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## Independent Accountants' Review Report

To the Management of Verizon Communications Inc.

We have reviewed Verizon Communications Inc.'s (Verizon) Schedule of Scope 3 Greenhouse Gas Emissions (the Subject Matter) included in the Appendix for the years ended December 31, 2020 and December 31, 2019 in accordance with Verizon's criteria, also set forth in the Appendix (the Criteria). Verizon's management is responsible for the Subject Matter included in the Appendix, in accordance with the Criteria. Our responsibility is to express a conclusion on the Subject Matter based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements*. Those standards require that we plan and perform our review to obtain limited assurance about whether any material modifications should be made to the Subject Matter in order for it to be in accordance with the Criteria. A review consists principally of applying analytical procedures, making inquiries of persons responsible for the Subject Matter, obtaining an understanding of the data management systems and processes used to generate, aggregate and report the Subject Matter and performing such other procedures as we considered necessary in the circumstances. A review is substantially less in scope than an examination, the objective of which is to obtain reasonable assurance about whether the Subject Matter is in accordance with the Criteria, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. A review also does not provide assurance that we became aware of all significant matters that would be disclosed in an examination. We believe that our review provides a reasonable basis for our conclusion.

In performing our review, we have also complied with the independence and other ethical requirements set forth in the Code of Professional Conduct and applied the Statements on Quality Control Standards established by the AICPA.

As described in the Appendix, the Subject Matter is subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Based on our review, we are not aware of any material modifications that should be made to the Schedule of Scope 3 Greenhouse Gas Emissions for the years ended December 31, 2020 and December 31, 2019 in order for it to be in accordance with the Criteria.

August 23, 2021

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Appendix

# Verizon Communications Inc.

## Schedule of Scope 3 Greenhouse Gas Emissions

Indicator Name	Unit	For the year ended	
		12/31/2019	12/31/2020
Scope 3 greenhouse gas (GHG) emissions	MT of CO <sub>2</sub> e	16,954,198	15,640,414

# Criteria

## Reporting Boundaries

Verizon applies the minimum boundary for Scope 3 emissions as defined by The Greenhouse Gas Protocol Scope 3 Value Chain Reporting Standard and The Greenhouse Gas Protocol Scope 3 Technical Guidance.

Verizon works to capture all of its greenhouse gas (GHG) emissions. However, it is not always possible to obtain all of the necessary information to complete all segments of the inventory. When information cannot be obtained in a timely manner, Verizon uses extrapolations to provide the most complete inventory possible. As data becomes available identifying additional material sources of emissions, they will be incorporated into the inventory. Certain emissions sources are currently excluded from the annual inventory, which are less than the materiality threshold indicated by The Greenhouse Gas Protocol Corporate Standard of five percent of the sum of Scope 1, 2 and 3 emissions.

## Scope 3 GHG emissions

Category	Methodology	Emissions factors	Exclusions
1 – Purchased goods & services 2 – Capital goods	<p>Hybrid method:</p> <ul style="list-style-type: none"> <li>Approximately 85% of emissions were calculated using an economic input-output (EIO) model, which accounts for the average GHG emissions per US dollar of economic value generated by major sectors of the US economy. Emissions are calculated by collecting Verizon’s spend data with suppliers on a cash basis (i.e., the economic value received by the reporting company), associating spend with product categories defined as of year-end and matching them against sectors covered by the EIO model.</li> <li>Approximately 15% of emissions were calculated using a lifecycle assessment approach (LCA) which applies a product specific emissions factor, including the embodied emissions for specific devices, to the number of units purchased.</li> </ul>	<ul style="list-style-type: none"> <li>This EIO model uses emissions factors adapted by Carbon Trust (EIO emissions factors).<sup>1</sup></li> <li>LCA factors obtained from IVL<sup>2</sup> or suppliers based on representative devices.</li> </ul>	<ul style="list-style-type: none"> <li>Supplier spend for Verizon India</li> </ul>
3 – Fuel and energy related activities	<p>Emissions from fuel and energy related activities not included in scope 1 or 2 are calculated by using the fuel and electricity consumption figures reported for scope 1 and 2, with the relevant scope 3 well-to-tank and transmission and distribution emissions factors applied to each of those energy sources.</p>	<ul style="list-style-type: none"> <li>US EPA eGRID</li> <li>IEA CO<sub>2</sub> Emissions from Fuel Combustion Highlights Report, “CO<sub>2</sub> emissions per kWh from electricity generation” Table</li> </ul>	

<sup>1</sup> The analysis is based on financial spend and GHG emission factors, calculated per USD of economic value. The Carbon Trust database has a collection of economic input-output emission factors for 430 sectors of the economy. These factors are in units of kg CO<sub>2</sub>e per USD, allowing the conversion of spend in a given sector to carbon emissions. They are further broken down into emissions from Scope 1&2, purchased goods and services, and upstream transportation and adjusted for applicability to category 1 boundaries. To account for the changes in emissions efficiency (for example, grid decarbonization) and inflation since the database was created, the EIO emission factors are updated accordingly, using changes in efficiency and inflation. This value is the kg CO<sub>2</sub>e improvement per purchasing power parity (PPP) of GDP. Therefore, it accounts for both changes in emissions efficiency and PPP.

<sup>2</sup> IVL Swedish Environmental Research Institute from [www.ivl.se/vart-erbjudande/forskning.html](http://www.ivl.se/vart-erbjudande/forskning.html)

Category	Methodology	Emissions factors	Exclusions
		<ul style="list-style-type: none"> <li>UK Department for Environment Food &amp; Rural Affairs (DEFRA) GHG conversion factors for company reporting</li> </ul>	
4 & 9 – Upstream and downstream transportation and distribution	Upstream transport and distribution emissions are calculated using individual shipment routes to the US. The data for each route includes the transport mode, number of shipments, total weight of shipments, and distance. Where shipment data is not available, the number of shipments was estimated based on average shipments per tonne for similar transport modes.	<ul style="list-style-type: none"> <li>UK DEFRA GHG conversion factors for company reporting</li> </ul>	<ul style="list-style-type: none"> <li>Vendor managed transportation is excluded.</li> <li>Same day shipping/courier service and domestic inter-office shipping are excluded.</li> </ul>
5 – Waste in operations	Emissions from waste generated in Verizon's operations are calculated using weight of waste for lead acid batteries, other batteries, paper/cardboard, telecom equipment, municipal recycling, and landfill. Emissions factors used account for the end of life treatment of the waste, as well as the waste category.	<ul style="list-style-type: none"> <li>UK DEFRA GHG conversion factors for company reporting</li> </ul>	
6 – Business travel	<p>Emissions from business travel are calculated as follows:</p> <ul style="list-style-type: none"> <li>Air and rail travel emissions are calculated based on miles traveled.</li> <li>Ground transportation, hotel and lodging emissions are calculated based on car rental and car service spend using the EIO model.</li> </ul>	<ul style="list-style-type: none"> <li>UK DEFRA GHG conversion factors for company reporting</li> <li>EIO emissions factors</li> </ul>	<ul style="list-style-type: none"> <li>Air and rail transactions classified as “unknown” by the travel agency are excluded from the reported figure.</li> <li>Emissions related to ride sharing or use of employee vehicles are excluded.</li> <li>Travel booked outside of approved vendors is excluded.</li> </ul>
7 – Employee commuting	<p>For 2019 and 2020, emissions from employee commuting are estimated using company employee information. A staff survey was conducted in 2016, which collected information on commuting transport modes, distance, and frequency, for a non-statistical sample of Verizon employees. The emissions from these routes were calculated and averaged for each location (country and state). These average emissions were then applied to the employee numbers as of fiscal year end.</p> <p>For 2020, teleworking emissions were estimated based on the results of third-party surveys applied to Verizon's employee headcount.</p>	<ul style="list-style-type: none"> <li>UK DEFRA GHG conversion factors for company reporting</li> </ul>	
8 – Upstream leased assets	Verizon has no upstream leased assets. All leased assets within our business are accounted for within our Scope 1 and 2 emissions.		

Category	Methodology	Emissions factors	Exclusions
10 – Processing of sold products	Verizon purchases finished goods for use within our operations and sales to customers. No further processing of products is routinely required throughout or operations.		
11 – Use of sold products	<p>Emissions from use of sold products are calculated for Verizon’s wireless and network products sold to customers. Products are grouped into categories and the lifetime energy consumption of each category was calculated based on one of two methodologies:</p> <ol style="list-style-type: none"> <li>1. The energy consumption was calculated using the battery capacity for a representative device and lifetime.</li> <li>2. Power consumption per day, which is based on information available or assumptions about the average usage profile of devices throughout a day and energy consumption figures for different modes, as well as lifetime. For the top three emitting product categories (approximately 85%), power consumption was obtained from product specifications. The choice of applicable methodology is based on available information.</li> </ol>	<ul style="list-style-type: none"> <li>• US EPA eGRID and adjusted eGRID factors over the lifetime of the product</li> </ul>	
12 – End of life of sold products	<p>End-of-life emissions from sold products are calculated for all of Verizon’s wireless and network products sold to customers. Products were grouped into categories and a representative weight per product is identified, which is multiplied by the total number of products sold to give a total weight per product type. The total weight was then multiplied by an end-of-life emissions factor for all devices, which was based on an average breakdown of waste type and waste disposal method for Verizon’s products.</p>	<ul style="list-style-type: none"> <li>• UK DEFRA GHG conversion factors for company reporting</li> </ul>	
13 – Downstream leased assets	Verizon has no downstream leased assets. All leased assets within our business are accounted for within our Scope 1 and 2 emissions.		
14 – Franchises	Franchises are not part of Verizon’s business model and therefore this category is not relevant.		
15 – Investments	Any owned properties/assets are tracked as part of our overall portfolio and emissions activities are tracked directly.		

**Note 1:** For 2019 and 2020 respectively, US EPA eGRID emissions factors are obtained from 2018 eGRID (released March 9, 2020) and 2019 eGRID (released February 23, 2021).

**Note 2:** For 2019 and 2020 respectively, IEA CO2 Emissions from Fuel Combustion Highlights Report, “CO2 emissions per kWh from electricity generation” Table emissions factors are obtained from 2017 IEA (released 2019) and 2018 IEA (released 2020).

**Note 3:** For 2019 and 2020 respectively, UK DEFRA GHG conversion factors for company reporting are obtained from 2019 DEFRA (released 2019) and 2020 DEFRA (released 2020).

## Emissions Reporting Standards

Verizon calculates scope 3 GHG based on the following standards:

- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition by the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD)

- The Corporate Value Chain (scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting Standard, by the WRI/WBCSD
- The Greenhouse Gas Protocol Scope 3 Technical Guidance
- The Science-based Targets Initiative Criteria Version 4.1, published April 2020

### Note on Non-Financial Reporting

Non-financial information is subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.