

**VMED O2 UK Limited**

**Green Bond Progress Report as at 31 December 2021**

**27 June 2022**

VMED O2 UK Limited  
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## **Introduction**

As per the VMED O2 Green Bond Framework (see below), VMED O2 UK Limited (the Company) presents its first Green Bond Progress Report (the Progress Report).

### **Virgin Media O2 Joint Venture**

Virgin Media O2 (the Joint Venture or VMED O2) launched on 1 June 2021, a 50:50 joint venture between Liberty Global plc and Telefónica SA, which brought together Virgin Media's operations in the United Kingdom (UK) (Virgin Media) with O2 Holdings' operations in the UK (O2 Group). The Company is the parent company of the Joint Venture through which Liberty Global plc and Telefónica SA hold their ownership interests. The Virgin Media and O2 Group operations are held through wholly-owned subsidiaries of the Company. One of the Company's wholly-owned subsidiaries, VMED O2 UK Financing I plc, issued the VMED O2 July 2021 Green Bonds (as defined herein), the Joint Venture's first issue of Green Bonds.

### **Sustainability in the Joint Venture**

Virgin Media and O2 Group both have strong track records of driving positive change for our people and planet. Through Virgin Media's Meaningful Connections Plan and O2 Group's Blueprint sustainability strategy, both companies had set long-term goals to reduce emissions, protect natural resources, and create a meaningful impact on society.

Following the Joint Venture's formation on 1 June 2021, we were able to begin the work of reviewing the existing programmes and developing a single sustainability programme for the newly combined operations. The Joint Venture launched its new sustainability programme, Virgin Media O2's Better Connections Plan, on 25 May 2022 and this is discussed in more detail below.

## **Virgin Media O2's Better Connections Plan**

Launched on 25 May 2022, Virgin Media O2's Better Connections plan underscores our commitment to make our business even better for people, communities and the planet. Our purpose, people and products will power stretching new goals around carbon, circularity and communities aiming to reduce our impact on the climate, eradicate electronic waste, and connect the disconnected:

- Enabling a zero-carbon future: we will use our digital know-how and infrastructure to help create a zero-carbon future, faster.
- Accelerating a circular economy: we will champion a zero waste and more circular technology sector, where material is valued and kept in use - again and again.
- Connecting the disconnected: we will boost digital inclusion, so that everyone can stay connected to the people they love and the services they rely on.
- Building a better business: we will create a leading inclusive workplace where everyone can be their best, proudly uphold our values, and get involved with local communities.

### **Enabling a zero-carbon future**

To prevent the worst impacts of climate change, we will all need to change the way we live and work - for the better, and for good. At Virgin Media O2, we believe that technology can play a pivotal role in the shift towards a decarbonised future, and have set two key goals to guide our climate action:

1. Greener Business – we are targeting net zero carbon in our full value chain, including our operations, products and supply chain, by 2040 (with interim targets for 2025 and 2030).

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2. Zero-carbon future – we will help accelerate the UK’s transition to net zero by using our products and services to help our customers avoid the use of 20 million tonnes of CO2.

To keep us on track, assess our progress and make sure we always act in line with climate science, we’re aligning with industry experts, organisations and coalitions - including the Science Based Target initiative’s (SBTi) Net-Zero Standard, The Carbon Trust’s Route to Net Zero Standard and The Climate Pledge. We’re also a member of the Climate Group’s EV100 initiative which will see us transitioning our fleet of more than 4,000 vehicles to electric vehicles by the end of 2030.

As well as mitigating our own climate impact, we’re also providing the connectivity foundations for smart cities, smart metering and autonomous vehicles that could save up to 20 million tonnes of carbon by 2025. To help small and medium businesses reduce their carbon emissions, we’ve launched a Net Zero Hub in partnership with the British Chambers of Commerce. And we’ll continue to educate and inform our customers about how they can live lower-carbon lives through our TV platform, advertising, venues and partnerships.

**Accelerating to a circular economy**

We believe that bold action needs to be taken to combat the growing problem of electronic waste (e-waste). We’re pledging to reduce the huge numbers of devices that end up in landfill every year by extending the life of the devices we sell and encouraging the reuse of products and raw materials. Our 2025 circularity targets are:

1. A zero waste future – we are targeting zero waste operations and products by making sure more than 95% of operational waste is recycled, and less than 5% will be incinerated.
2. Circular by design – we will enable 10 million circular solutions and actions to help customers tackle e-waste, from sustainably recycling devices, to sending back old kit and donating unwanted smartphones and tablets to people who need them.

We’ll take a ‘re-use first’ approach to our branded products, and reduce our reliance on virgin raw materials in new products; make sure that 100% of customer packaging for own-branded products is widely recyclable and contains zero single-use plastic; and reuse or recycle 100% of all returned customer and network equipment.

We’ll also seek to improve awareness of e-waste - and how customers can tackle it by recycling, rehoming old devices or buying second-hand through schemes such as O2 Recycle, Like New (refurbished devices), or our take back scheme for routers and set-top boxes.

**Help eradicate data poverty**

Our Better Connections plan sets out our ambitions to help eradicate data poverty, boost digital skills and improve digital literacy - connecting the disconnected across the UK so that everyone can participate in a digital society. Our aims are centred around two key 2025 targets:

1. Connect one million digitally excluded people through free and affordable connectivity programmes, tariffs and services.
2. Improve the digital skills and confidence of two million people, expanding its digital skills agenda with Good Things Foundation, and continuing to support parents and families to be safer online with Internet Matters. The company will also continue its partnership with Carers UK to improve unpaid carers’ access to digital tools, support and resources to make caring easier.

To raise awareness of data poverty, and take steps to make access to data fairer, we established the UK’s first ever National Databank in July 2021 with the Good Things Foundation. We’ve since launched

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Tech Lending Community Hubs - connecting community groups with data, devices and support - and our Community Calling scheme rehomes old smartphones, together with a year's worth of free data, to those in need.

We are also aiming to improve the digital literacy of one million people through tailored training that will help provide the digital skills and confidence needed to access essential online services. A national network of 5,000 digital inclusion hubs, co-ordinated through the Online Centres Network, will empower local communities in deprived areas to tackle exclusion and inequity.

Finally, our ongoing partnership with Carers UK will shine a spotlight on the mental health and wellbeing of unpaid carers and focus on developing the best digital tools to support them and make caring easier.

**A better way to do business**

At Virgin Media O2, we believe that how we do business matters. We're determined to champion inclusive, equitable values, create a great place to work, and ensure our partners and suppliers uphold our stringent ethical and environmental standards.

Our new diversity, equity and inclusion strategy, All In, has four 2027 ambitions to increase workplace inclusion:

1. To have equal representation of women and men in our senior leadership team.
2. To have driven forward progress for gender parity – including all gender identities and expressions.
3. 25% of the organisation will be from underrepresented ethnic groups.
4. 15% of the leadership team will be from underrepresented ethnic groups.

We'll introduce more family-friendly policies and offer support and flexibility to all employees so they have everything they need to be their best – both at work and in their personal lives. Employees can also play a greater role in the places they live through our Take 5 scheme which offers five paid volunteering days a year, with the ambition to support 1 million people in communities across the UK by 2025.

Building on our ethical sourcing expertise and using our spend to improve sustainability and social impact within our supply chain is also a key focus: we'll ensure that all major purchases commit contractually to defined sustainability requirements and aligned carbon reduction goals.

**VMED O2 Green Bond Framework (11 June 2021)**

**Overview**

As part of our commitment to a healthy environment, VMED O2 published its Green Bond Framework on 11 June 2021 (the VMED O2 Green Bond Framework). This provided the framework under which Green Bonds, as defined in the International Capital Market Association's (ICMA) Green Bond Principles 2021, can be issued.

The VMED O2 Green Bond Framework sets out the eligibility, selection and evaluation criteria of VM Eligible Green Projects (as defined therein) as well as the rules governing the management of the proceeds and reporting on project progress, impact reporting and external assurance. VM Eligible Green Projects are those that support our transition towards a net zero carbon and zero waste future

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for the UK in areas such as energy efficiency, eco efficient circular economy products, clean transport and renewable energy.

The VMED O2 Green Bond Framework requires that an amount equal to the net proceeds of any Green Bonds raised under the VMED O2 Green Bond Framework will be allocated to finance or refinance VM Eligible Green Projects, as per the eligibility criteria and project selection process outlined in the VMED O2 Green Bond Framework. Once approved, such allocations have been reflected in our internal records in the Green Bond Register we have established.

The VMED O2 Green Bond Framework allows a look-back period of up to 36 months from the issuance of Green Bonds for the refinancing of VM Eligible Green Projects. In addition, VMED O2 intends to fully allocate an amount equal to the net proceeds from the issuance of Green Bonds to the financing and refinancing of VM Eligible Green Projects no later than 36 months after the issue of the Green Bonds.

Any portion of the net proceeds of a Green Bond that has not been allocated to VM Eligible Green Projects by the end of the 36 month period following the date of issue will be managed in accordance with our standard liquidity management practices, whereby funds may be invested in bank accounts, money market deposits or institutional money market funds.

For Virgin Media O2's initial Green Bond issue in early July 2021, this means the lookback period extends to July 2018 and the allocation of eligible spend against the net proceeds of circa £1.7 billion needs to be completed no later than June 2024.

### **Reporting**

The VMED O2 Green Bond Framework commits VMED O2 to making available reports covering the allocation of amounts to the VM Eligible Green Projects on an aggregate basis and at the level of the project portfolio, as well as impact reporting through a defined range of possible KPIs.

Following on from this first Progress Report, provided within one year of the date of the initial Green Bonds issue, VMED O2 intends to provide updated Progress Reports annually until full allocation of the net proceeds of any Green Bond outstanding has been achieved. Such Progress Reports will be prepared as at calendar year ends.

### **Underlying Guidance and Validation**

The VMED O2 Green Bond Framework is aligned with the ICMA Green Bond Principles 2021 and Sustainalytics, a leading global independent company in Environmental Social Governance ("ESG") research and rating provider, has provided a positive Second Party Opinion on the VMED O2 Green Bond Framework.

[KPMG's Assurance Report](#) on the Use of Proceeds as at 31 December 2021 and certain 2021 impact reporting metrics, which provide limited assurance using the assurance standard ISAE (UK) 3000, is available with this Progress Report on the Responsible Business section of the VirginMediaO2 Corporate website.

### **Governance Arrangements**

The VMED O2 Green Bond Framework identified Virgin Media's existing "Better for the Planet" steering committee as the body to oversee the selection and evaluation process of VM Eligible Green Projects in accordance with the VMED O2 Green Bond Framework's eligibility criteria. As part of the integration of the Joint Venture's operations, this responsibility was transferred to the Environmental Steering Committee (the Environmental SteerCo) that VMED O2 established.

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The Environmental SteerCo is comprised of senior representatives from relevant operational teams and supported by the Sustainability and Finance teams. It is chaired by VMED O2's Head of Environment, Climate and Nature and attended by VMED O2's Chief Technology Officer, a member of VMED O2's Leadership Team. The Environmental SteerCo has delegated the review and approval of proposed allocations of spend on VM Eligible Green Projects to a "Green Bond sub-group". The Green Bond sub-group is drawn from the Environmental SteerCo membership, with the Green Bond Registrar (a member of the VMED O2 Accounting & Reporting team) and a Treasury representative also included as invited participants. The Green Bond sub-group notifies the Environmental SteerCo of decisions made and provides feedback on its activities to the Environmental SteerCo at the latter's regular bi-monthly meetings.

**VMED O2 Green Bond Framework – status**

The VMED O2 Green Bond Framework issued on 11 June 2021 was developed ahead of the Joint Venture formation on 1 June 2021. This was a period in which legal restrictions prevented O2 Group and Virgin Media from developing a combined sustainability programme for the combined operations. As such, the focus of the VMED O2 Green Bond Framework was on Virgin Media's already existing sustainability strategy, the Meaningful Connections Plan, and eligible green projects in Virgin Media's operations (VM Eligible Green Projects). See the Appendix "Extract from VMED O2 Green Bond Framework: Virgin Media Eligible Green Projects".

Following on from the 25 May 2022 launch of Virgin Media O2's Better Connections Plan, VMED O2 is updating its Green Bond Framework to expand its scope to cover eligible green projects across the Joint Venture's combined operations (VMED O2 Eligible Green Projects). We expect the outcome of this update to be the identification of additional eligible green projects within the activities of the O2 Group operations contributed to the Joint Venture.

Once completed and approved, the revised VMED O2 Green Bond Framework will be submitted to Sustainalytics, the independent firm that reviewed the Initial Green Bond Framework, and they will be requested to provide a Second Party Opinion on the revised VMED O2 Green Bond Framework.

**Inaugural Green Bond Issue – the VMED O2 July 2021 Green Bonds**

The Joint Venture, through one of its wholly-owned subsidiaries VMED O2 UK Financing I plc, made its inaugural Green Bond issue in July 2021 with Net Proceeds of £1,689.1 million.

On 7 July 2021, we issued \$850.0 million principal amount of dollar denominated senior secured notes and £675.0 million principal amount of sterling denominated senior secured notes as Green Bonds under the VMED O2 Green Bond Framework. The senior secured notes were issued at par, mature on 15 July 2031 and bear interest at 4.75% and 4.50% respectively.

On 19 July 2021 we subsequently issued an additional \$550.0 million principal amount of the 2031 4.750% Dollar Senior Secured Notes at a premium of \$4.1 million. This brought the total issuance of these senior secured notes to \$1,400.0 million and £675.0m (together, the VMED O2 July 2021 Green Bonds).

The Net Proceeds of the VMED O2 July 2021 Green Bonds' total issuance of \$1,400.0 million principal amount and £675.0 million principal amount, translated using the spot foreign exchange rates on the date of receipt of the funds for the non-sterling denominated element, was £1,689.1 million net of bank fees and other third-party issue costs.

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The summary details of the VMED O2 July 2021 Green Bonds issued are as follows

	<b>USD</b>	<b>GBP</b>
Issuer		
Amount	\$1,400 million	£675 million
Interest Rate	4.75%	4.50%
Maturity Date	15 July 2031	15 July 2031
ISIN (Regulation S Global Note)	USG9444PAD45	XS2358483258
ISIN (144A Global Note)	US92858RAB69	XS2358483332
Overall Net Proceeds (£'m)	£1,689.1 million	

**Green Bonds in Issue as at 31 December 2021**

All of the VMED O2 July 2021 Green Bonds set out above remained in issue as at 31 December 2021.

**Eligible Green Project Allocations**

**Allocation of Eligible Spend against the Net Proceeds of the VMED O2 July 2021 Green Bonds**

As at 31 December 2021 expenditure on VM Eligible Green Projects of £999.4 million had been allocated against the Net Proceeds of the VMED O2 July 2021 Green Bonds:

Category	Description	Look-back or Prospective	Amount (£'m)	% of Net Proceeds
Energy Efficiency	Network expansion Jul 2018 – Dec 2020	Look-back	715.8 <sup>(1)</sup>	42.4%
Circular Economy	CPE <sup>(2)</sup> Screen and Refurbishment costs Jul 2018 – Jun 2021	Look-back	36.4 <sup>(1)</sup>	2.2%
Energy Efficiency	CPE <sup>(2)</sup> Purchases Jul 2018 – Dec 2020	Look-back	232.5 <sup>(1)</sup>	13.7%
Energy Efficiency	VM Business Projects - Network Virtualisation & Capacity Jul 2018 – Jun 2021	Look-back	14.7 <sup>(1)</sup>	0.9%
<b>Allocation as at 31 December 2021</b>			<b>999.4</b>	<b>59.2%</b>
<b>Spilt of Allocations as at 31 December 2021</b>				
Energy Efficiency		Look-back	963.0	57.0%
Circular Economy		Look-back	36.4	2.2%
			<b>999.4</b>	<b>59.2%</b>
Net proceeds used for Financing (Prospective)			0.0	0.0%
Net proceeds used for Re-financing (Lookback)			999.4	59.2%
			<b>999.4</b>	<b>59.2%</b>
<b>Unallocated net proceeds as at 31 December 2021</b>			<b>689.7</b>	<b>40.8%</b>

(1) KPMG, our independent assurance provider, has provided limited assurance over the selected information in this table denoted by the symbol (1) using the assurance standard ISAE (UK) 3000. See the separate "[KPMG Limited Assurance Report](#) to VMED O2 Limited on Use of Green Bond Proceeds and 2021 Impact Reporting metrics as at and for the year ended 31 December 2021" available with this Progress Report on the Responsible Business section of the VirginMediaO2 Corporate website.

(2) CPE: Customer Premises Equipment



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**Developments since 31 December 2021**

As a result of continuing work reviewing expenditure on VM Eligible Green Projects, additional proposed allocations of expenditure in the Energy Efficiency category from the Look-back period have been brought forward for review and approval by the Green Bond sub-group of the Environmental Steerco since the year end. Following the approval of these additional allocations, and as at the date of this report, 71.6% of the Net Proceeds of the VMED O2 July 2021 Green Bonds have been allocated. These allocations made since 31 December 2021 are outside the scope of KPMG’s limited assurance review opinion and will form part of the allocations to be assured by KPMG in connection with the 31 December 2022 Progress Report.

**Impact Indicator Reporting**

**Overview**

The direct environmental impact of VMED O2 is mainly related to our mobile and fixed networks, along with the mobility of our employees. The indirect environmental impact is related to the energy used for the production and use of our products and services. The mobile and fixed networks alone are responsible for more than 95% of our energy consumption.

Our networks are therefore a significant focus and spend on eligible green projects aiming at delivering energy efficiency in and through our fixed-line network accounted for 96% of the eligible spend allocated as at 31 December 2021, and is at 97% on a cumulative basis as at the date of this Progress Report.

**Impact Reporting**

To illustrate the overall impact of our efforts to address our environmental impact, through the VMED O2 Green Bond Framework we committed to providing impact indicators measured at the level of the overall business. For more information on our methodologies and definitions, see our “Environmental Reporting Criteria” as set out at:

<https://www.virginmedia.com/content/dam/virginmedia/dotcom/documents/corporate/Virgin Media Environmental Reporting Criteria External.pdf>

The Virgin Media Green Bond Framework listed the metrics below as possible indicators that might be included in our Progress Reporting. In the main these proposed metrics followed metrics already reported on a yearly basis as part of Virgin Media’s previous sustainability reporting:

- Tonnes of CO2e (scope 1 and 2) per Terabyte data
- Tonnes of CO2e (scope 1 and 2) per RGU <sup>(1)</sup>
- Tonnes of CO2e (scope 1 and 2)
- Electricity use (kWh) per Terabyte data
- Numbers of CPE (Set top boxes & modems) returned, re-used or re-cycled per annum
- Percentage of electric vehicles out of total owned and leased vehicle fleet at most recent year end <sup>(2)</sup>

**(1) Tonnes of CO2e (scope 1 and 2) per Fixed-line customer / RGU**

RGU, or “Revenue Generating Unit”, is a measure of the number of services delivered to a customer across the fixed-line network so, for example, a customer taking broadband internet, video and fixed-line telephony represents three RGU’s, a customer taking just broadband internet and video two RGU’s and so on.

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Following the formation of VMED O2, internal metrics have moved onto a “fixed-line customer” or “per fixed-line customer” basis rather than a “RGU” or “per RGU” basis. The move to fixed-line customer has also been reflected in non-financial KPI’s communicated in the Joint Venture’s Quarterly Earnings Releases. As such, the metric measuring the carbon intensity of serving our customer has presented on a by fixed-line customer basis, consistent with our external reporting.

**(2) Percentage of electric vehicles out of total owned and leased vehicle fleet at most recent year end**

This is 0.0% as at 31 December 2021. The switch of our fleet of vans and cars to electric or hybrid vehicles is a newly initiated project; the only electric vehicle on hand at 31 December 2021 was a trial vehicle. The first orders for electric vehicles for our fleet have been placed and are due to be delivered during the year ended 31 December 2022. Given this, no spend was allocated against proceeds with regard to electric vehicles as at 31 December 2021.

In addition, we committed to provide, on a best-efforts basis, a description of VM Eligible Green Projects funded by the net proceeds. This activity is discussed in the following section - see “Energy use and CO2 Emissions of the Fixed-line Network” and “Circular Economy for CPE”.

**Energy use and CO2 Emissions of the Fixed-line Network**

The metrics considered with regard to the environmental impact of our fixed-line network energy include the following:

	2021	2020	2019	2018
Tonnes of CO2e (scope 1 and 2) – location based	(1) 125,665	147,628	157,845	184,375
<i>year on year changes</i>	-14.9%	-6.5%	-14.4%	
<i>As a % of 2018</i>	68.2%	80.1%	85.6%	
Fixed-line customer relationships	5,768,300	5,626,700	5,518,100	5,509,400
<i>year on year changes</i>	2.5%	2.0%	0.2%	
Tonnes of CO2e (scope 1 and 2) per Fixed-line customer – location based	(1) 0.02179	0.02624	0.02860	0.03347
<i>year on year changes</i>	-17.0%	-8.3%	-14.5%	
<i>As a % of 2018</i>	65.1%	78.4%	85.5%	
Tonnes of CO2e (scope 1 and 2) per Terabyte of data – location based	(1) 0.0034	0.0047	0.0094	0.0138
<i>year on year changes</i>	-27.7%	-50.0%	-31.9%	
<i>As a % of 2018</i>	24.6%	34.1%	68.1%	
Electricity use (kWh) per Terabyte of data	(1) 12.58	15.23	29.57	38.38
<i>year on year changes</i>	-17.4%	-48.5%	-23.0%	
<i>As a % of 2018</i>	32.8%	39.7%	77.0%	

(1) KPMG, our independent assurance provider, has provided limited assurance over the selected information in this table denoted by the symbol (1) using the assurance standard ISAE (UK) 3000. See the separate [“KPMG Limited Assurance Report](#) to VMED O2 Limited on Use of Green Bond Proceeds and 2021 Impact Reporting metrics as at and for the year ended 31 December 2021” available with this Progress Report on the Responsible Business section of the VirginMediaO2 Corporate website.

We observe a positive development when assessing the period from 2018 to 2021 considering the relationship between data usage by our customers on our fixed-line network and the overall energy consumption and CO2 emissions (scope 1 and scope 2), as set out in the table above. Our energy consumption and CO2 emissions decrease during this period, despite the increase in fixed-line customers and fixed-line customer data traffic. We endeavour to run our fixed-line network in as energy efficient manner as we can and consider that by enabling high-speed connectivity we facilitate significant energy savings by end users across many sectors. While we acknowledge that expansion of our fixed-line network and increasing data flows from smart solutions and products may result in additional overall energy demands on telecommunications networks, we believe that the enabled savings outweigh the potential adverse effects of additional network demand.

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***Network Expansion***

During the 2018 to 2021 period we have invested in eligible green projects to extend the reach of our fixed-line network, and the high-speed connectivity it provides, to more households (Network Expansion). This Network Expansion has been a multi-year programme beginning in 2015. The Network Expansion allocations for the period July 2018 to December 2020 are drawn from the look-back period for the Green Bonds issued in July 2021. During the period covered by these allocations, the Network Expansion plan has delivered 233,000, 483,000 and 413,000 new gigabit capable connections, respectively. Over this time the cost per premise has reduced from >£800/premise to <£600/premise as build processes have been optimised to reduce construction disruption by using Openreach physical infrastructure where possible, thereby also reducing the environmental impact.

***Network Capability, Capacity and Life Cycle Management***

In addition to our Network Expansion activity, we have also invested in our existing fixed-line network to provide both capacity and capability to cope with increasing demand as well as investment in new technology and equipment to make our networks more efficient from the CPE (discussed below) through to the core network. The allocation related to Virgin Media Business' Network Virtualisation & Capacity projects is an example of this. Another example is our spend on the roll out of digital fixed-line telephony (VOIP) in place of traditional copper-based systems, known as 21<sup>ST</sup> Century Voice, which has been part of the allocations since the 2021 year end.

The investment in capacity and capability includes the completion in December 2021 of our project to provide gigabit connectivity across the whole of our fixed-line network and the 15.6 million premises it passes. This means gigabit speeds are now available to over half of all UK premises, with VMED O2 being the biggest current contributor to the UK Government's broadband target. We are currently evaluating historic spend in this area, along with other Capability, Capacity and Life Cycle Management activity, and would expect future eligible spend allocations from the look-back period to be identified.

In July 2021, VMED O2 committed to invest in a full fibre to the premises (FTTP) upgrade of our fixed-line network. Deployment of full fibre to the premises (FTTP) architecture across all network build to existing premises will support 10gbps symmetrical services in the near term and establishes the infrastructure across which future technologies can be deployed at higher speeds and capacities. Upgrade pilots were undertaken in late 2021 and the first quarter of 2022. Following completion of these pilots, VMED O2 has moved to deployment of full fibre across its fixed-line network with completion in 2028.

***Customer Premises Equipment Energy Efficiency***

The investment in CPE over the period from 1 July 2018 to 31 December 2020 per the "CPE Purchases Jul 2018 – Dec 2020" allocation above relates to purchases of new – and more energy efficient compared to the prior model in use – versions of TV set top boxes and wireless routers.

In addition to meeting the need for CPE for new customers, a portion of these purchases were to facilitate a programme to swap out existing TV set top boxes in late 2018 and 2019. The new V6 set top boxes purchased for the swap out typically used less than half the energy of the TV set top box they replaced. The Virgin 360 TV set top box launched in November 2020 is similarly more energy efficient than the previous model.

The Hub 3 and Hub 4 wifi routers purchased as part of the allocated eligible spend are also more energy efficient than the prior wifi routers when taking increased performance and functionality into account. In addition, the Hub 3 and Hub 4 wifi routers provide circular economy benefits through increased use of recyclable packaging and ease of end of life recycling planned into the design.

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In addition, in the fourth quarter of 2021, VMED O2 launched its new, next generation broadband router, called Hub 5, which comes with WiFi 6, the latest generation of wireless technology that brings faster and more reliable speeds. The Hub 5 product casing is built from 100% postconsumer recycled plastic.

**Circular Economy for CPE**

Eligible spend under the Circular Economy category of the VMED O2 Green Bond Framework includes the cost of “Electrical product take-back, repair and refurbishment to enable the reuse of customer products”. The allocations above include CPE Screen and Refurbishment costs for the look back period for the July 2021 Green Bond issue, i.e. July 2018 to June 2021.

When a customer disconnects from our fixed-line network services and returns our CPE, we will examine the CPE to determine if it can be re-used and, depending upon the outcome, either refurbish and repackage the CPE such that it can be (re)issued to a new customer or send the CPE for recycling

See the table below for the metrics we consider to monitor the environmental impact of our CPE screening:

	2021	2020	2019	2018
CPE Returned	1,635,335	1,506,406	1,871,158	1,966,608
Reduction (increase) in CPE awaiting screening	90,774	198,061	(117,069)	68,346
Total CPE - Refurbished for use / sent for Recycling	(1) 1,726,109	1,704,467	1,754,089	2,034,954
CPE Refurbished for use	1,440,325	1,317,150	1,163,298	913,684
CPE sent for Recycling	285,784	387,317	590,791	1,121,270
% of total refurbished	83%	77%	66%	45%
% of total sent for recycling	17%	23%	34%	55%

(1) KPMG, our independent assurance provider, has provided limited assurance over the selected information in this table denoted by the symbol (1) using the assurance standard ISAE (UK) 3000. See the separate “[KPMG Limited Assurance Report](#) to VMED O2 Limited on Use of Green Bond Proceeds and 2021 Impact Reporting metrics as at and for the year ended 31 December 2021” available with this Progress Report on the Responsible Business section of the VirginMediaO2 Corporate website.

The higher proportion of CPE sent for recycling in 2018 and 2019 reflects the programme to swap out TV set top boxes and replace them with V6 boxes as referred to above (See *Energy use and CO2 Emissions of the Fixed-line Network - Customer Premises Equipment Energy Efficiency*).

**External Assurance**

We engaged KPMG to undertake independent limited assurance, reporting to VMED O2 UK Limited, using the assurance standards International Standard on Assurance Engagements (UK) 3000 – ‘Assurance Engagements other than Audits or Reviews of Historical Financial Information’ (‘ISAE (UK) 3000’) for (i) the Use of Green Bond Proceeds and (ii) for selected environmental Impact Reporting metrics for the year ended 31 December 2021 (the Selected Information). [KPMG’s Assurance Report](#) on this engagement is available with this Progress Report on the Responsible Business section of the VirginMediaO2 Corporate website. KPMG has issued an unqualified assurance opinion.

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The level of assurance provided for in a limited assurance engagement is lower than a reasonable assurance engagement. In order to reach their reported conclusions for both this engagement, KPMG performed a range of procedures, a summary of which is included within the engagement's limited assurance report.

Non-financial performance information, GHG quantification in particular, is subject to more inherent limitations than financial reporting. It is important to read the Selected Information in the context of the full KPMG limited assurance statement on the Selected Information and VMED O2's reporting criteria as set out in Appendix 2 to the limited assurance report and as available on VirginMedia's website (see "Impact Reporting" above).






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**Extract from VMED O2 Green Bond Framework: Virgin Media Eligible Green Projects**


Under the VMED O2 Green Bond Framework issued June 11, 2021, VMED O2 uses Green Bonds to finance Eligible Green Projects of Virgin Media (“VM Eligible Green Projects”) that support Virgin Media’s transition to a net zero carbon and zero waste future for the UK.

Following the VMED O2 Green Bond Framework, and the ICMA Green Bond Principles (“GBP”) it incorporates, refinancing of VM Eligible Green Projects will have a look-back period of no longer than 36 months from the time of issuance. The net proceeds or an amount equal to the net proceeds raised through any green bonds will be allocated to the financing and refinancing of VM Eligible Green Projects as defined in this Framework.

A list of VM Eligible Green Projects that may be considered by Virgin Media is shown below, together with the category per the GBP (“GBP category”) and the alignment to the Sustainable Development Goals (“SDG”) adopted by the United Nations:

<b>GBP category</b>	<b>VM Eligible Green Projects</b>	<b>SDG Alignment</b>
Energy efficiency	<ul style="list-style-type: none"> <li>Rollout of full-fibre networks which underpin the UK’s digital revolution and enable smart cities, smart homes and smart transport systems</li> <li>Achieving target of PUE &lt;1.5 for data centres through our data centre energy efficiency and free cooling programme known as OREO (overall room energy optimisation)</li> <li>Rolling out digital fixed-line telephony (VOIP) in place of traditional copper-based systems, driving energy efficiencies</li> <li>Purchase of more power efficient Customer Premises Equipment (CPE) (CPE purchases also drive Circular Economy benefits including (i) increasing the recycled content in manufacture and (ii) maximising end of life recycling).</li> <li>LED swap-outs in technical and people sites</li> <li>Virtualisation of network delivering energy efficiency benefits</li> <li>Electrical power monitoring systems for the network</li> <li>Effective Life Cycle management of electrically powered Network, Technical site and IT assets</li> <li>Vehicle fuel efficiency software</li> </ul>	  
Renewable energy	<ul style="list-style-type: none"> <li>Sourcing renewable electricity to power our network and increase market demand for renewable generation</li> <li>On-site renewable power generation to reduce grid dependency and increase security of supply e.g. solar PV installations on technical sites</li> </ul>	
Clean transportation	<ul style="list-style-type: none"> <li>Switching fleet of over 4,000 vehicles to electric vehicles and hybrid vehicles that comply with a 75Gco2/passenger threshold</li> <li>Electric vehicle charging at people sites</li> </ul>	

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Circular economy adapted products, production technologies and processes	<ul style="list-style-type: none"><li>• Electrical product take-back, repair and refurbishment to enable the reuse of customer products</li></ul>	
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The SDG noted above are:

- 7 Affordable and Clean Energy,
- 9 Industry, Innovation and Infrastructure,
- 11 Sustainable Cities and Communities, and
- 12 Responsible Consumption and Production

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