

TELUS Communications Inc.

Annual Report to the Director

2019 Calendar Year

Reporting period January 1 – December 31, 2019

Submitted to: BC Ministry of Environment
Director, Extended Producer Responsibility Programs
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Date: September 11, 2020



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TELUS Communications Inc. 2019 Report to Director, Waste Management

1. Executive Summary

Products within plan	<p><i>Telecommunication equipment:</i></p> <ul style="list-style-type: none"> ○ <i>Cordless phones and corded desktop, VOIP phones and analog terminal adapters;</i> ○ <i>Public Access Equipment;</i> ○ <i>Obsolete network infrastructure equipment (switches, servers), External customer networks, Servers</i> ○ <i>Optical network termination equipment, Internet equipment (routers, modems), Network cards;</i> ○ <i>Video and teleconferencing equipment;</i> ○ <i>TV equipment (PVRs, receivers, remote controls), Satellite TV equipment;</i> ○ <i>Global Positioning Systems (GPS);</i> ○ <i>Home Security electronic equipment</i> ○ <i>Batteries; and</i> ○ <i>Cables/accessories.</i>
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Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(a)	<u>Public Education Materials and Strategies</u>	<p>a description of educational materials and educational strategies the producer uses for the purposes of this Part</p> <ul style="list-style-type: none"> - <i>Public information posted on telus.com website providing instructions on how to return equipment to TELUS at no charge.</i> - <i>To provide information to our customers TELUS client care agents are made aware of return process by way of online system, internal communication, bulletins.</i> - <i>TELUS Technicians are made aware of return process by way of inter-company communication, bulletins.</i> - <i>Customer Mail Back instructions including a prepaid waybill.</i>
Part 2, section 8(2)(b)	<u>Collection System and Facilities</u>	<p>the location of its collection facilities, and any changes in the number and location of collection facilities from the previous report;</p> <p><i>Eleven collection facility locations:</i></p> <ul style="list-style-type: none"> - <i>Communication Test Design Inc. (CTDI), Delta BC</i> - <i>Archway, Richmond BC</i> - <i>eCycle Solutions, Chilliwack BC</i> - <i>Quantum, Edmonton AB</i> - <i>Metalex Products Ltd, Richmond BC</i> - <i>Sumas Environmental Services, Burnaby BC</i> - <i>Archway, Mississauga ON</i> - <i>Canadian Energy, Burnaby BC</i> - <i>Call2Recycle, Vancouver BC</i> - <i>WiMacTel Canada Inc., Calgary AB</i> - <i>Fleet Complete, Mississauga ON</i>
Part 2, section 8(2)(c)	<u>Product Environmental Impact Reduction, Reusability and Recyclability</u>	<p>efforts taken by or on behalf of the producer to reduce environmental impacts throughout the product life cycle and to increase reusability or recyclability at the end of the life cycle;</p> <p><i>Although TELUS is not a manufacturer of equipment (TELUS branded or not) that we sell or rent, we endeavor to work with our manufacturers to encourage them when designing for the environment to use minimal packaging materials; FSC certified, high recycled content, and or recyclable or biodegradable materials. Where appropriate and applicable, TELUS will also endeavor to include corporate social responsibility requirements in RFPs when selecting vendors.</i></p>

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Recycling Regulation Reference	Topic	Summary (5-bullet maximum)
Part 2, section 8(2)(d)	Pollution Prevention Hierarchy and Product / Component Management	a description of how the recovered product was managed in accordance with the pollution prevention hierarchy <i>TELUS' triage of recovered equipment enables TELUS to follow the pollution prevention hierarchy, such as the regulation requires, to ensure pollution prevention is not undertaken at one level unless or until all feasible opportunities for pollution prevention at a higher level have been taken. See section 6</i>
Part 2, section 8(2)(e)	Product Sold and Collected and Recovery Rate	Provide a summary of the total amount of product sold, collection volumes and, if applicable, recovery rates achieved by the program based on the approach included in the approved program plan. Also provide a summary of total product recovered by regional district. <i>Total Program Product Collection Volumes in 2019 is 603.36 metric tonnes Total Program Product Distributed into BC in 2019 is 488.99 metric tonnes Total Program Product Recovery Rate in 2019 is 123.39% See section 7 for details</i>
Part 2, section 8(2)(e.1)		[See Section 7 for breakdown per regional district] <i>See Section 7</i>
Part 2, section 8(2)(f)	Summary of Deposits, Refunds, Revenues and Expenses	[Provide report reference to the independently audited financial statements] <i>Not applicable as TELUS fully funds program.</i>

Comparison of Key Performance Targets		
Part 2 section 8(2)(g); See full list of targets in Plan Performance		
Priority Stewardship Plan Targets (as agreed with ministry file lead)	Performance	Strategies for Improvement
1. <i>2019 Target of 80% recovery</i>	<i>123.39% overall recovery</i>	<i>TELUS continues to look at process improvements to increase our returns as well as investigating opportunities for reusing products.</i>

2. Program Outline

Overview

TELUS Communications Inc. (TELUS) developed its own BC Electronic Equipment Stewardship Plan to adhere to the requirements set in the BC Recycling Regulation – Electronic and Electrical Product Category.

The TELUS team's dedication to preserving and protecting our environment contributes to our role as a leading socially responsible corporation. Consistently recognized for our sustainability practices, TELUS has been listed on the Dow Jones Sustainability North America Index for 18 years and was added to its World Index as of 2016, one of only nine telecommunications companies globally to be recognized with this distinction. Notably, we are one of only six Canadian companies to be named to the World Index across 24 sectors.

Environmental compliance

TELUS believes that an effective environmental management system provides the foundation for our environmental sustainability initiatives. In 2019 TELUS completed the required external audits to maintain our ISO 14001 certification. The globally recognized ISO 14001 standard has recently been updated (ISO14001:2015) and we worked to adapt our current system to the new version through 2019. Maintaining this ISO standard also requires continual improvements to our environmental management processes, and TELUS is committed to identifying even more ways to better our performance.

Products Collected

TELUS has been collecting, refurbishing for reuse, reselling, and recycling electronics using our reverse logistics processes that are established, controlled and monitored on a national basis. TELUS' Plan addresses rental and retail TELUS customer premise equipment as well as our internal use equipment. Mobile devices are not included in this Stewardship Plan as TELUS (as a remitter) submits the data to the Electronic Product Recycling Association in BC (EPRA-BC).

The following is a general list of categories of equipment with regards to the requirements outlined by the BC Recycling Regulation – Electronic and Electrical Product Category. This list is an overview and does not list accessories or additional paraphernalia that might be associated with each equipment category. TELUS is committed to be responsible for all new products TELUS introduces into the marketplace.

- *TELUS TV Equipment (Set-top boxes, PVRs, Receivers, Remote Controls)*
- *TELUS Internet Equipment (Routers, Modems, Gateways)*
- *Network Printed Circuit Cards*
- *Public Access Equipment*
- *Cordless and Corded Phones (wireline)*
- *VOIP phones*
- *VOIP Analog Terminal Adapter*
- *Satellite TV equipment*
- *Global Positioning System (GPS) equipment*
- *Video and telephone conferencing equipment*
- *Home Security Equipment*
- *Batteries associated with these electronics*

3. Public Education Materials and Strategies

Reference: Recycling Regulation – Part 2, section 8(2)

(a) a description of educational materials and educational strategies the producer uses for the purposes of this Part

Education and Strategies

1. *Call Centre Awareness – call centre representatives are informed about the program and are equipped with the online information necessary to advise customers of their equipment return options.*
2. *TELUS Call Centre representatives coordinate pickup and return of business customer equipment to TELUS.*
3. *Return mailer kits including return instructions, carton, pre-paid waybill, provided to TELUS TV and TELUS Satellite TV customers. This program was expanded to include all TELUS TV and high speed internet access (HSIA) customers.*
4. *TELUS is a member of the Recycling Council of BC and participates in the BC Recycling Hotline service.*
5. *TELUS Technician Awareness – our technicians are informed about the program and TELUS' commitments to our customers with respect to equipment being returned.*
6. *TELUS Team Members Awareness – team members are provided with current information regarding the return of electronic equipment in this plan through a number of mechanisms. Mechanisms include online process information on our internal company website, inter-company bulletins, TELUS Green Teams, internal social media, and as required one on one email and phone conversations.*
7. *TELUS' Nudge Rewards app to all TELUS team members. Nudge Rewards is a mobile app that engages employees via push notifications with tidbits about the energy use of the buildings and recyclable office materials in the form of trivia, fast-facts and contests. It also calls for brainstorming. Pop-ups appear to get feedback from app users to create company-wide initiatives that everyone has a stake in.*
8. *TELUS sales contracts offer a recovery service for end of life equipment. A clause to this effect can be included on a sales contract if customers wish to use this service.*
9. *Online Training for TELUS Team Members: TELUS Integrity Course is one of the Company's key policies and is reviewed by all TELUS team members on an annual basis. This compulsory course is deployed as an online training tool which covers the legal and regulatory requirements that TELUS team members must follow while carrying out their duties. The course includes environmental case studies specific to electronic waste.*

All of our key business units and stakeholders are involved in reducing the amount of material sent to landfills and improving recycling and re-use. Our biggest successes in 2019 include:

- *TELUS' Waste Reduction Working Group is tasked with the implementing projects in our Waste Reduction Strategy*
- *Continuing to rely on our Green Teams and National Sustainability Council to build engagement and behavior change toward reducing waste across TELUS*

These information-gathering exercises helped us identify factors that are influencing our diversion rates. Over the course of 2019 we continued on scouting a path to 90 per cent diversion, while implementing practical improvements in our operations.

4. Collection System and Facilities

Reference: Recycling Regulation – Part 2, section 8(2)

(b) the location of its collection facilities, and any changes in the number and location of collection facilities from the previous report;

Eleven collection facilities owned by TELUS or TELUS Contractors/Vendors receive customer returns through recovery mechanisms. Both TELUS Technicians and TELUS Contractors recover equipment from customers and return to collection facilities. To ensure that all of our customers have access to a collection facility, TELUS provides a mail back program. TELUS residential customers have access to a Canada Post retail outlet in their area and TELUS business customer are provided with a courier pickup service.

Collection facility locations:

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- *Communication Test Design Inc. (CTDI), Delta BC*
- *eCycle Solutions, Chilliwack BC*
- *Quantum, Edmonton AB*
- *Metalex Products Ltd, Richmond BC*
- *Sumas Environmental Services, Burnaby BC*
- *Archway, Mississauga ON*
- *Archway, Richmond BC*
- *Canadian Energy, Burnaby BC*
- *Call2Recycle, Vancouver BC*
- *WiMacTel Canada Inc., Calgary AB*
- *Fleet Complete, Mississauga, ON*

To provide easy access to TELUS' collection facilities in all Regional Districts, Canada Post, couriers (e.g. FedEx), and TELUS technicians act a recovery mechanisms that increase public access to the Collection Facilities. For example, Canada Post has over 6,600 retail outlets across Canada. The Canada Post retail outlets and the location of each are available on the Canada Post website at <http://www.canadapost.ca/cpotools/apps/fpo/personal/findPostOffice>

5. Product Environmental Impact Reduction, Reusability and Recyclability

Reference: Recycling Regulation – Part 2, section 8(2)

(c) efforts taken by or on behalf of the producer to reduce environmental impacts throughout the product life cycle and to increase reusability or recyclability at the end of the life cycle;

Overview of National Supply Chain Sustainability

Our Supply Chain Team plays a vital role in carrying out TELUS' strategic initiatives. This involves collaborating across business units and working with suppliers and service providers to ensure the right products and services are deployed across our network in a safe and cost-effective manner.

Governance and oversight

We value our relationships with our suppliers because they help us achieve our business objectives and contribute to our overall success as an organization. We strive to award business to suppliers who demonstrate a strong commitment to sustainable development by adopting ethical, labour, health and safety, environmental principles and compliance practices that align with ours, and ensure the well-being of their employees, contractors and communities.

Supplier diversity

Our Supplier Code of Conduct (the Code) is fundamentally aligned with our commitment to being a leading corporate citizen. Consistent with the Code of Ethics and Conduct that applies to our employees and contractors, the Code is based upon generally accepted standards of ethical business conduct. We expect our suppliers to comply with this Code, embedded in all supplier contracts, and all applicable laws and regulations wherever they operate.

Our supplier diversity program delivers an improved and innovative customer experience by taking proactive steps to provide equal access to suppliers that reflects the diversity of where we live, work and serve. The program provides more opportunities for ethnic minorities, Indigenous LGBTQ+ and/or women-run organizations to bid for our business in competitive processes so that our suppliers reflects our diverse customer base and bring new ideas and creativity to the table.

This year, we set a target for ourselves to increase our spend with diverse suppliers by three to five per cent (year-over-year) in 2020, compared to our 2019 performance. We have also set a target to further increase this spend by an additional three to five per cent in 2021, compared to our 2020 performance.

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As supplier diversity develops across Canada, TELUS is committed to remain a leader in supporting policy development and growth through board representation, partnerships and development programs. Members of our procurement group actively contribute on the boards of:

- *Canadian Aboriginal and Minority Supplier Council*
- *Women Business Enterprises Canada*
- *The Procurement Advisory Council for Canadian Gay and Lesbian Chamber of Commerce.*

Throughout the year, our team members, including members of our internal team member resource groups, participated in a variety of supplier diversity marketplace events across Canada as presenters and regular corporate table hosts for marketplace meetings to expand opportunities for diverse suppliers.

Supply operations

A key focus for our Supply Operations Team, including our Reverse Logistics Team, is the management of end of life of products and devices that are returned or recovered from our customers. During the year, we enhanced our processes to collect and refurbish for reuse consumer electronics, high-speed internet and TV services equipment in our continued efforts to reduce our environmental footprint. In 2019, a key initiative was introduced to optimize our equipment recovery program, which led to a reduction of the number of boxes sent to customers while maintaining our recovery rates.

In addition, the Supply Chain Team provides direction and support in the creation of our strategic marketing initiatives such as our Bring-It-Back™ program (BiB). BiB provides a financial incentive to customers to return devices, increasing our overall recovery rate. These devices are refurbished and reintroduced into the market, extending their useful life and providing an affordable mobile device option for customers. TELUS also uses refurbished units as the primary source of devices for internal team members.

Monitoring our suppliers

In 2019, we improved our tools to monitor supplier risk and brought them all together under one comprehensive supplier risk management program. For our new program, we have partnered with a third-party who is onboarding vendors on the new platform. The tool is designed to screen all suppliers across a spectrum of 42 activities, including human rights violations, bribery and corruption, money laundering and fraud. All of our suppliers undergo this screening before their work begins.

For 2020, we have set a goal to complete vendor onboarding to this new program for all of our existing vendors as well as to continue managing ongoing compliance. Beginning in 2021, we have set a goal to begin annual renewal of supplier compliance to the new supplier risk management program.

Large suppliers ---- An additional level of scrutiny is applied to suppliers surpassing a spend threshold. These suppliers will receive a risk rating based on their adherence to a sustainability questionnaire, an analysis of their financial stability, insurance compliance and a health and safety audit. Following this screening, suppliers who are rated as high risk will be notified and a corrective action plan will be developed between TELUS and the vendor to move towards compliance.

Critical suppliers ---- TELUS fosters strong relationships with suppliers that are critical to the products and services our customers rely upon. We define critical suppliers as those having a high impact on customer experience or network reliability, as well as other parameters. In addition, non-critical suppliers may become defined as critical if they experience repeated outages and become a risk for our business continuity performance.

Our Supply Chain Team works to establish a culture of continuous improvement with these suppliers through regular meetings on reliability and performance, governance and technological risk.

We screen and monitor critical suppliers through our performance management framework called SENTINEL. This framework has two parts: a dashboard that tracks metrics on performance (primarily based on business continuity and risk); and a stakeholder management component where TELUS shares our findings with the vendor. Where there are lagging metrics, an improvement plan is developed and monitored on a quarterly basis.

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Looking ahead to 2020, TELUS will focus on the continued evolution of the SENTINEL program. As technology changes and more services become cloud based, we will build reliability and sustainability into the design. TELUS will also seek to integrate best practices from ADT Canada, a recent acquisition, into our supply chain management to deliver the most reliable customer services and product life cycle management.

6. Pollution Prevention Hierarchy and Product / Component Management

Reference: Recycling Regulation – Part 2, section 8(2)

(d) a description of how the recovered product was managed in accordance with the pollution prevention hierarchy;

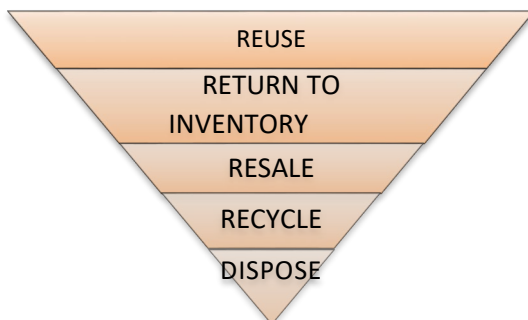
By virtue of the triage system TELUS utilizes for its electronics, pollution hierarchy is considered throughout the process. All recovered items are reused where possible and recycling is used as the last resort. TELUS defines what items are to be refurbished for reuse; what equipment can be sold for reuse; what is to be returned to our vendor under warranty; and what products must be recycled. Upon TELUS receiving the rental equipment it is tested. Working units are refurbished and restocked for reuse; defective units under warranty are returned to the manufacturer; defective units not under warranty that are beyond economical repair are recycled by TELUS' authorized electronics recycling contractor.

Program Products collected are reported by End of Fate by level on the Pollution Prevention Hierarchy:

- *Reuse: These are TELUS TV Future Friendly Home (FFH) devices that are either reused by TELUS or sold for the purpose of reuse or refurbishment for reuse. Our 2019 FFH reuse rate was 30 percent and 84 percent reuse rate of our accessories.*
- *Recycle: These are products that are processed into an End of fate commodity (e.g. Ferrous Steel, Plastics, Aluminum, Copper, Glass, Lead, etc.). In 2019 over 603.32 mt of electronics and the associated batteries was recycled from our products collected in BC.*
- *Recover into energy: There currently are no processes for recovery into Energy although TELUS closely monitors developments in this industry.*

Residual Waste: waste going to landfill or hazardous waste from all sources that is not reusable. For products and materials that cannot be reused or resold, TELUS pursues opportunities to recycle and divert these assets from landfills. We continue to enhance our recycling and diversion programs in our operations and are collaborating with our property managers and waste haulers with the goal of establishing waste diversion targets. In 2019, 5,187 kilograms of non-hazardous waste was sent to the landfill by our electronics recyclers due to not being a recyclable or reusable commodity within the product (examples are non-recyclable packaging materials, rubber feet).

Disposition Hierarchy



Acceptable Product End of Fate

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Product Type	Reuse	Recycle	Energy Recovery	Residual Waste
TELUS TV Equipment and accessories	Preferred	Optional	N/A	Optional
Telsets	Preferred	Optional	N/A	Optional
Network Equipment	Preferred	Optional	N/A	Optional
GPS Equipment	Preferred	Optional	N/A	Optional
Batteries <2 kg	N/A	Preferred	N/A	Optional
Batteries >2 kg	N/A	Preferred	N/A	Optional

Estimated Product End of Fate Data for the year ended December 31, 2019

Product Type	Reuse (%)	Recycle (%)	Recovery (%)	Residual Waste Landfilled (%)	Unknown (%)
TELUS TV Equipment	30.5%	67.3%	0	2.2%	0
TELUS TV Accessories	84.1%	15.9%	0	0.000	0
Network Equipment	70.3%	29.7%	0	0.000	0
Telsets	0%	100%	0	0.000	0
GPS	0%	100%	0	0.000	0
Batteries <2 kg	0	100%	0	0.000	0
Batteries >2 kg	0	100%	0	0.000	0

TELUS' processors provided TELUS with an end of fate flow chart that describes where our products are recycled (City and Province or Country) and the material recovered from them such as steel, copper, aluminum, precious metals, and plastics. This processing flow takes the material recovered to a point where the processor sells the material recovered to their buyers for further processing. Our electronics recycler even sends the dust from the bag-houses for processing.

Processing Pathways

Product Type	Transfer to direct processor in BC (%)	Transfer to direct processor or multi-step processor in North America (%)	End of Fate Description
TELUS TV Equipment and accessories		100%	Processed for material recovery (metals, precious metals, plastics) and landfill
Telsets		100%	Processed for material recovery (metals, precious metals, plastics) and landfill
GPS		100%	Processed for material recovery (metals, precious metals, plastics) and landfill
Network Equipment		100%	Processed for material recovery (metals, precious metals, plastics) and landfill
Batteries <2 kg	46%	54%	Processed for material recovery (nickel, cobalt, cadmium, lead, iron, copper, stainless steel) and landfill
Batteries >2 kg	99%	1%	Processed down to commodities for reuse or further processing (lead, acid, plastic, sulfur)

7. Product Distributed and Collected and Recovery Rate

Reference: Recycling Regulation – Part 2, section 8(2)

- (e) the total amount of the producer's product distributed and collected and, if applicable, the producer's recovery rate;
- (e.1) effective for a report required on or before July 1 and for every report required under subsection (1) after that date, the total amount of the producer's product recovered in each regional district;

7.1 Program Product Distributed into BC (by weight)

- *Total program product distributed into BC during 2019 was 488.99 metric tonnes (mt)
The amount of circuit cards (network) distributed was based on self-reporting as 1-1 as we do not have the data indicating the distribution of circuit cards. However, we do know that for each card removed from our switch a new card is installed in its place.*

7.2 Program Product Collection Volumes (by weight):

- *Program product equipment 586.284 mt*
 - *>2 kg Batteries 15.632 mt*
 - *Consumer Batteries 1.44 mt*
- Total program product collection volumes during 2019 was 603.362 mt*

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Equipment Recovered by Regional District

Regional District	Equipment Recovered (kgs)
Alberni-Clayoquot	98
Bulkley-Nechako	2,205
Capital	10,132
Cariboo	3,701
Central Kootenay	3,835
Central Okanagan	15,083
Columbia-Shuswap	3,659
Comox Valley	1,102
Cowichan Valley	1,441
East Kootenay	3,143
Fraser Valley	7,488
Fraser-Fort George	6,473
Greater/Metro Vancouver	370,142
Kitimat-Stikine	1,542
Kootenay Boundary	1,738
Mount Waddington	617
Nanaimo	11,377
North Okanagan	4,321
Okanagan-Similkameen	2,741
Peace River	2,625
Powell River	746
Skeena-Queen Charlotte	1
Squamish-Lillooet	1,734
Strathcona	513
Sunshine Coast	1,146
Thompson-Nicola	9,704
Provincial Total	467,307

Note: Regional data is only collected from one facility and therefore it is not inclusive of all collected data.

7.3 Program Product Recovery Rate:

- Overall program product recovery rate for 2019 was 123.39%; this is based on the weight of units collected and the weight of units distributed.
- TELUS' Customer Premise Equipment (Rental) Return Improvement Implementation Plan Development & Project commenced where TELUS provided return kits to our customers in an effort to increase the recovery of rental set top boxes, modems, receivers, and remotes.

7.4 Reuse Rate:

- TELUS' FFH reuse rate on the products collected in 2019 was 30% as a result of TELUS' disposition process.
- TELUS will reuse most consumer products up to three times during its lifecycle. This demonstrates the results of our focus on the Pollution Prevention hierarchy.

8. Summary of Deposits, Refunds, Revenues and Expenditures

Reference: Recycling Regulation – Part 2, Section 8(2)

(f) independently audited financial statements detailing

- (i) all deposits received and refunds paid by the producers covered by the approved plan, and
- (ii) revenues and expenditures for any fees associated with the approved plan that are charged separately and identified on the consumer receipt of sale;

TELUS funds the TELUS BC Electronics Stewardship Plan. No customers are charged an environment handling fee.

9. Plan Performance

Reference: Recycling Regulation – Part 2, section 8(2)

(g) a comparison of the approved plan's performance for the year with the performance requirements and targets in this regulation and the approved plan

Plan Target	2019 Results	Strategies for Improvement
<p><i>1. Target of 80% recovery was committed for 2019</i></p>	<p><i>Overall recovery rate was 123.39%</i></p>	<p><i>Process improvement projects are in progress</i></p>

Recovery rate is higher than products distributed due to excess inventory recycled/resold as well as decommissioning projects.

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Appendices / Additional Information and Third Party Assurance

Appendix A - *Third Party Assurance Statement for Non-Financial Information*

Reference: Recycling Regulation – Part 2, section 8(2)

Including section 8(2)(h), any other information specified by the director



Independent practitioner’s reasonable assurance report on non-financial information included in TELUS’ Annual Report to the Director, Environment Quality Branch, British Columbia Ministry of Environment & Climate Change Strategy

To the management of TELUS Communications, Inc.

We have undertaken a reasonable assurance engagement on the following information of the 2019 Annual Report to the Director, Environment Quality Branch, British Columbia Ministry of Environment & Climate Change Strategy, detailed in Appendix A (the “subject matter”), of TELUS Communications, Inc. (“TELUS”), as part of TELUS’ commitments under the Extended Producer Responsibility (“EPR”) program for the period from January 1, 2019 to December 31, 2019:

- the location of collection facilities and any changes in the number and location of collection facilities from the prior year in accordance with Section 8(2)(b) of the British Columbia Regulation 449/2004 Recycling Regulation (the “Recycling Regulation”);
- the description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with Section 8(2)(d) of the Recycling Regulation;
- the total amount of the producers’ product collected and distributed for the period from January 1 to December 31, 2019 in accordance with Section 8(2)(e) of the Recycling Regulation; and
- the performance for the year in relation to targets in the approved stewardship plan for period from January 1 to December 31, 2019 in accordance with Section 8 (2)(g) of the Recycling Regulation.

Management’s responsibility

Management is responsible for the preparation of the subject matter in accordance with sections 8(2)(b), 8(2)(d), 8(2)(e) and 8(2)(g) of the British Columbia Regulation 449/2004 Recycling Regulation (together, “the criteria”). Management is also responsible for such internal control as management determines necessary to enable the preparation of the subject matter that is free from material misstatement.

Our responsibility

Our responsibility is to express a reasonable assurance opinion on the subject matter based on the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audit or Reviews of Historical Financial Information*.

This standard requires that we plan and perform this engagement to obtain reasonable assurance about whether the subject matter is free from material misstatement.

Reasonable assurance is a high level of assurance, but is not a guarantee that an engagement conducted in accordance with this standard will always detect a material misstatement when it exists. The nature,

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timing and extent of procedures selected depends on our professional judgment, including an assessment of the risks of material misstatements, whether due to fraud or error, and involves examining evidence about management's preparation of the subject matter in accordance with the criteria.

We believe the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

This report, including our opinion, has been prepared solely for the management of TELUS in accordance with the agreement between us. We permit this report to be disclosed in the 2019 Annual Report to the Director, Environment Quality Branch, British Columbia Ministry of Environment & Climate Change Strategy of TELUS Communication, Inc. to assist management in responding to their governance responsibilities. We do not accept or assume responsibility to anyone other than TELUS Communication, Inc. for our work or for the opinion we have reached.

Our independence and quality control

We have complied with the relevant rules of professional conduct/code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

The firm applies Canadian Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements* and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Inherent limitations

Non-financial information, such as that included in the 2019 Annual Report to the Director, Environment Quality Branch, British Columbia Ministry of Environment & Climate Change Strategy, is subject to more inherent limitations than financial information, given the more qualitative characteristics of the subject matter and the methods used for determining such information. The nature and methods used to determine such information, as well as the measurement criteria may change over time.

Opinion

In our opinion, the subject matter included in the 2019 Annual Report to the Director, Environment Quality Branch, British Columbia Ministry of Environment & Climate Change Strategy for TELUS Communications, Inc. for the year ended December 31, 2019 has been prepared, in all material respects, in accordance with the criteria.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, BC
September 11, 2020



Appendix A – Findings and Evaluation Criteria

1. Section 8(2)(b) of the Recycling Regulation - the location of collection facilities, and any changes in the number and location of collection facilities from the previous report

TELUS' reported result:

The number of collection facility locations is 11 (2018: 11).

Reference: page 3,6 and 7 of TELUS's 2019 Annual Report to the Director

Basis of preparation:

- "Collection Facilities" are centres that were owned by TELUS, had a signed contract with TELUS, or non-contracted with selected TELUS vendors, for the collection of Program Products as of December 31st of the reporting year. Collection facilities owned by TELUS or TELUS Contractors/Vendors receive customer returns through recovery mechanisms. Both TELUS technicians and TELUS contractors recover equipment from customers and return to collection facilities. Additionally, TELUS has a mail-back program whereby residential customers can return items via Canada Post outlets and business customers are provided with a courier pickup service.
- "Collection Facilities" are one of the following types of centres:
 - o Reverse Logistics/Triage Centres – e.g., CTDI and Archway;
 - o Processors - e.g., GEEP, Metalex;
 - o Spare Central Stock – e.g., CTDI warehouse location for spare network equipment; or
 - o Redeployment Centres/Forward logistics - e.g., TELUS, CTDI and Archway warehouse locations for used equipment brought back into inventory.
- "Collection Facilities" are not Canada Post, courier service providers (e.g., FedEx), technicians or Tier 2 locations ("Tier 2 locations" are TELUS locations where the technicians drop off material for return. These then are forwarded to any of the collection facilities).



2. Section 8 (2) (d) of the Recycling Regulation - the description of how the recovered product was managed in accordance with the pollution prevention hierarchy

TELUS' reported result:

Acceptable Product End of Fate

Product Type	Reuse	Recycle	Recovery	Residual
TELUS TV Equipment and accessories	Preferred	Optional	N/A	N/A
Telsets	Preferred	Optional	N/A	N/A
Network Equipment	Preferred	Optional	N/A	N/A
GPS Equipment	Preferred	Optional	N/A	N/A
Batteries <2 kg	N/A	Preferred	N/A	N/A
Batteries >2 kg	N/A	Preferred	N/A	N/A

Estimated Product End of Fate Data for the year ended December 31, 2019

Product Type	Reuse (%)	Recycle (%)	Recovery (%)	Residual (%)	Unknown (%)
TELUS TV Equipment	30.48	67.25	0	2.25	0
TELUS TV Accessories	84	16	0	0	0
Network Equipment	70	30	0	0	0
Telsets	0	100	0	0	0
GPS	0	100	0	0	0
Batteries <2 kg	0	100	0	0	0
Batteries >2 kg	0	100	0	0	0

Processing Pathways

Product Type	Estimated transfer to direct processor in British Columbia (%)	Estimated transfer to direct processor or multi-step processor in North America (%)	End of Fate Description
TELUS TV Equipment and accessories	0	100	Processed for material recovery (metals, precious metals, plastics)
Telsets	0	100	Processed for material recovery (metals, precious metals, plastics)
GPS	0	100	Processed for material recovery (metals, precious metals, plastics)
Network Equipment	0	100	Processed for material recovery (metals, precious metals, plastics)
Batteries <2 kg	46	54	Processed for material recovery (nickel, cobalt, cadmium, lead, iron, copper, stainless steel)
Batteries >2 kg	99	1	Processed down to commodities for reuse or further processing (lead, acid, plastic, sulfur)

Reference: pages 9 and 10 of TELUS's 2019 Annual Report to the Director

Basis of preparation:



- “Product type” is groups of products included in the program as listed in the currently approved product stewardship plan.
- “Reuse” is any Program Product which has been either reused by TELUS or sold for the purpose of reuse.
- “Recycle” refers to the process of treating or processing a Program Product into an End of Fate commodity (e.g. Ferrous Steel, plastics Aluminium, Copper, Glass, Lead).
- “Recovery” is the process of generating energy in the form of electricity and/or heat from the incineration of waste.
- “Residual” refers to Program Products which have been sent to landfill or hazardous waste that is not reusable.
- “End of fate” is defined as the point where the product, component, and/or material is handled as a recognized commodity, is destroyed (e.g., through energy recovery), or is disposed of as waste.
- “Estimated Product End of Fate Data” is an estimate of the end fate of the type of product based on information provided by processors.
- Direct processors are those where the Program Product is processed on a single site.
- Multi-step processors are those where the Program Product is processed over more than one site.

Method of reporting:

Program Products collected are reported by end of fate both by product type and by process on the Pollution Prevention Hierarchy:

- Reuse: Reused products are reported by weight reused or sold for reuse.
- Recycle: Recycled products are reported by weight.
- Recovery: N/A - No Program Products are recovered.
- Residual: N/A – all Program Products collected are expected to be 100% recyclable. Non- program products that may be included in shipments are not recorded or reported by the program but efforts are made to dispose of them in accordance with the pollution prevention hierarchy.



3. Section 8 (2) (e) of the Recycling Regulation - the description of the total amounts of the producer's product sold and collected and, if applicable, the producers' recovery rate

TELUS' reported result:

Total amount of producer's product sold is estimated as 488.99 mt

Total amount of producer's product collected is estimated as 603.36 mt

Reference: page 11 of TELUS's 2019 Annual Report to the Director

The recovery rate is reported under criteria 4 below.

Basis of preparation:

- "Product Sold" is the amount of all Program Products distributed into BC by TELUS.
- "Product Collected" is the amount of all Program Products collected from sources known to be located within the province of BC that occurred through the Collection Facilities.
- "Program Products" are all products included in the program as listed in the currently approved product stewardship plan. These include:
 - o Program equipment utilized externally by customers
 - TELUS TV equipment (Set-top boxes, PVRs, Receivers, Remote Controls)
 - TELUS Internet Equipment (Routers, Modems, Gateways)
 - Satellite TV equipment
 - Cordless Phones (wireline)
 - Corded Phones
 - VOIP phones
 - VOIP Analog Terminal Adapter
 - GPS equipment
 - Optical Network Terminal Battery (GPON battery)
 - Video and telephone conferencing equipment
 - Servers
 - o Program equipment utilized by TELUS
 - Cordless and corded desktop phones
 - VOIP Over IP (VOIP) phones
 - Global Positioning Systems (GPS) equipment
 - Obsolete network equipment (switches, servers, mainframes, circuit cards, etc.)
 - Public Access Equipment (payphones, smartcard readers)
 - External Customer Network Infrastructure Equipment – but located on TELUS premises (servers, mainframes, tapes etc.)
 - Video and telephone conferencing equipment
 - Optical Network Termination Equipment located on customers' premises
 - Batteries associated with these electronics
- Products not included in the program are mobile devices and their associated accessories.



4. Section 8 (2) (g) of the Recycling Regulation - the performance for the year in relation to targets in the approved stewardship plan under Sections 8(2)(b), (d), and (e)

TELUS' reported result:

123.39% recovery rate for the year ended December 31, 2019 compared to a target of 80.0%

Reference: page 13 of TELUS's 2019 Annual Report to the Director

Basis of preparation:

- Recovery rate is calculated as:

$$\text{Total weight of units collected} / \text{Total weight of units distributed (sold)}$$

TELUS Communications Inc. 2019 Report to Director, Waste Management

TELUS Corporation ISO 14001:2015 Certificate

Certificate CA15/640105.00

The management system of

TELUS Corporation

3777 Kingsway
Burnaby, BC V5H 3Z7, Canada

has been assessed and certified as meeting the requirements of

ISO 14001:2015

For the following activities:

Provision of Telecommunication Services

This certificate is valid from 20 July 2018 until 19 July 2021
and remains valid subject to satisfactory surveillance audits.

Re certification audit due before 23 April 2021.

Issue 2. Certified since 20 July 2015.

Authorized by



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