



Reference: 320020

August 7, 2018

Barb Collins  
Environmental Asset Management & Recycling  
TELUS Communications Inc.  
9S – 3777 Kingsway  
Burnaby BC V5H 3Z7

Dear Ms. Collins:

Thank you for submitting proposed amendments to the TELUS Communications Inc. BC Electronic Equipment Stewardship plan (the “amendments”) on March 16, 2018, in fulfillment of the requirements of section 6 of the [Recycling Regulation](#) (the “regulation”) made under the *Environmental Management Act*. I appreciate the industry’s continued commitment to achieving compliance in this regard.

Under the regulation, the director has the ability both to amend an approved extended producer responsibility plan (the “plan”) on his own initiative, and to approve amendments to an approved plan that have been proposed by a producer. I have completed my review of, and approve, the amendments proposed by TELUS Communications Inc. (TELUS). This amended plan takes effect on August 7, 2018.

Pursuant to section 6 of the regulation and based on the plan’s original approval date of November 4, 2010, TELUS’s next plan review must be completed by November 4, 2020. However, a director under the *Environmental Management Act* may amend the approved plan pursuant to section 5(5) of the regulation or rescind approval of the approved plan pursuant to section 6.1 of the regulation, should TELUS fail to meet the commitments set out in the approved plan. Please also note that failure to comply with an approved plan may result in the imposition of an administrative penalty of up to \$40,000 or a fine of up to \$200,000.

.../2

### **Future plans and amendments**

The ministry expects continuous improvement across all extended producer responsibility programs' future plans and amendments, including the following areas of concern:

1. Plan commitments – for example, use specific and measurable language;
2. Consumer access – for example, develop comprehensive province-wide accessibility – particularly in rural areas, and/or improve upon the current Stewardship Agencies of BC accessibility standard;
3. Consumer awareness - for example, include performance requirements tailored for different consumer groups and all product types managed by the program;
4. Financial transparency – for example, provide greater levels of disclosure in financial statements to better serve interests of producers, the ministry, and other stakeholders; and
5. Pollution prevention hierarchy – for example, highlight program areas of influence.

I acknowledge that some plans better address various concerns than others, and that collaboration between some producers/appointed agencies and the ministry is underway. As well, the ministry intends to develop further guidance on select areas of concern.

### **Dispute resolution**

Section 5(1)(c)(vi) of the regulation requires that a plan provides for a dispute resolution procedure. All stakeholder consultations on the dispute resolution procedure must be conducted in accordance with the new guidance document entitled “[Producers Paying the Cost of Managing Obligated Materials and Dispute Resolution](#)” approved on April 24, 2018. All future consultations must be in accordance with this guidance.

### **Third party independent assurance for non-financial information in annual reports**

Third party assurance for non-financial information in annual reports is required through section 8(2)(h) of the regulation. The assurance report should be completed in accordance with the document entitled, “Third Party Assurance Requirements for Non-Financial Information in Annual Reports” dated October 2017 and revised from time to time, which is enclosed.

I look forward to working with you to ensure the success of your program. If you have any questions about this letter, please contact me at 778-698-4860 or [ExtendedProducerResponsibility@gov.bc.ca](mailto:ExtendedProducerResponsibility@gov.bc.ca). If you have any questions regarding the implementation of your plan, please contact your ministry file lead.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob McDonald". The signature is stylized with large, overlapping loops and a prominent "B" at the start.

Bob McDonald  
Director, Extended Producer Responsibility Section  
Environmental Standards Branch

Enclosure (2)

cc: Kris Ord, Executive Director, Environmental Standards Branch  
Louise LeBoutillier, Ministry file lead, Extended Producer Responsibility Section

# **TELUS Communications Inc.**

**BC Electronic Equipment  
Stewardship Plan  
5 Year Review – for approval**

**2017**



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## 1.0 Glossary of Abbreviations

CPE	Customer Premise Equipment
EPR	Extended Producer Responsibility
FFH	Future Friendly Home
FSC	Forest Stewardship Council
GPON	Gigabit Passive Optical Network
GPS	Global Positioning System
ISO	International Organization for Standardization
PVR	Personal Video Recorder
R2	Responsible Recycling
RBRCC	Rechargeable Battery Recycling Corporation of Canada
RCBC	Recycling Council of British Columbia
RFP	Request for Proposal
Telsets	Wireline or Cordless Phones
TELUS	TELUS Communications Inc.
VOIP	Voice Over Internet Protocol

## 1.1 Introduction

TELUS Communications Inc. (TELUS) developed its own BC Electronic Equipment Stewardship Plan in 2010, with an amendment in 2012 to include Phase 4-5 products, in order to adhere to the requirements in the [BC Recycling Regulation](#) – Electronic and Electrical Product Category under the [Environmental Management Act](#). A producer must review its approved plan and submit to a director proposed amendments to the approved plan no later than the date that is 5 years after the date the plan was approved. This review is submitted to the Director for this reason.

The BC Recycling Regulation requires a producer of regulated electronic equipment to establish an approved stewardship plan under Part 2 (Product Stewardship Plans) and comply with the approved plan with respect to a product in order to sell, offer for sale, distribute or use in a commercial enterprise, the product in British Columbia. The Stewardship Plan must demonstrate how producers apply Extended Producer Responsibility (EPR) for the life cycle management of their products, including collection and recycling. TELUS' BC Electronics Stewardship Plan is available online on our [TELUS](#) website or copy and paste the URL into your browser.

[http://about.telus.com/community/english/about\\_us/for\\_our\\_customers/regulations\\_%26\\_policies/environmental\\_policy/ewaste\\_stewardship](http://about.telus.com/community/english/about_us/for_our_customers/regulations_%26_policies/environmental_policy/ewaste_stewardship).

TELUS has been collecting, refurbishing for reuse, reselling, and recycling electronics before telecommunication equipment and electronics were included in the BC Recycling Regulation and this plan allows these processes to be tracked more formally and reported annually to the Ministry. TELUS' plan addresses rental and retail TELUS customer premise equipment as well as our internal use network equipment including batteries used in telecommunication equipment and electronics. Mobile devices including wireless accessories are addressed under the Electronic Products Recycling Association (EPRA) where TELUS joined as a remitter steward with this Association in 2016.

TELUS business units are governed by our ISO certified Environmental Management System (ISO 14001:2004) across Canada and the reverse logistics processes are controlled and monitored. TELUS received our ISO 14001 certification in 2015.

## 2.0 Program Elements and Principles

### 2.1 Program Elements

When we designed our Stewardship Plan we considered the population and geographical area of the markets in which TELUS sells, offers for sale, distributes or uses in a commercial enterprise, products. Then we developed customer convenient options for the collection of products no matter where they live or the size of their population. Our return processes are not limited by the amount of product we sell, distribute, or use in a commercial enterprise each year. Our collection facilities are capable of receiving and storing any amount of product that we expect to collect. TELUS accept competitor's equipment that we receive at our collection facilities.

### 2.2 Program Principles

This Stewardship Program supports the following objectives:

- Consistency with the twelve principles set out by the Canadian Council of Ministers of the Environment in the Canada-Wide Principles for Electronics Product Stewardship.
- Consistency with industry developed (Electronics Products Stewardship Canada) guiding principles.
- Fulfillment of TELUS' responsibilities for telecommunications equipment that we rent or sell in BC.
- Acceptance, as required, of orphan telecom electronics sent to TELUS that were not sold or produced by TELUS.
- Having open discussions with appointed agencies regarding any orphan type telecom electronic equipment.
- Recycling, refurbishing, or selling our equipment in a responsible manner that respects the environment and health and safety issues.
- Availability of program services to all areas of the Province.
- ISO14001 certification and/or R2 (Responsible Recycling) standards of electronics recycling vendors utilized by TELUS.
- Communication to our customers of equipment recovery opportunities.

## 3.0 Products Included in the Program

The following is a general list of categories of equipment with regards to the requirements outlined by the BC Recycling Regulation, [Schedule 3 – 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 will review, on a case by case basis, all products that are impacted by regulatory changes and determine if they would best managed under TELUS' Stewardship Plan or that of another approved Stewardship Plan.

### **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

### **Internal equipment utilized by TELUS**

Internal use equipment utilized by TELUS is included in TELUS' Electronics Recycling Program. This equipment comprises only 5% of all TELUS telecommunication related equipment.

- Cordless and corded desktop phones
- VOIP Over IP (VOIP) phones
- Global Positioning System (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 premise (servers, mainframes, tapes etc.)
- Video and telephone conferencing equipment
- Optical Network Termination Equipment located on customers premise
- Batteries associated with these electronics

TELUS is committed to working with other programs and agencies such as the Electronic Products Recycling Association (EPRA) and Rechargeable Battery Recycling Corporation of Canada (RBRCC) to develop synergies between programs where required. If issues arise TELUS will address them in a timely fashion.

## **4.0 Collection, Processing and Disposition**

TELUS continues to pay for the cost of collecting and managing products within the product category covered by our Stewardship plan, whether the products are currently or previously sold, offered for sale, or distributed in BC. The following describes the collection processes.

### **4.1 Residential Customer Returns – Rental Equipment**

Convenient rental return options for residential customers include TELUS' Rental Recovery Kit (see Appendix C), Canada Post and/or TELUS Service Technicians. A TELUS residential customer making a change to their rental equipment service will be provided a rental recovery kit that includes instructions, recovery box, and a prepaid waybill. In the event the technician is onsite, the technician is required to pick up and return the customer's equipment. For customers returning equipment in their own box TELUS Customer Care will advise the customer to utilize Canada Post to recover the piece of equipment. Prepaid waybills (see Appendix B) are available at all Canada Post retail outlets.

## **4.2 Business Returns – Rental Equipment**

Convenient rental return options for business customers include Fedex and/or TELUS Service Technicians. TELUS Customer Care will arrange for Fedex to pick-up the rental equipment for return. For business customers returning equipment in their own box TELUS Customer Care will advise the customer to utilize Canada Post to recover the piece of equipment. Prepaid waybills (see Appendix B) are available at all Canada Post retail outlets. In the event a TELUS Service Technician is installing new equipment at the customer's premise, the old equipment may be returned by the Technician via existing processes.

## **4.3 Disposition of All Rental Equipment Returns**

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 harvested for parts or they are recycled by TELUS' authorized electronics recycling contractor.

## **4.4 Customer Owned Equipment (Residential and Business)**

TELUS customers are encouraged to return customer owned telecom equipment purchased from TELUS by mailing back the equipment to TELUS' returns service provider. Prepaid waybills (see Appendix B) are available at Canada Post retail outlets. In the event a TELUS Technician is installing new equipment at the customer's premise, the old equipment may be returned by the TELUS Service Technician via existing processes.

## **4.5 Batteries**

### **4.5.1 GPON Batteries**

TELUS' Fibre Optic network requires a backup battery to ensure that our customer's TELUS Home Phone service continues to work during a local power outage. This Gigabit Passive Optical Network (GPON) battery is one of the TELUS products included in TELUS' BC Electronics Stewardship Plan.

TELUS customers that purchase replacement GPON batteries to power TELUS customer premise telecom equipment have the option to return their old battery by mailing back to TELUS' returns service provider. Prepaid mailing labels including return instructions are included with the replacement battery (see Appendix D) or may be returned by Canada Post. In the event a TELUS Technician is requested to install the replacement battery, the TELUS Service Technician will bring the old battery back to TELUS for recycling via existing returns process.

### **4.5.2 Consumer Batteries within Telecom Devices**

TELUS customers returning TELUS rented or customer owned equipment will be instructed to not remove the battery but ship the equipment, battery included, to TELUS' returns service provider. The battery will be removed prior to processing the electronics and the battery recycled. All batteries recycled will be sent to Call2Recycle on a fee-base, OR a 3<sup>rd</sup> party that does not use Call2Recycle thus ensuring TELUS pays for the recycling of the batteries that came with our devices.

### **4.5.3 Lead Acid Batteries**

Lead acid batteries for disposal are transported to authorized battery reclamation facilities where the batteries are recycled in compliance with applicable environmental legislation. TELUS' central office battery vendors take back decommissioned batteries ensuring used batteries are properly managed after service life.

## **4.6 Internal Equipment**

Depending on the nature or the use of the equipment, various types of equipment follow different processes/routes.

Internal Telecom and Electronic Equipment:

Obsolete and/or surplus equipment is sent to TELUS Reverse Logistics. Equipment is triaged and follows a disposition process where it may be refurbished for redeployment; it may be sold for reuse (investment recovery); or as a last resort it may be recycled.

Defective equipment under warranty is returned to the manufacturer.

Defective equipment not under warranty is recycled.

Damaged equipment is recycled.

Leased equipment is returned to the vendor.

Electronics that contain Mercury:

Electronics that contains mercury are sent to TELUS' authorized recycler.

## **5.0 Product Recovery Rates and Targets**

### **5.1 Customer Premise Equipment (primarily "Rental" equipment)**

CPE rental equipment comprises approximately 90% of all TELUS electronic and telecommunication equipment. Our target is to increase the recovery rate over the next four years.

Targets for rental equipment:

2016 – 75%

2017 – 75.5%

2018 – 77.5%

2019 – 80%

2020 – 82.5%

Achieving these targets is dependent upon a number of factors including TELUS' ability to fund, develop, and deliver systems and other process changes to facilitate continuous performance improvement as well as the responsiveness of customers to TELUS' equipment recovery kits for rental returns and other non-rental equipment (example, modems) recovery processes available.

### **5.2 Sold Equipment**

Sold equipment makes up approximately 5% of all of TELUS electronic and telecommunications equipment. Our target is to achieve a recovery rate of 90% in the next four years as our ability to track material is implemented. This target will be dependent on the responsiveness of customers to TELUS' consumer awareness campaigns.

### 5.3 Internal Use Equipment

Internal equipment makes up the remaining 5% of TELUS electronic and telecommunications equipment. TELUS has been proactively recovering our internal use equipment for many years. Our target is to achieve a recovery rate of 100 per cent over the next 4 years, by continuing to ensure that internal processes are in place and employee education and training is conducted. Achieving this target is dependent upon the responsiveness of TELUS' team members to internal education, training and awareness campaigns.

### 5.4 Strategy and Plan Review

If TELUS does not meet our targets listed in Section 5.0 -5.3, we will review and make improvements to our plan including our consumer awareness strategy. An example of our review and strategies are:

In 2016 we worked on gaining a more complete understanding of our current state for our largest buildings by:

- Engaging our team — over 50 volunteers from every department helped examine our facilities and identified innovative ways to help us achieve our waste reduction target
- Surveying our employees to identify potential barriers to recycling and ideas for improvement
- Complementing a series of waste audits with additional audits to gain a more holistic picture of the composition of our waste
- Meeting with landlord partners to align efforts in achieving TELUS' diversion goal
- Including recycling and waste metrics in our real estate contracts

These information-gathering exercises helped us identify factors that are influencing our diversion rates.

## 6.0 Stakeholder Consultation

Section 5(1)(b) of the Recycling Regulation provides:

A public consultation process was implemented that will provide meaningful opportunities for public consultation and comment. It was open for comment November 1 – December 15, 2017.

Key aspects of the consultation will include:

- Informing via email, the industry stewards of the public consultation notice and method for feedback.
- Posted on [TELUS Website \(https://www.telus.com/en/about/policies-and-disclosures/environmental-responsibility/return-and-recycle-program\)](https://www.telus.com/en/about/policies-and-disclosures/environmental-responsibility/return-and-recycle-program)
- Posted on Recycling Council of BC's Website.

The consultation report will be found in Appendix F. It will include details on:

- Stakeholders consulted in the process of developing and evaluating the Renewal plan; and
- Any concerns identified by those who were consulted and plan to address as necessary.

Stakeholders are encouraged to contact TELUS at [electronicsequipmentconsultation@telus.com](mailto:electronicsequipmentconsultation@telus.com) at any time to provide input of the operation or to ask any questions of our Stewardship program.

## 7.0 Education and Awareness

Ongoing communication and public awareness are important to a successful stewardship program. TELUS strives to continuously improve in this area of our plan. The following are examples of how we educate and provide awareness.

1. Call Centre representatives are equipped with online information for equipment return options available to our customers. The representatives have the information available at their fingertips to bring awareness to our customers on the processes available to return equipment to TELUS.
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, are 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 Website – our external website contains information for customers on how to return equipment to TELUS.  
[http://about.telus.com/community/english/about\\_us/for\\_our\\_customers/regulations\\_%26\\_policies/environmental\\_policy/return\\_%26\\_recycle\\_program](http://about.telus.com/community/english/about_us/for_our_customers/regulations_%26_policies/environmental_policy/return_%26_recycle_program).
5. TELUS is a member of the Recycling Council of BC (RCBC) and participates in the BC Recycling Hotline service. RCBC and their Hotline staff provide information on telecom equipment return programs available to BC residents and businesses.
6. TELUS Technician Awareness – our technicians are educated about the program and TELUS' commitments to our customers with respect to equipment being returned.
7. 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.
8. TELUS Nudge Rewards app is available 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.
9. 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.
10. 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.

## 8.0 Program Performance Measurement

The program will be managed through TELUS which will provide annual public reports outlining our performance and plans for continued performance. Our reporting is subject to third party assurance for non-financial information.

Due to commercially sensitive nature of our business, TELUS will report to the Ministry annually on the following:

1. Categories of equipment recovered (by total weight) including the amount recovered in each regional district.
2. Equipment refurbished for reuse (by total weight)
3. Equipment re-sold for reuse (as – is condition) (by total weight)
4. Equipment Recycled (by total weight)

In addition, TELUS will report on performance and this will be measured via the tracking of materials deployed (rented and sold per year to customers) versus material that is returned in a single reporting year period and will be reported on as a percentage.

## 9.0 Dispute Resolution

TELUS' contracts with our return service providers have a dispute resolution procedure incorporated into the contract language that includes procedures and timelines for action. If disputes occur with other agencies and/or stakeholders with regards to this program, TELUS will handle these disputes in a responsible, timely and respectful fashion. Any customer enquiries that cannot be answered by TELUS representatives or technicians will be escalated internally as required.

## 10.0 Designing for the Environment

By implementing a new system that allows customers who cancel their TELUS subscription to more easily return their TV and Internet equipment, we have increased the return rate of equipment, as well as increased the number of refurbished units we can re-use, diverting them from recycling and landfill.

In 2016, in addition to improving the volume and diversity of assets being recovered through various programs, we launched or enhanced initiatives and processes targeted at reducing packaging, transportation and materials handling:

- Wireline Device and accessories *national* recovery: we re-used 622,882 pieces of wireline equipment and reclaimed for re-use over 250,000 parts from returns (e.g., smartcards, power adaptors, remote controls, micro filters, modem stands and cables).
- Multi-pack initiative: the introduction of Lean Principles helped us further reduce packaging materials (cardboard and polystyrene) during the refurbishment process. We also extended this initiative to our main equipment vendor for new purchases. This led to:
  - Savings of \$1 million
  - 460,000 fewer cardboard boxes purchased
  - Improved box re-design that reduced material content by 25 per cent
  - Improved productivity as a result of new anti-static packaging
  - Re-used 38,000 boxes from installers, improving the quality of returned product and reducing the amount of plastic replacement parts used in the refurbishment process.
  - Double stack trailer: packaging improvements allowed us to optimize pallet orientation and stacking in trailers, saving \$225,000 in direct freight costs and reducing CO2e emissions.
- Network equipment decommissioning and asset recovery we decommissioned old network equipment and actively recovered these assets through a central process. Equipment was assessed for re-use within TELUS, marketed and sold for re-use, or recycled.
- Diversion from landfill: we actively manage asset reclamation and recycling for products and materials that cannot be re-used or re-sold to maximize the amount of material that is diverted from landfill and recycled as raw material. As recycling technology improves, we will add to the range of materials that are recycled.

### 10.1 Product Life Cycle Management

At TELUS our goal is to integrate environmental thinking into all facets of our supply chain. Defined as sustainable supply chain management, this includes product design, material sourcing and selection,

manufacturing processes, delivery of the final product as well as end-of-life/re-use management of the product after its useful life. From 2013 through 2016, we re-engineered the end-to-end process for supply and asset recovery of products used by our customers to improve product traceability and our customer experience.

TELUS TV equipment returned back to TELUS are refurbished, harvested for parts, sold, or returned to the vendor. This allows products to be reused rather than manufacturing new products from virgin materials.

## 10.2 Pollution Prevention Hierarchy

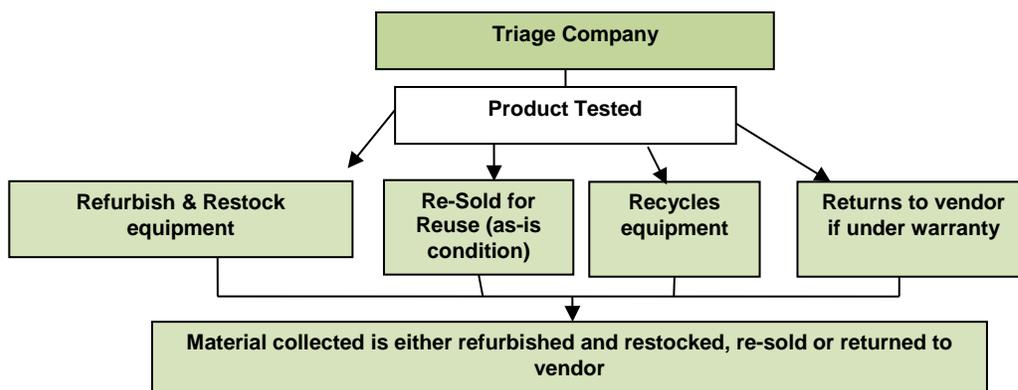
TELUS' triage of recovered equipment enables TELUS to follow the pollution prevention hierarchy, such as the regulation requires, to ensure pollution prevention is not undertaken at one level unless or until all feasible opportunities for pollution prevention at a higher level have been taken. All of the aspects of pollution hierarchy are achieved by TELUS through the following processes:

**Reduce the environmental impact of producing the product by eliminating toxic components and increasing energy and resource efficiency** – Although TELUS is not a manufacturer of equipment, environmental considerations are important to TELUS when purchasing products. TELUS endeavors to work with our manufacturers to use minimal packaging, use FSC certified paper, utilize green components and consider additional environmental aspects when purchasing products.

**Redesign the product to improve reusability or recyclability** - 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 (CSR) requirements in RFPs when selecting vendors.

**Eliminate or reduce the generation of unused portions of a product that is consumable** - During our triage process, in demand consumer products are evaluated to determine whether it is economically viable to repair the product. Those that are deemed beyond economic repair are harvested for reusable components thus reducing the requirement for purchasing new parts or new complete products. Any remaining unusable parts or housing is sent to our recycler where the components are further dismantled, then recycled.

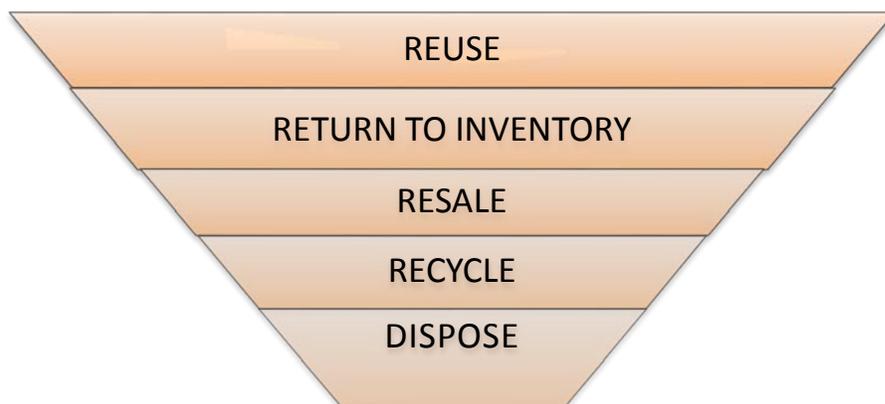
**Reuse, recycle and recover energy** - By virtue of the triage system TELUS utilizes for its electronics, pollution hierarchy is considered throughout the process. All recovered items are reused where possible and recycling is used as the last resort. TELUS defines what items are to be refurbished for reuse; what equipment can be sold for reuse; what is to be returned to our vendor under warranty; and what products must be recycled. The diagram below illustrates how the product is triaged and includes associated percentage.



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

- Reuse: These are FFH devices that are either reused by TELUS or sold for the purpose of reuse or refurbishment for reuse.
- Recycle: These are products that are processed into an End of fate commodity (e.g. Ferrous Steel, Plastics, Aluminum, Copper, Glass, Lead, etc.).
- Recover into energy: There currently are no processes for recovery into Energy although TELUS closely monitors developments in this industry.
- 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.

#### Disposition Hierarchy



#### Estimated Product End of Fate Data for the year ended December 31, 2016

Product Type	Reuse (%)	Recycle (%)	Recovery (%)	Residual (%)	Unknown (%)
TELUS TV Equipment	63%	37%	0	0	0
TELUS TV Accessories	40.6%	59.4%	0	0	0
Network Equipment	45%	55%	0	0	0
Telsets	4%	96%	0	0	0
GPS	90%	10%	0	0	0
Batteries <2 kg	0	100	0	0	0
Batteries >2 kg	0	100	0	0	0

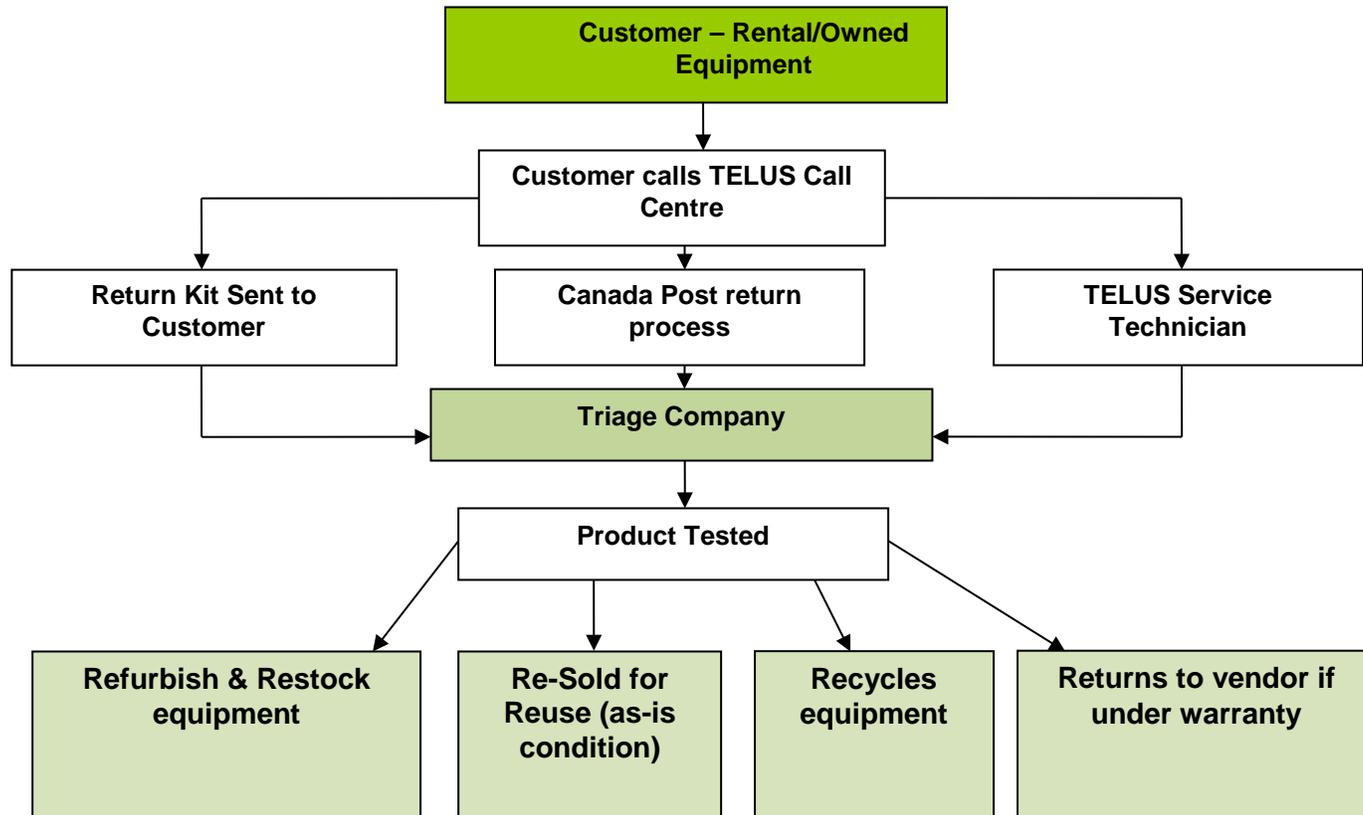
TELUS' processor that recycles our end of life electronic products are third party accredited with ISO 14001 and ISO 9001 certification, RQP (Recycler Qualification Program), R2 certification – Responsible Recycling Practices, and other certifications. The recycler of our lead acid batteries processes are regulated by the BC Ministry of the Environment, as well as industry associations.

Our 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 2016

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)
Telsets		100%	Processed for material recovery (metals, precious metals, plastics)
GPS		100%	Processed for material recovery (metals, precious metals, plastics)
Network Equipment		100%	Processed for material recovery (metals, precious metals, plastics)
Batteries <2 kg		100%	Processed for material recovery (nickel, cobalt, cadmium, lead, iron, copper, stainless steel)
Batteries >2 kg	71%	29%	Processed down to commodities for reuse or further processing (lead, acid, plastic, sulfur)

Appendix A: Customer – Equipment Flow



**Appendix B: Canada Post – Prepaid Way Bill: Rental or Owned Returns**

The pre-printed information in red identifies the TELUS account with Canada Post. This should not be confused with the client's account information.

Client fills out the fields noted in light blue, and if they have been issued an RMA, it should be added to the "Sender's Ref." field noted in green.

From Expéditeur		Telephone No. N° de téléphone	
Customer No. N° du client		Agreement No. N° de convention	
SAMPLE ONLY			
City Ville		Prov. Postal Code Code postal	
To Destinataire		Telephone No. N° de téléphone	
TELUS 12345 ABC Road, Richmond,		BC	

**Signature Required**  
Signature requise

Sender warrants no dangerous goods enclosed and agrees to terms and conditions on reverse.

L'expéditeur garantit que cet envoi ne contient pas de matières dangereuses et accepte les conditions indiquées au verso.

**1** 908

**Bill of Lading / Connaissance**

Billed facturé <input type="checkbox"/>	Paid by meter Payé par compteur <input type="checkbox"/>	Weight Poids	Total Meter Amount Valeur totale de l'impression
		kg	\$
Oversize/Unpackaged Surdimensionné / Sans emballage <input type="checkbox"/>	Mailing Tube Tube d'expédition <input type="checkbox"/>	Volumetric Weight Poids volumétrique	
		kg	
Sender's Ref. Client enters RMA number here (if applicable)	Ref. de l'expéditeur	Declared Value for Coverage	Valeur déclarée pour couverture
		\$	
Sender's Signature	Signature de l'expéditeur	Site No.	N° du bureau
Accepted by	Accepté par	Date	
		YA	YA YA YA NM MM DJ DJ

FOR DELIVERY CONFIRMATION / POUR CONFIRMER LA LIVRAISON

www.canadapost.ca / www.postescanada.ca or/ou 1 888 550-6333

ITEM REFERENCE NO. / N° DE RÉF. DE L'ARTICLE: 102412206

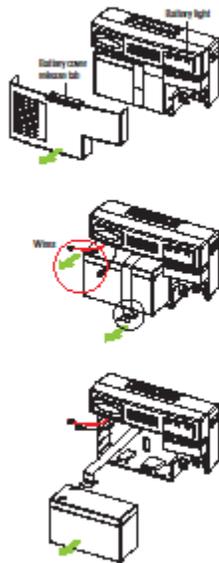
TA 023 150 445 CA

**Appendix C: TELUS RENTAL RETURN KIT**



## Appendix D:

## TELUS Home Phone service: battery replacement



### Follow the steps below to replace your battery:

1. Remove the battery cover.
2. Loosen and unclip the velcro battery strap.
3. Remove the battery and disconnect the wires.  
**CAUTION: Battery is heavy**
4. Connect the coloured wires to the corresponding colour of the connecting terminal on the top of the battery.
5. Slide the battery into the power unit and tighten the velcro battery strap.
6. Check that the battery light shines green and attach the battery cover.  
If the battery light does not shine green, check that the battery wires are connected properly. If after 24 hours of charging in your power unit the battery light is still not green, please contact TELUS at 310-5588.

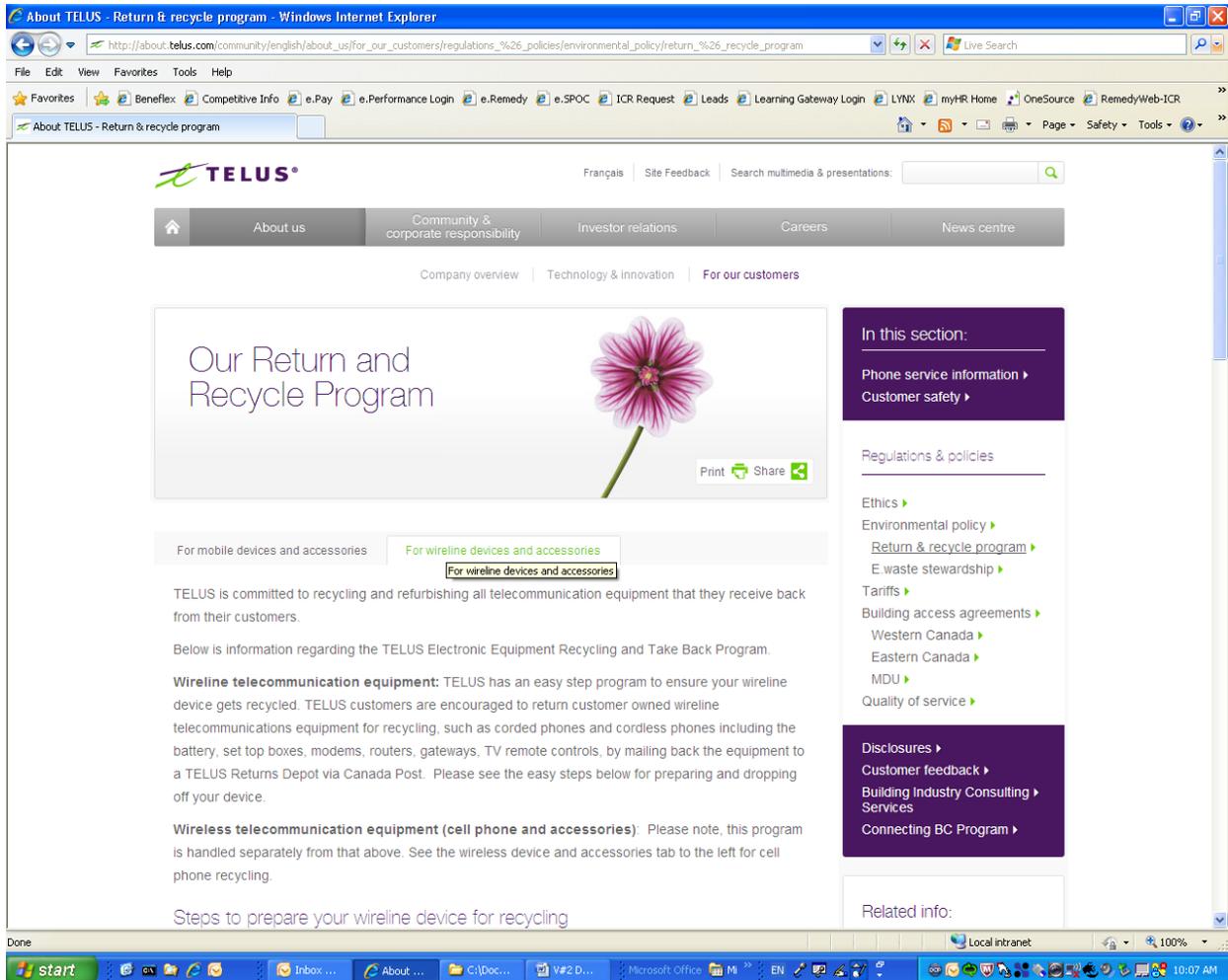
### Returning your old battery

1. Place the old battery into the shipping box the replacement battery arrived in or select an appropriate box to hold the battery safely. Seal the box closed.
2. Affix the enclosed Canada Post return mailing label to the box. Be sure to remove or cover up all existing labels on the box.
3. Drop the box off at your nearest Canada Post location.



**Appendix E: Website Education**

**TELUS Return and Recycle Program**



**Appendix F: Public Consultation****Consultation**

TELUS consulted with relevant stakeholders in the development of our 2017 five year review of our Stewardship Plan, including the following organizations and groups. Public consultation was open for 45 days (November 1 – December 15) and 3 responses were received during that time.

Abbotsford Community Services Recycling	Mayne Island Recycling Society
Alberni-Clayoquot Regional District	Metro Vancouver
BC Ministry of Environment	Nanaimo Recycling Exchange
BC Product Stewardship Council	North Shore Recycling Depot
BC Technology Industry Association	Northern Environmental Action Team
Bell Canada	Nu Life Industries Inc.
Business Council of BC	Peace River Regional District
Call2Recycle	Planet Earth Recycling Ltd.
Canadian Consumer Specialty Products Association of Canada	Powell River Regional District
Canadian Plastics Industry Association, West	Product Care
Canadian Wireless Telecommunications Association	Raw Materials Company
Capital Regional District	Recycling & Environmental Action Planning Society
Cariboo Regional District	Recycling Council of BC
Central Coast Regional District	Regional District of Bulkley-Nechako
City of Burnaby	Regional District of Central Kootenay
City of Kelowna	Regional District of Central Okanagan
City of Nanaimo	Regional District of East Kootenay
City of New Westminster	Regional District of Fraser-Fort George
City of Port Moody	Regional District of Kitimat-Stikine
City of Quesnel	Regional District of Kootenay Boundary
City of Surrey	Regional District of Mount Waddington
City of Richmond	Regional District of Nanaimo
City of Vancouver	Regional District of North Okanagan
Coast Waste Management Association	Regional District of Okanagan Similkameen
Columbia Shuswap Regional District	Retail Council of Canada
Comox Valley Regional District	Ridge Meadows Recycling Society
Corporation of Delta	Shaw
Cowichan Valley Regional District	Skeena Queen Charlotte Regional District
Delta Recycling Society (Earthwise Society)	Southern Gulf Islands Recycling Coalition
Ecycle Solutions	Squamish-Lillooet Regional District
Electronic Product Recycling Association of BC (EPRA-BC)	Strathcona Regional District
Fraser Valley Regional District	Sunshine Coast Regional District
GEEP	SWANA BC Chapter
Gibsons Recycling Depot	Thompson-Nicola Regional District
Hewlett-Packard	Retriev Technologies
International Centre for Sustainable Cities	Union of BC Municipalities

**Response #1: Alberni-Clayoquot Regional District**

The contact at the Alberni-Clayoquot Regional District commented that she was not aware of TELUS' Stewardship Plan.

[TELUS Response] TELUS explained that TELUS developed its Plan in 2010 and amended it in 2012 to include phase 4/5 products, and have been reporting the recovery data annually. The Regional District was also provided data on how much material was recovered thru our Stewardship Plan from customers in their District during the 2016 reporting year.

**Response #2: Metro Vancouver**

On page 2, it says that TELUS has joined the Electronic Products Recycling Association (EPRA) to manage mobile phones and devices. Other products, such as PVRs are collected within TELUS' recycling program, including competitors' equipment. Please provide further explanation about how TELUS coordinates with EPRA and other Stewardship Programs to ensure that collected materials are not double-counted and that declared performance measures are accurate.

[TELUS Response] TELUS joined the EPRA for strictly mobile phones and related accessories. We do not report on any mobile devices collected to the BC Ministry of Environment and therefore are not double counting. In-program

*devices received via our Returns Depots are only reported by TELUS including reporting on devices returned by Regional District so that the Regional Districts can see how our program is diverting devices from their recycling depots. Competitor's equipment received is not counted for reporting purposes either.*

#### Pollution Prevention Hierarchy

On Page 10, the Plan identifies that only 2% of collected materials are recycled, and that significant amounts of collected materials are refurbished and reused. Another channel for returned materials is back to vendors for warranty claims. How much of the collected materials are returned to vendors? Does TELUS have any knowledge of the end fate of materials returned to vendors? (e.g., how much is reused, recycled or disposed?)

*[TELUS Response] 6.6 metric tonnes of warranty devices were sent to our OEMs in the 2016 reporting year. We do exclude the warranty returns data from our recovery rate as many are still in progress (i.e. disposition not yet determined) or some devices sent to OEM in 2015 were returned in 2016 thus not giving a true recovery rate. We do receive the data however, as stated we do not report it for these reasons.*

#### **Response #3: Call2Recycle**

Call2Recycle identified that although TELUS is paying our 3<sup>rd</sup> party battery recycler to provide the single use battery recycling service, the 3<sup>rd</sup> party was using Call2Recycle to dispose of the batteries collected via our customer returns at zero cost.

*[TELUS Response] A meeting was held with Call2Recycle to discuss. Due to a recent change in the Regulations, TELUS must now either send our SLA batteries to Call2Recycle directly on user a fee-base, or use a 3<sup>rd</sup> party that uses a different battery recycler than Call2Recycle. We are meeting again in the new year to discuss pricing if we were to use Call2Recycle as a direct service provider.*

**Appendix G: Summary of Performance Measures/Targets**

Measures	Targets/Goal				
	2016	2017	2018	2019	2020
<b>Recovery/Collection</b>					
Collection quantity (subject to non-financial assurance)	75%	75.5%	77.5%	80%	82.5%
<b>Collection System</b>					
Number of collection depots	<ul style="list-style-type: none"> <li>14 collection facilities (subject to non-financial assurance)</li> </ul>				
Accessibility	<p>There is no specific access target. However, 100% of TELUS clients have access to return collection facilities/systems.</p> <p><b>Collection of products though:</b></p> <p><b>Household clients:</b></p> <ul style="list-style-type: none"> <li>TELUS service technicians / Canada Post (pre-paid waybills provided)</li> </ul> <p><b>Business clients</b></p> <ul style="list-style-type: none"> <li>TELUS service technicians / Courier shipment (pre-paid)</li> </ul>				
Consumer Awareness	No specific awareness target. 95% of equipment rented by TELUS client's materials must be returned to TELUS under rental agreements.				
Management of Environmental Impacts of the Program	All electronics processors maintain R2 certification				
Pollution Prevention Hierarchy	Target all products for collection and management according to the reuse or recycle level in the Pollution Prevention Hierarchy				