important to consider when comparing recycling data from North America and the European Union.

Recycle grade textile material:

All textiles are graded (going into reuse pile or recycle grade). A graded material, sorted by reprocessors, which would include most **End of Life** textiles, unfit for reuse grade material and clothing that is stained, torn or generally worn out.

Repurpose:

Using a product for a purpose other than originally intended. For example, turning torn socks into cleaning rags. Textiles are often repurposed as cleaning rags, filters, and stuffing.

Residential waste:

See **Industrial, Commercial and Institutional (IC&I) waste**.

Resource management:

Ensuring that resource use is maximized, consumption is managed, and product lifespan is optimized. See also **waste management approach**.

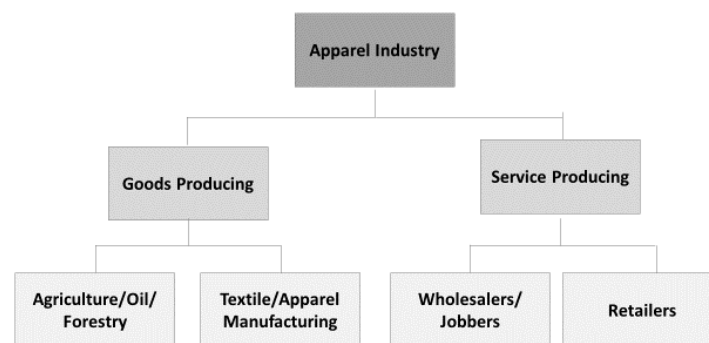
Reuse or Rewear:

When a garment is worn by a secondary owner without changing the style or function of the product. For example, a T-shirt remains a T-shirt and is not restyled into a tank-top. Reuse is typically practiced in households with more than one children, with garments handed down from sibling to sibling.

Rewear:

See **reuse**.

Sectors in the Apparel Industry:



Goods Producing Sector:

The Agriculture, Oil and Forestry Sector refers to either harvesting (all natural) or generating (all synthetic) fibres.

Textile Manufacturing: The textile mills (name for textile manufacturing facilities) buy fibres, spin the fibres into yarn, and weave or knit the yarn into fabrics. There are multiple processes involved to produce, embellish, and improve fabrics.

Apparel Manufacturing: Apparel manufacturers buy fabrics and accessories and produce garments. Although the textile and apparel manufacturing are two different sectors, it is common to use the term textile industry as an umbrella term for both sectors.

Service Producing Sector

This sector consists of Wholesalers, Jobbers, and Retailers.

Social Ventures:

Organizations or businesses seeking social change. Success is typically measured according to level of social impact.

Sources of Textile Waste:



Figure 1: The figure presents the two main sources of textile waste: post-consumer textile waste, and textile waste from the Industrial, Commercial and Institutional (IC&I) sectors.

Supply Chain:

The total sequence of business processes required to produce a product. These processes can take place at various places in multiple countries.

Sustainable:

When used as an adjective, it refers to processes that can be maintained at a stable rate through the consistent and renewable use of resources.

Sustainable Development:

Typically defined by three fundamental goals:

1. “Meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987).
2. “Guaranteeing a fair balance between north and south and meeting the needs of the poor” (Brundtland, 1987).
3. “Taking ecological, social and financial performances equally into account” (Elkington 1997). This third goal is often referred to as “the triple bottom line”. Elkington’s triple bottom line means that the traditional measure of corporate profit—the “bottom line”—is extended to include the company's “people” account, which describes how socially responsible an organisation is, and the company's “planet” account—a measure of its environmental responsibility. Some also call this the 3 p’s: people, planet, profit.

Sustainable Fashion:

Sustainable fashion ensures our resources are not depleted and our environment is not destroyed or exploited, and seeks to eradicate poverty rather than create it. Sustainable fashion companies takes social,

environmental, and economic aspects equally into account (Weber 2017)

Textile Labelling:

Printed or woven attachments that provide information to the consumer. In Canada, the federal government requires some categories of information presented in both official languages:

- The generic fibre content
- The brand name or registration number
- Country of origin
- Care instructions

Textile recycler:

Recycles textiles, see **textile recycling**.

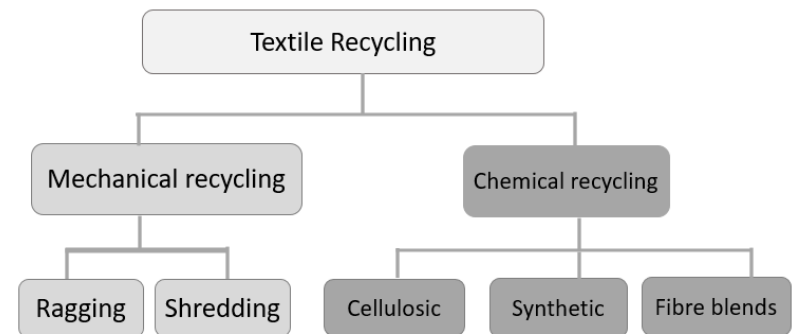
Textile Recycling:

Textile recycling depends on the fibre content of the product. Currently not all fibres can be recycled in a closed-loop recycling process. Even for those fibres which can be recycled in a closed-loop process the technology is often not scalable.

An overview of the current status quo:

- All materials can be shredded.
- All natural fibres or synthetics derived from a cellulosic polymer solution can be re-used as rags.

- Synthetic fibres produced in a spinning process from a petroleum polymer solution can be recycled in a closed loop through respinning.
- After natural fibres are recycled their fibre length is shortened, which decreases the quality. To produce quality products, reclaimed natural fibres must be mixed with virgin fibres or must be spun as man-made fibres. For example, cotton fibres can be recycled into viscose fibres.
- The biggest challenges in the textile recycling process are the chemicals used in the fabric production, fibre blends, and materials with Elastan (Strech) materials.



(Weber 2017 Solid Waste and Recycling Magazine)

Textile sorter and grader:

Inspects and grades textiles, leather, fur and feather products and define their value to determine whether

the product can be resold and in which market, or if it requires recycling. A textile sorter and grader is not necessarily a textile recycler, however, many sorting and grading facilities do ragging, a mechanical recycling process. In this case, a sorter and grader also functions as a recycler.

Textile value:

The inherent value and economic worth of a textile product, irrespective of whether the product is re-wearable. The contents of any given textile product are textile fibres, which are valuable for further use in recycled textile-based materials and products (See Chenoweth “Advancing Textile Waste Diversion in Nova Scotia” 2017).

Tipping fee:

Also known as a gate fee, a tipping fee is the charge levied upon a given quantity of waste received at a waste processing facility. In the case of a landfill, it is generally levied to offset the cost of opening, maintaining and eventually closing the site. It may also include any landfill tax, which is applicable in the specific region.

Up-cycling:

Transforming fabric scraps or unwanted garments into new garments or other textile products of high quality.

Up-cycling increases the value of the product. See down-cycling

Vegan leather:

Cruelty-free material, typically made using PVC or PU, but can also be made from biodegradable and recyclable cork. See **fake leather**.

Waste Diversion:

Shifting materials away from disposal (landfill or incineration) by using waste management strategies. Waste diversion requires collection and processing of the material. A charity which collects material is not necessarily diverting the material.

Waste-Free Ontario Act:

The *Waste-Free Ontario Act*, passed legislation in June 2016. It enacts the *Resource Recovery and Circular Economy Act*. With this act, the government wants to enable a shift towards a circular economy. The act enables the government to issue policy statements to support that interest. It is a long-term goal which will require ministries, municipalities, producers and others to perform waste reduction and resource recovery activities in a manner that is consistent with those policies. Textiles are included in the *Waste-Free Ontario Act*. Learn more at <http://www.ontariocanada.com/registry/view.do?postId=19982>

Waste Management Approach:

An approach that accepts waste and considers it as a valuable material. This approach seeks to determine the best solutions for waste minimisation: recycling, composting, energy recovery, or the landfill. See also **resource management**.

Zero-Waste:

The aim of making no waste. If waste occurs, it is considered future resources, not disposable material. Today many municipalities operate under a zero-waste masterplan.

List of Abbreviations and Acronyms:

CE: Circular Economy

EPR: Extended Producer Responsibility

IC&I: Industrial, commercial and institutional sector

MURBs: Multi-unit residential buildings

PU: Polyurethane

PVC: Polyvinyl chloride

SMART: Secondary Materials and Recycled Textiles Association

WRAP: Worldwide Responsible Accredited Production