



June 26, 2017

Independent Reasonable Assurance Report

To the Directors of TELUS Communications, Inc. on selected non-financial information included in the TELUS Communications, Inc. 2016 Annual Report to the Director

Scope

We have been engaged by TELUS Communications, Inc. (“TELUS”) to perform a reasonable assurance engagement in respect of the following information (the “Selected Information”) detailed in Appendix A, and also included within the TELUS 2016 Annual Report to the Director (the “report”), Environmental Quality Branch, Ministry of the Environment (“MOE”) for the year ended December 31, 2016:

1. The location of collection facilities, and any changes in the number of collection facilities from the prior year in accordance with Section 8(2)(b) of the British Columbia Regulation 449/2004 Recycling Regulation (“Recycling Regulation”);
2. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation;
3. The total amount of the producers’ product sold and collected and the recovery rate for the year ended December 31, 2016 in accordance with 8(2)(e) of the Recycling Regulation; and
4. The performance for the year in relation to targets in the approved stewardship plan under Section 8(e) in accordance with Section 8(2)(g) of the Recycling Regulation.

Responsibilities

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Our responsibility is to carry out an independent reasonable assurance engagement and to express an opinion on the Selected Information based on the procedures we have performed and the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with the International Standard on Assurance Engagements ISAE 3000 Revised (“ISAE 3000”), *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, published by the International Federation of Accountants, and the *Guide to Third party Assurance Requirements for Non-Financial Information in Annual Reports*, dated February 2016 (“Assurance Requirements”), published by the MOE.

TELUS Communications, Inc.

TELUS is responsible for the preparation and presentation of the Selected Information in accordance with the evaluation criteria as listed in Appendix A. Management and the members are responsible for such internal control as management determines is necessary to enable the preparation of the Selected Information such that it is free from material misstatement. Furthermore, management is responsible for preparation of suitable evaluation criteria in accordance with the Assurance Requirements as specified by the Director under section 8(2)(h) of the Recycling Regulation.

Management are responsible for providing us with information about any frauds (including alleged and/or suspected instances of fraud) or illegal (or possibly illegal) acts communicated by employees, former employees, or contractors and all related known facts known by management that may relate to the

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Selected Information. TELUS is also responsible for demonstrating adherence to the Recycling Regulation as outlined within Section 1 of the Report.

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 behaviour.

Our firm applies the International Standard on Quality Control 1, 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.

Methodology and Assurance Procedures

We conducted our reasonable assurance engagement in accordance with ISAE 3000 (Revised). This standard requires that we comply with independence requirements and plan and perform the engagement to obtain reasonable assurance about whether the Selected Information is free of material misstatement.

A reasonable assurance engagement includes examining, on a test basis, evidence supporting the amounts and disclosures within the Selected Information. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement in the Selected Information due to omissions, misrepresentation and errors. In making those risk assessments, we consider internal controls relevant to the entity's preparation and fair presentation of the Selected Information in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the entity's internal control. A reasonable assurance engagement also includes assessing the evaluation criteria used and significant estimates made by management, as well as evaluating the overall presentation of the Selected Information.

Our procedures included a mix of:

- Obtaining an understanding of the management systems, processes, and controls used to generate, aggregate and report the data;
- Testing relevant documents and records on a sample basis;
- Testing and re-calculating quantitative information related to the Selected Information on a sample basis; and,
- Reviewing the consistency of the Selected Information with the related disclosures in the Annual Report to the Director.

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

Inherent limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the Selected Information and the methods used for determining and calculating such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments. Furthermore, the nature and methods used to determine such information, as well the evaluation criteria and the precision thereof, may change over time. It is important to read our report in the context of evaluation criteria.

Conclusion

In our opinion, the Selected Information for the year ended December 31, 2016 presents fairly, in all material respects, in accordance with the evaluation criteria listed in Appendix A:

1. The location of collection facilities, and any changes in the number of collection facilities from the prior year in accordance with Section 8(2)(b) of the Recycling Regulation;
2. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation;
3. The total amount of the producers' product sold and collected and the recovery rate for the year ended December 31, 2015 in accordance with 8(2)(e) of the Recycling Regulation; and
4. The performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(e) in accordance with Section 8(2)(g) of the Recycling Regulation.

Emphasis of matter

Without qualifying our opinion, we draw your attention to Appendix B, which describes why certain items required by the Assurance Requirements have been excluded. Our opinion is not qualified in respect of this matter.

Other matters

Our report has been prepared solely for the purposes of TELUS' compliance with the reporting requirements relating to Sections 8(2)(b), (d), (e) and (g) of the Recycling Regulation and is not intended to be and should not be used for any other purpose. Our duties in relation to this report are owed solely to TELUS, and accordingly, we do not accept any responsibility for loss occasioned to any other party acting or refraining from acting based on this report.

TELUS is responsible for their website and we do not accept responsibility for any changes that may have occurred to the reported subject matter information or criteria since they were initially presented on the website.

Our opinion does not constitute a legal determination on TELUS' compliance with the Recycling Regulation.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Chartered Professional Accountants

Appendix A – Findings and Evaluation Criteria

1. The location of collection facilities, and any changes in the number and location of collection facilities from the previous report as presented in Section 4 on page 7 of TELUS' 2016 Report to the Director, Environmental Quality Branch, MOE.

The number of collection facility locations is 14 (2015: 12).

During the year, TELUS started using the services of Archway, Mississauga, ON and Happy Stan's Recycling, Port Coquitlam, BC. TELUS also stopped using the services of Great Western Metals, Abbotsford, BC.

Reference: page 7 of the TELUS Annual Report to the Director 2016.

Evaluation Criteria:

- Reporting Period: January 1st to December 31st;
- The number of collection facilities is obtained from the list of collection facilities as of December 31, 2016;
- The number of collection facilities includes any collection facility used by TELUS during the Reporting Period, even if their services were only used for part of the year;
- The changes in the number of collection facilities are tracked and a summary of changes is provided at the end of the year.

Definitions:

- "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 a 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., Telmar, CTDI and GEEP;
 - o Processors - e.g., GEEP, Metalex, Edmonds Recycling, CCon Metals;
 - o Spare Central Stock – e.g., CTDI warehouse location for spare network equipment; or
 - o Redeployment Centres/Forward logistics - e.g., TELUS, CTDI and Telmar 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. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation as presented in Section 6 on page 10 of TELUS' 2016 Report to Director, Environmental Quality Branch, MOE.

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, 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

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		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)

Reference: page 12 of the TELUS Annual Report to the Director 2016.

Evaluation Criteria:

- Reporting Period: January 1st to December 31st;
- Collection facilities provide management with weight ticket confirmations;
- Management compile the estimated product end of fate data using these confirmations.

Definitions:

- “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 Aluminum, 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. The total amount of the producer's product sold and collected and the recovery rate as presented in Section 7 on page 12 of TELUS' 2016 Report to Director, Environmental Quality Branch, MOE.

Total amount of producer's product sold is estimated as 1,027 mt

Total amount of producer's product collected is estimated as 818 mt

The recovery rate is reported under criteria 4 below.

Reference: page 13 of the TELUS Annual Report to the Director 2016.

Evaluation Criteria:

- Reporting Period: January 1st to December 31st;
- Producer's product sold is calculated by selecting product SKUs relating to TELUS' Annual Report to the Director for the reporting period and running a report;
- Producer's product sold utilises warehouse daily shipping reports uploaded to TELUS' SAP system;
- Quantification of producer's product collected is based on annual reports generated by the collection facilities for the Reporting Period and includes delineation of the Program Products by province of origin.
- Producer's product collected is reported as a weight. Conversion factors used for converting number of units to weight are from calculated based on the average weight of the electronic. The weights are provided by the collection facilities that receive the electronic.

Definitions:

- "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 Cordless phones and corded desktop, VOIP phones and analogue terminal adapters;
 - o Public Access Equipment;
 - o Obsolete network infrastructure equipment (switches, servers), External customer networks, Servers, Optical network termination equipment, Internet equipment (routers, modems), Network cards;
 - o Video and teleconferencing equipment;
 - o TV equipment (PVRs, receivers, remote controls), Satellite TV equipment;
 - o Global Positioning Systems (GPS);
 - o Batteries; and
 - o Cables/accessories.
- Products not included in the program are mobile devices and their associated accessories.

4. The performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) in accordance with Section 8(2)(g) of the Recycling Regulation as presented in Section 9 on page 14 of TELUS' 2016 Report to Director, Environmental Quality Branch, MOE.

TELUS achieved a 79.59% recovery for the year ended December 31 2016 compared with a target of 75%.

Evaluation criteria:

- Reporting Period: January 1st to December 31st;
- Target recovery rate per TELUS Communications Company 2012 Amended BC Electronic Equipment Stewardship Plan.
- Recovery rate is calculated as:
$$\text{Total weight of units collected} / \text{Total weight of units distributed (sold)}$$

Appendix B to the Assurance Report

TELUS has not reported its performance for the year in relation to approved targets under 8(2)(b) or 8(2)(d) in accordance with 8(2)(g) of the Recycling Regulation for the year ended December 31, 2016 as there are no specific related targets in the approved stewardship plan.