City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	March 5, 2024
From:	Suzanne Bycraft Director, Public Works Operations	**File:**	10-6000-01/2023-Vol 01
Re:	**Clothing and Textile Waste**		

Staff Recommendations

1. That Option 3, as outlined in the staff report titled "Clothing and Textile Waste", dated March 5, 2024, be endorsed;

2. That a letter be written to the Honourable George Heyman, Minister of Environment and Climate Change Strategy, to request the establishment of an extended producer responsibility program for post-consumer textile waste in British Columbia; and

3. That one-time funding of $60,000 from the General Waste and Recycling Provision for the Clothing and Textile Waste expenditures be approved and that the Consolidated 5 Year Financial Plan (2024-2028) be amended accordingly.

Suzanne Bycraft
Director, Public Works Operations
(604-233-3338)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Recreation & Sport Services	☑	
Engineering	☑	
Finance	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:** CJ	**APPROVED BY CAO**

Staff Report

Origin

This report responds to the following referral from the June 6, 2022 General Purposes Committee meeting:

> *"That staff be directed to conduct research and develop options for a recycling program to divert clothing and other textiles from going to landfills."*

This report supports Council's Strategic Plan 2022-2026 Focus Area #5 A Leader in Environmental Sustainability:

> *Leadership in environmental sustainability through innovative, sustainable and proactive solutions that mitigate climate change and other environmental impacts.*
>
> *5.1 Continue to demonstrate leadership in proactive climate action and environmental sustainability.*
>
> *5.3 Encourage waste reduction and sustainable choices in the City and community.*

This report presents research concerning the recycling and waste management infrastructure for clothing and waste textiles, and proposes a multifaceted approach incorporating drop-off service, education and advocacy.

Analysis

Textile Waste Overview

Textile waste includes residential and commercial fabrics such as clothing, linens, blankets, stuffed toys, drop cloths, filter fabric and artificial turf. Pre-consumer textile waste includes materials from the processing or manufacturing of textiles such as scrap wastage, damaged or defective materials and excess inventory. Post-consumer waste, which is the focus of this report, includes end-use of products, recalled inventory, returned items and those disposed by the consumer.

In Metro Vancouver, the 2022 Full-Scale Waste Composition Study identified that an estimated 15.7 kilograms per capita of textile waste is disposed of each year, or approximately 6% of the region's total municipal solid waste. This is equal to approximately 44,000 tonnes being disposed in the region. From this, clothing represents more than 60% of textiles and based on Metro Vancouver data, staff estimate Richmond clothing waste to be approximately 1,800 tonnes per year.

'Fast fashion' capitalizes on quick changing trends to fuel the manufacturing of low-quality textiles with quick production times, decreased durability and lower prices. This has contributed to the average consumer now purchasing three times more clothing than they did in the 1980's, keeping each item for half as long. This quick turnover of unwanted clothing is typically handled through secondary markets driven principally through charitable organizations, thrift stores and bulk collectors. Attachment 1 depicts the typical life cycle of donated clothing and

textiles, which notes that 20-25% is reused through second hand stores, swap meets and consignment. The remaining 75-80% go to sorter-graders. Half of this amount is sold to global reuse markets primarily in Europe, Asia, Central America and Africa; 20% is turned into wiper rags; 20% is made into non-woven products such as building/automotive insulation or emergency blankets; and 10% is disposed.

The export of used clothing and textiles to secondary global reuse markets has received negative media attention and criticism due to the lack of transparency and verifiable data on the end fate of these materials.

The environmental impacts of exporting used textiles to developing countries has prompted some nations to implement import bans and increase tariffs on textiles. Import has created further environmental challenges in these regions including open burning, disposal at sea and land dumping issues. Attachment 2 further summarizes the environmental impacts of textiles production and consumption.

Recycling clothing poses significant challenges due to the complex nature of textile materials. Clothing often comprises a blend of different fibers, making it difficult to separate and process them for recycling. Natural fibers like cotton and wool can be mechanically recycled, but this process shortens the fibers, leading to lower quality yarn and fabric. Synthetic fibers, such as polyester, are more difficult to recycle because they are commonly mixed with other materials, creating a labor-intensive process of separating out the polyester. For this reason, recycled polyester is usually sourced from non-clothing items, such as plastic bottles. The fast fashion trend has also contributed to a decrease in the quality of material being used, further complicating the ability to reuse or recycle the items. These factors, combined with the lack of specialized recycling infrastructure and the manual, time-consuming nature of sorting and disassembling garments, makes clothing recycling a particularly complex and inefficient process.

Current Approach and Opportunities for Residents

There are a number of options currently available for residents to donate reusable clothing and textiles in Richmond. These include:

- Donation bins at various locations including various fire halls on City property where residents can drop-off clothing and other household items. The City currently has 12 active donation bins licensed under the *Donation Bin Regulation Bylaw No. 9502.*

- Residents can drop-off clothing in donation bins situated on private property. Bins on private property are not regulated under the *Donation Bin Regulation Bylaw No. 9502.*

- Residents can contact various charities to schedule home pick-up service.

- Residents can deliver reusable clothing and household items to various thrift store locations (e.g. three RAPS locations, Richmond Hospital Auxiliary Thrift Shop, SOS Children's Village Thrift Store Foundation, etc.).

To promote the reuse and reduction of clothing and textile waste, the City undertakes a number of activities and public outreach initiatives annually, which are outlined below:

- **Repair Fairs:** A series of repair events are offered to help residents extend the life of bikes, lawnmowers and clothing by maintaining and repairing them instead of buying brand new. In 2023, the City hosted nine repair events and helped residents repair 232 pieces of clothing.

- **Rethink Waste Think Tank and Community Ideas Hub:** This award-winning campaign raises awareness and encourages the community to think differently about purchases, avoid unnecessary waste and find ways to reuse, repair, repurpose and recycle materials to support a circular economy. Over 330 ideas were generated and ideas specific to reducing, repairing or repurposing textiles are shared on the City's Community Ideas Hub webpage.

- **Education & Outreach:** The City supports Metro Vancouver's Think Thrice About Your Clothes behaviour change campaign by sharing information with residents through social media and at outreach events.

- **Street Banner Program:** This civic beautification initiative engages community members to submit creative and visually appealing designs taken from around Richmond. Banner designs are selected through an annual contest and winning banners are displayed on city streets. Past banners are sold for reuse and some banners are upcycled to reusable shopping bags which can be purchased through the Parks Department.

- **Clothing Drive/Swap Initiatives:** City facilities organize various initiatives to collect used clothing and share previously-loved items back to the community. For example, in 2023, the Youth Clothing Shop event collected approximately 2,000 clothing items and redistributed 641 items to 122 youth.

Options for Recycling/Diversion

As noted above, staff estimate there are 1,800 tonnes of clothing disposed of annually, representing 4% of Richmond's residential waste stream that could be recycled or diverted from landfill. This does not include estimates for amounts currently already donated by residents. Options to address this component of the waste stream range from an enhanced focus on waste reduction through education and advocacy, and/or collection options as outlined below.

Option 1: Status Quo (not recommended): Under this option, clothing repair events would continue to be offered to encourage reuse, and the City's current practice of supporting Metro Vancouver's Think Thrice campaign through regular media channels and outreach would be continued. This includes encouraging residents to donate used clothing and to reduce their consumption habits through the City's targeted education efforts. This option appropriately focuses on waste reduction and responsible practices, however, does not represent an increased service level for residents.

Option 2: Collection Program Pilot (not recommended). Under this option, the City could offer a model similar to the Large Item Pick-Up Program, where residents would have the ability to contact the City's current waste and recycling service provider to arrange for collection of used clothing and textiles from the curb. This cost would be included in the annual residential utility fees, similar to the Large Item Pick-Up Program fee.

A limit of two collections per eligible residential unit (estimated at 43,700 households) could be established under a one year pilot program as part of assessing quantities and overall collection effort required. The annual cost of this option is estimated at $165,000. The pilot would be evaluated as it evolves to determine demand, quantities, collection effort and cost.

As residents are able to schedule front door pick-up through charitable organizations at no additional cost, offering this service through the City for an annual fee as detailed above is not recommended.

Option 3: Depot Drop-Off, Enhanced Education, and Advocacy (recommended). This option includes a multifaceted approach to increase collection opportunities, enhance education and outreach, address internal processes and advocate for a provincially regulated program to manage post-consumer textiles. This option includes:

1) Add Textiles at the Recycling Depot:
   a. Utilize the City's competitive bid process to procure a collector to install dedicated post-consumer textile collection receptacles to collect materials as outlined in Table 1 below.
   b. Leverage the *Circular Procurement Policy* as part of the evaluation process to encourage bids that prioritize repair and reuse opportunities in the community.

Table 1: Clothing and Textile Waste Items

Accepted				Not Accepted
- Active wear - Bathing suits - Coats - Dresses - Jackets - Pants - Shorts - Skirts - Sweaters - T-shirts - Undergarments	- Beddings - Blankets - Comforters - Curtains - Pillows - Sheets - Towels	- Backpacks - Belts - Gloves - Handbags - Hats - Ties - Toques	- Athletic shoes - Cleats - Dress shoes - High heels - Loafers - Slippers - Sneakers	- Wet and moldy items - Scrap (sewing) cuttings - Used rags - Uniforms and corporate textile waste - Suitcases

2) Enhance the Rethink Waste Campaign:
   a. Increase the emphasis and delivery of outreach-based programs focusing on textile waste awareness and reduction strategies.
   b. Customize messaging for Richmond residents to foster community behaviour change and support an emerging culture of circularity over waste.

3) Update the Richmond Sustainable Event Toolkit and 7 Step Quick Guide:
   a. Enhance the toolkit and guide to provide tips and resources to reduce single-use textiles at community and City sponsored events.
   b. Develop a recognition initiative to encourage and promote re-wear of event T-shirts (e.g. stamping the t-shirt with new event year to recognize event staff for their commitment to sustainability).
   c. Review and assess the use of single-use textile items at City sponsored events to encourage reduction and efficiencies.

4) Expand Repair Fair Events:
   a. Expand events targeted at reuse and repair of clothing/textiles to include sewing machine tune-up stations, educational opportunities, sewing circles and development of a resource guide.
   b. Partner with educational institutions and professional subject matter experts to encourage innovation and local circular business models in textile repair and reuse.

5) Advocate for Extended Producer Responsibility (EPR) Programs:
   Write a letter to the Minister of Environment and Climate Change strategy urging the provincial government to establish EPR programs for post-consumer textile waste in BC to make industry accountable for collection and recycling infrastructure of textiles.

6) Join the Canadian Circular Textiles Consortium (CCTC):
   That staff join the CCTC to foster collective actions with multi-stakeholder groups across Canada and internationally to accelerate efforts to developing circular textile solutions through piloting innovative projects and sharing key learnings, resources, and research; thereby reducing duplication of government and industry efforts.

This is the recommended approach as it focuses on service enhancement and waste reduction through behaviour change campaigns, as well as alignment with the City's Richmond Circular City Strategy and the Community Energy and Emissions Plan to increase reuse and repair initiatives available to the Richmond community. Initial costs for this option are estimated at $60,000 inclusive of additional outreach, subscription fees, repair events and development of promotional communications materials. Ongoing annual costs are estimated at $40,000, and can be considered as part of future budget deliberations. Additionally, staff will continue to look for future opportunities to further encourage and support textile reuse and repair in the community and surrounding educational institutions.

Financial Impact

The initial one-time cost to develop the proposed approach outlined under Option 3 is estimated at $60,000. This cost includes communications support for developing and implementing additional communications tactics, as well as staffing resources to support the expanded Repair Fair events. If approved by Council, the initial one-time cost can be funded from the General Solid Waste and Recycling Provision and the Consolidated 5 Year Financial Plan (2024 – 2028) amended accordingly. Ongoing annual costs estimated at $40,000 will be considered in the 2025 budget process.

Conclusion

There is currently a lack of sound infrastructure both locally and globally for managing clothing and textile waste at end-of-life. While good opportunities exist to promote reuse through donation practices and Repair Fair events, these do not adequately address overall life cycle issues, including the negative environmental impacts. Further, the rise of 'fast fashion' for clothing and textiles has created a significant rise in the amount of new clothing being produced and disposed annually. Expanding Recycling Depot collection, implementing Richmond focused behavior change initiatives, and collaborating with multi-stakeholder groups to accelerate efforts to develop national circular textile solutions represents a balanced approach to increase textile waste diversion. Additionally, advocating for an extended producer responsibility program would appropriately place accountability on industry to manage their products at end-of-life.

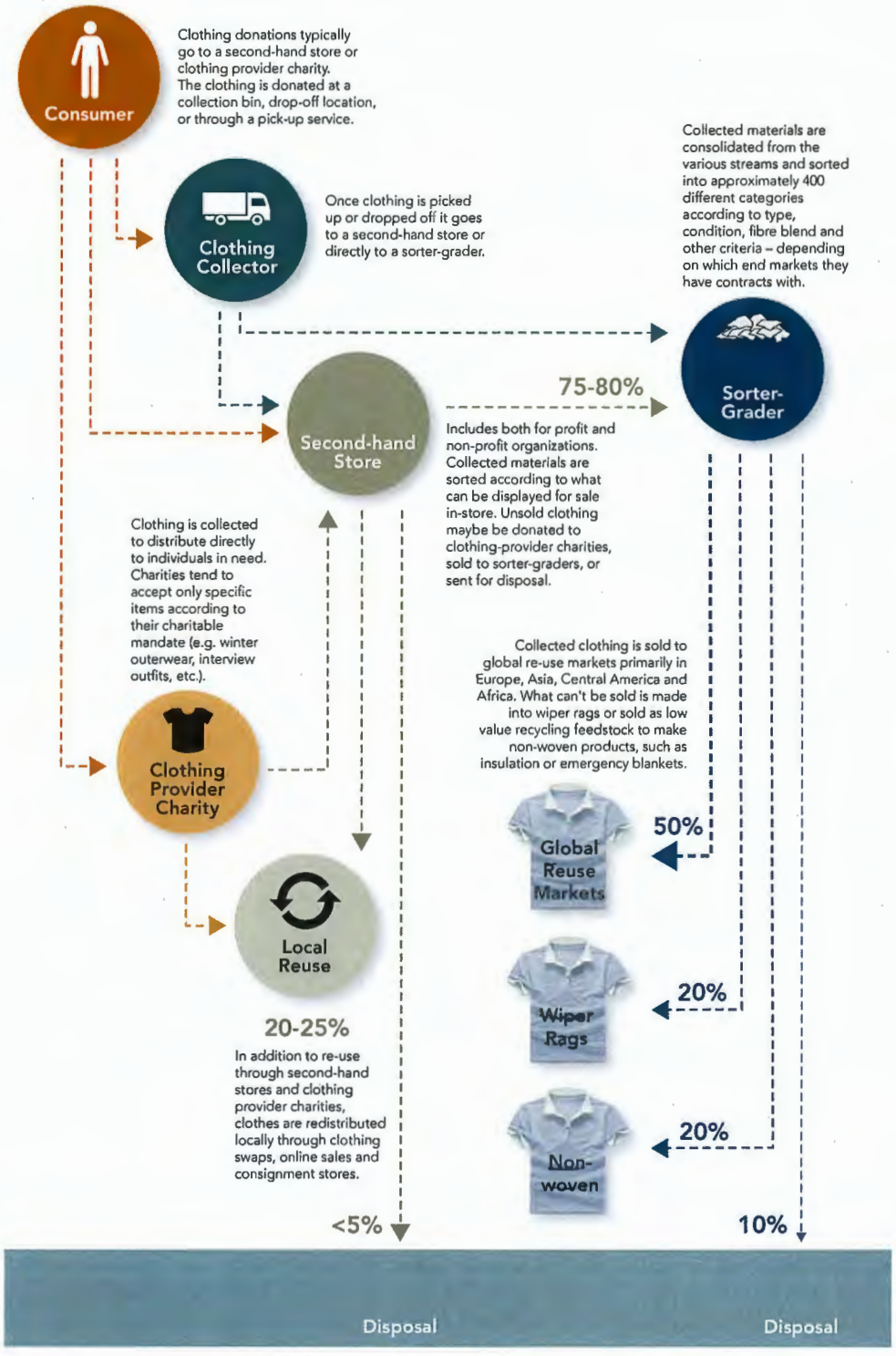
Kristina Nishi
Manager, Recycling and Waste Recovery
(604-244-1280)

KN:

Att. 1: Life Cycle of Unwanted Clothing
2: Textile Waste Research Summary

Life Cycle of Donated Clothing

Produced by Metro Vancouver



7277586

Textile Waste Research Summary

Environmental Impacts of Clothing Production and Consumption

Clothing has become one of the fastest growing waste streams due in large part to the rise of 'fast fashion'. 'Fast fashion' capitalizes on quick changing trends to fuel the manufacturing of low-quality textiles with quick production times, decreased durability and even lower prices. The quantity of clothing introduced to the global market has expanded over the last few decades with 150 billion new clothing items produced annually.[1] The Ellen MacArthur Foundation estimates that the average consumer purchases 60% more pieces of clothing than 15 years ago and keeps each item for half as long with some estimated to be disposed of after just seven to ten wears. Additionally, clothing made from natural fibres such as cotton and wool produces methane when disposed in landfills and clothing made with synthetic fibres such as polyester, nylon, or acrylic shed approximately 500,000 kg of plastic microfibres in the ocean annually through machine washing.[2] Microplastics can take up to 450 years to disintegrate, persisting in the environment and food chains.[3]

National, International and Local Commitments/Actions

The negative environmental impacts of post-consumer textile waste has prompted a range of commitments and actions by governments and private industry across the globe. Policy instruments and initiatives such as extended producer responsibility (EPR) programs, disposal bans, post-consumer content mandates, mandatory sustainable labelling, and behaviour change campaigns and import bans, etc. are being introduced to tackle the issues of post-consumer textile waste from overproduction and overconsumption.[4] While many major brands and organizations are taking steps through collaboration and strategic partnerships to transition toward circularity and sustainability, consumers have a role to play in shifting to circular systems by reducing consumption, extending the life of products and minimizing waste through repair, reuse, repurpose, etc. Responsible post-consumer textile waste management is crucial to divert waste from landfills and support the transition to a circular economy and a multifaceted approach is required to mitigate textile waste problems.

A summary of key policies and initiatives taken by various levels government and industry are highlighted in Table 2 below.

---

[1] "Fashion's Waste Crisis and How to Solve it", prepared for Eileen Fisher Foundation by Pentatonic

[2] Ellen MacArthur Foundation, A new textiles economy: *Redesigning fashion's future,* (2017, http://www.ellenmacarthurfoundation.org/publications).

[3] Ellen MacArthur Foundation, A new textiles economy: *Redesigning fashion's future,* (2017, http://www.ellenmacarthurfoundation.org/publications).

[4] "Characterizing Reuse, Recycling and Disposal of Textiles in Canada" by Cheminfo, prepared for Environment and Climate Change Canada

Table 2: Summary of Key Policies and Initiatives

Date	Description
Government of Canada	
2023	- Provided financial support to Fashion Takes Action to launch the Canadian Circular Textile Consortium. - Commissioned the Canadian Textile Industry Association to investigate textile recycling and sustainability programs in other countries and how to apply successes and lessons learned into a Canadian Context – report expected by March 31, 2024. - Engaged with the National Association for Charitable Textile Recycling (NACTR) to investigate how digital tax receipting system could be used by the apparel sector and study the successes of reuse programs run by neighbourhood associations with the intent of scaling up and expanding these programs throughout Canada – report expected by March 31, 2024. - Ocean Diagnostics, with collaboration from the Raincoast Conservation Foundation, is developing a holistic report on microfiber pollution in Canada, in order to develop up-to-date knowledge and recommendations for the Environment and Climate Change Canada (ECCC) on microfiber pollution mitigation actions – report expected by March 31, 2024.
July 2022	- In the consultation paper titled "A Proposed Federal Plastics Registry for Producers of Plastic Products", textiles were included as a product category that would be subject to reporting requirements with an estimated effective commencement date of June 1, 2026. - Recycling and management of textile waste is not included in this initiative at this time.
	- Commissioned the following research: o "A Feasibility Study of Textile Recycling in Canada" by Fashion Takes Action. o "Characterizing Reuse, Recycling and Disposal of Textiles in Canada" by Cheminfo Services Inc. o "Economic Study of the Canadian Plastic Industry, Markets and Waste". o "Canada-wide action plan for extended producer responsibility" – Canadian Council of Ministers of the Environment (CCME).
March 2022	- Introduced Canada's 2030 Emissions Reduction Plan, which provides a roadmap for the Canadian economy to achieve 40-45% emissions reduction below 2005 levels by 2030. - Robust textile waste management presents an opportunity to reduce Canada's GHG emissions as textiles made from natural fibres (e.g. cotton or wool), along with food waste and yard and garden trimmings, produce methane when disposed in landfills, representing approximately 3.7% of Canada's total GHG production, and about 27% of Canada's total methane generation.

Provincial Government of BC		
September 2021	-	Announced the Extended Producer Responsibility (EPR) Program Five-Year Action Plan that outlines priority actions that are important and immediate for BC to take to advance as a leader in EPR and waste prevention. The plan expands the categories of products managed under EPR, but textiles and carpet were not identified.

Metro Vancouver		
2017	-	Launched the Think Thrice About Your Clothes behaviour change campaign to reduce textile waste and encourage residents to reduce consumption, buy for quality versus quantity, provide tips/tactics to repair/care for clothing, reuse and swap clothing, etc.
2016	-	Conducted research on the best way to address textile waste in the region.

Municipal Actions		
April 2017	-	City of Markham, ON implemented a municipal disposal ban for textile waste from the garbage.
April 2017	-	North Bay, ON implemented a municipal disposal ban for textile waste from the garbage.
May 2016	-	Colchester County, NS implemented curbside collection of textiles, including clothing, linens, shoes and stuffed animals. - Textiles can be placed in blue Recycling Bags along with paper and cardboard.
April 2016	-	Colchester County, NS implemented a municipal disposal ban for textile waste from the garbage.

Others		
May 2023	-	Sweden's Government Office published a memorandum containing a proposal to amend the Waste Ordinance, SFS 2020:614, to require circular handling of textiles and textile waste. - The proposal suggests that anyone who generates textile waste (waste from textile apparel, bags, accessories, home textiles and interior textiles) should be required to sort and store it separately from other waste. - Municipalities will be responsible for designing and providing a separate textile collection system and providing information on the best ways to reuse textiles. - If enacted, the proposed amendment becomes effective on January 1, 2025.
April 2023	-	Netherlands approved the Decree on extended producer responsibility for textiles and sets the target for textile reuse and recycling from 50% in 2025 to 75% in 2030. - Effective on July 1, 2023.
2023	-	California State Senator drafted Senate Bill (SB) 707, the Responsible Textile Recovery Act, to establish an Extended Producer Responsibility program for textiles under the regulatory authority of the California Department of Resources Recycling and Recovery (CalRecycle).

July 2022	-	Bulgarian Council of Ministers published a Draft Regulation on Management of Footwear and Textile Waste. The draft Regulation aims to increase the amount of recycled household waste and reduce the amount of landfilled household waste by implementing the EU's Directive (EU) 2018/850 and Directive (EU) 2018/851.
April 2022	-	China published its objectives for textile sector: a recycling rate of 25% by 2025, 30% by 2030, and a target to increase its production of recycled textiles by two metric tonnes in 2025. - The government also indicates in the plan that it intends to promote recycling, apply eco-design standards, and establish labels to improve sorting and encourage social responsible management systems.
March 2022	-	European Commission published a strategy for sustainable and circular textiles as part of the European Green Deal to define its approach to life cycle, eco-design and EPR. - The 2030 target of the European Green Deal is to increase the lifespan of textile products, the recycling rate and to reinforce standards on toxic substances.
February 2019	-	BC Return-It partnered with Salvation Army to accept old or unused clothing and textiles for reuse or recycling from BC residents at 55 locations. - Items accepted included accessories and bags, all types of clothing, curtains, general household textiles (towels, blankets, sheets, etc.), shoes and boots, and sleeping bags. - Program was suspended in June, 2022 because they could no longer afford to run the program after its partner, The Salvation Army, ended the relationship because it had "sufficient supplies of used textiles from other sources."
December 2018	-	UN Fashion Industry Charter for Climate Action contains the vision to achieve net-zero emissions by 2050 with the mission "to drive the fashion industry to net-zero Greenhouse Gas emissions no later than 2050 in line with keeping global warming below 1.5°C."
2016	-	Product Stewardship Institute, a policy advocate and consulting non-profit group, formed a Textiles Coalition Workgroup and established the first standards for collection of used textiles in New York State, called Re-Clothe NY.
January 2008	-	France implemented extended producer responsibility. - France's textile collection rates increased from 15% in 2007 to 39% in 2020. Nearly 58% of the clothing, linens and footwear collected are reused and less than 1% is sent to the landfill. Noting the increase of 'fast fashion' and the reduction in overall quality, France's EPR program has observed a reduction in the percentage of reusable textile waste by 6% since 2014.