

Environmental, Social, And Governance:

## How "Green" Are Telecom Green Bonds?

September 9, 2019

### Key Takeaways

- The telecom sector is increasingly active in the green bond market. Three telecom companies, namely Telefonica, Verizon, and Vodafone, have issued green bonds in the first half of 2019 totaling almost \$3 billion, and we expect more to follow.
- Telecom companies rely on a constant supply of energy for network operations and data centers. The telecom and information and communications technology industry is expected to account for an estimated 2% of total global greenhouse gas emissions by 2030.
- The sector's rollout of new telecom technologies can potentially decrease greenhouse gas emissions and improve energy efficiency. At the same time, these investments also support the companies' business and financial performance.
- We analyzed three green telecom bonds under our Green Evaluation analytical approach based on public information. We found that they would likely fall in the top half of our scoring range, indicating a positive environmental impact similar to new building refurbishments or wind power generation.

As the green finance market continues to expand in breadth and depth, new sectors such as telecommunications have started to issue green bonds and capitalize on investor demand for sustainable financial instruments. Since January 2019, companies across all sectors have issued a total of \$150.4 billion of labeled green bonds and another \$99.6 billion is in the pipeline for issuance by the end of the year, according to estimates by the Climate Bonds Initiative. Labeled green bond offerings to date include three big issuances by telecom giants Telefonica, Verizon, and Vodafone. We think the telecom sector views the sustainable finance market as attractive given the growing number of environmentally committed investors looking at instruments such as green bonds, which allocate proceeds that aim to help reduce an issuer's environmental footprint. But how "green" are the bonds these telecom companies have issued? To help answer this question and gauge the bonds' environmental contribution, S&P Global Ratings has conducted an illustrative exercise based on public information to score these green bonds using our Green Evaluation analytical approach.

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## **Do The Bonds Lack "Greenness"?**

The main question regarding telecom green bonds is whether the use of proceeds provides environmental benefits or just creates business and financial benefits for issuers that are opportunistically seeking a green label. Some investments that are being financed by telecom green bonds, such as the deployment of fiber and 5G, improve energy efficiency in telecom network operations, decreasing greenhouse gas (GHG) emissions. This advanced infrastructure can also enable and support the development of the internet of things (IoT) and artificial intelligence (AI) applications, which can indirectly reduce GHG emissions for the broader economy through more efficient business management and by influencing consumer behavior. But at the same time, infrastructure investments also enable telecom operators to offer a compelling value proposition to their customers and consequently make these companies more competitive in the market. Some investors have expressed concern that green bonds issued by telecom companies fund projects that could be described as "business as usual" and that lack environmental "additionality" (see "Why telco green bonds fail to connect with Jupiter's Ecology fund," published by Environmental Finance on March 11, 2019).

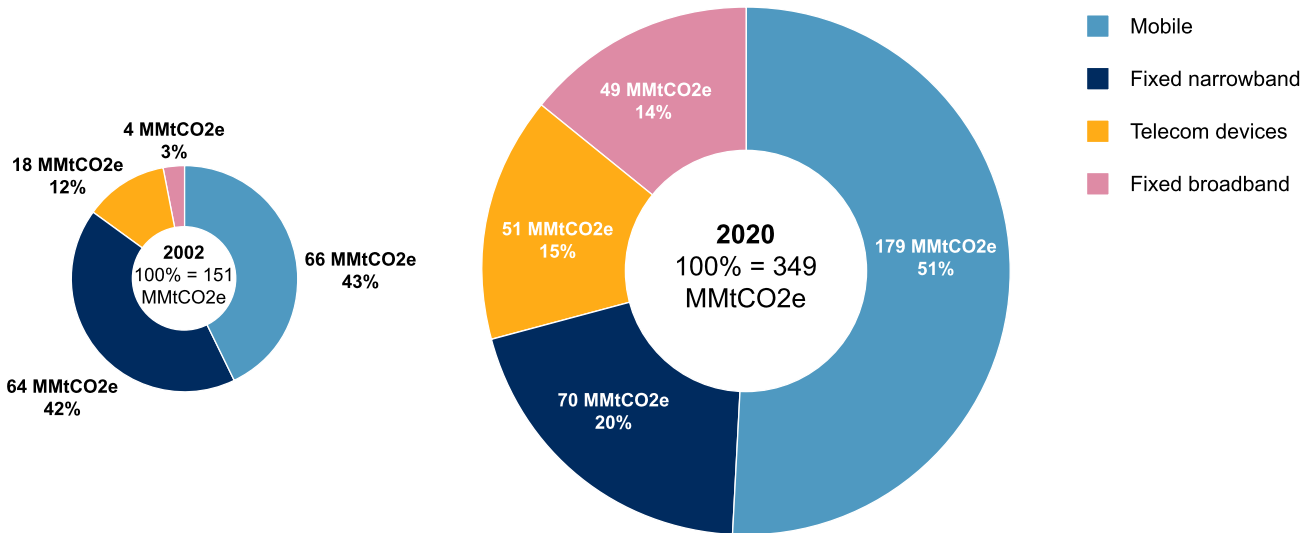
Nevertheless, three major telecom companies successfully issued green bonds in the first half of 2019. Telefonica issued the sector's first green bond for €1 billion (\$1.14 billion) in January, Verizon followed in February with a \$1 billion bond, and Vodafone, having published a Green Bond Framework in 2018, did not wait long to issue its green bond for €750 million (\$840 million) in May 2019. Telefonica's final book for its green bond stood at \$5.4 billion, resulting in oversubscription of almost five times. The bond drew a large share of green investors, which the arrangers put at close to 50% or even higher. Also attracting many investors, Verizon's green bond was eight times oversubscribed, making it the company's most popular security ever. Verizon benefited from being one of the first issuers in the sector. Given the success of these deals, we expect more telecom companies to issue similar bonds.

## **Examining Environmental Impact Is Key**

Because green bonds are specifically earmarked for climate and environmental projects, it is essential to understand the sector's environmental impact and how it can be mitigated. In other words, what kind of projects can be classified as green? The environmental impact of telecom companies centers on energy use. Telecom companies rely on a continuous, uninterrupted supply of energy for network operations and data centers. The Climate Group in its SMART2020 report estimates that by 2030, the telecom and information and communications technology industry may account for around 2% of total global GHG emissions, comparable to the aviation industry. Telecom emissions doubled in the period from 2002 to 2007 to 300 metric tons of CO<sub>2</sub>-equivalent, mainly because of the explosion of mobile and fixed broadband data demand, and by a further 16% to 2020 (see chart 1).

Chart 1

**Global Telecom Emissions Are Set To More Than Double Between 2002 And 2020**



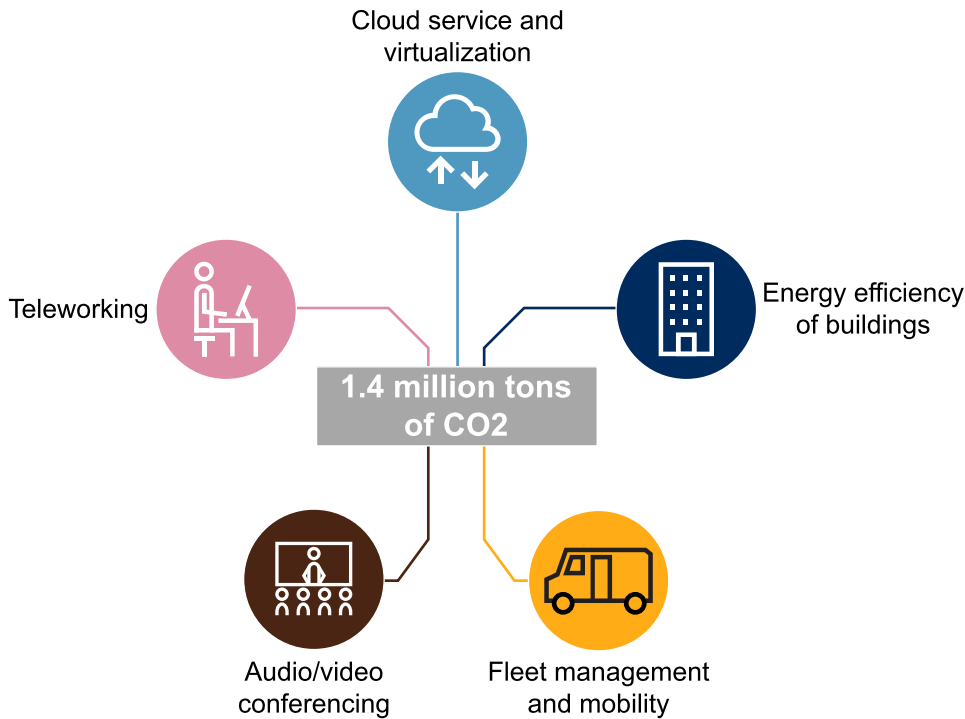
MMtCO2e--Million metric tons of carbon dioxide equivalent.  
 Source: "SMART 2020: Enabling the low carbon economy in the information age," Climate Group.  
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We have recently seen many operators introduce energy reduction programs and targets and invest in upgraded networks that directly improve their energy efficiency. For example, fiber-to-the-home networks, which typically offer performance gains of at least 10x compared with copper networks, also use 80%-90% less energy per gigabyte of data traffic. The telecom sector can also be an enabler of energy efficiency for other sectors and end customers, yielding indirect environmental benefits. The rollout of 5G and 5G-connected sensors like smart meters will support AI-powered IoT systems such as smart manufacturing and smart cities. These "smart" systems should improve the deployment and utilization of resources and therefore help increase energy efficiency and decrease GHG emissions (see chart 2).

Chart 2

**Telefonica's Estimate Of CO2 Emissions It Avoids Through Digital Services**

Connectivity, internet of things, cloud, and big data

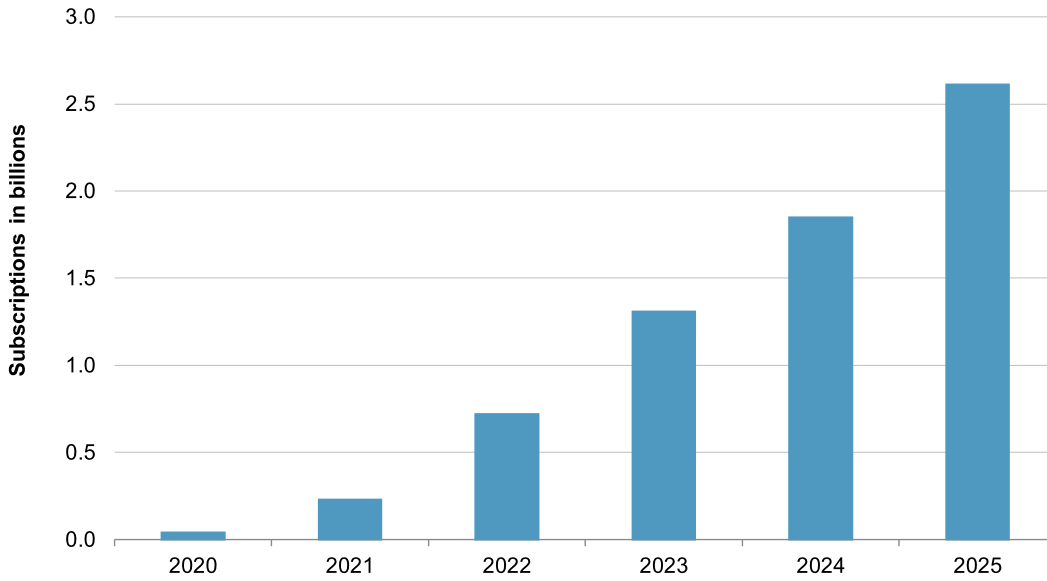


Source: Telefonica Consolidated Management Report 2018.  
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In 2019, the telecom industry began to deploy 5G. Once mature, we expect 5G will create significant business opportunities for telecom companies, helping them gain revenue with fixed-wireless access to compete with fixed broadband in some markets, and through a broad array of business-to-business opportunities as applications are developed. It is estimated that by 2025, the number of 5G subscriptions will reach 2.61 billion (see chart 3), the bulk of which are likely to come from machine-to-machine usage.

Chart 3

### Forecast Number Of 5G Subscriptions Worldwide From 2020 To 2025



Source: Statista.

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## Másmóvil Ibercom S.A.

Bonds aren't the only route, however. Telecom companies are also raising funds through sustainable-linked bank finance. For example, Spanish telecom operator Másmóvil Ibercom S.A. recently became the first European issuer of a leveraged loan with a margin linked to environmental, social, and governance (ESG) performance, totaling €1.7 billion.

Masmovil is Spain's fourth-largest telecom operator, providing fixed and mobile voice and internet services to business and retail customers.

The company completed Europe's first loan connected to ESG performance in May 2019. It totaled €1.7 billion, including €250 million in ESG-linked capital expenditure and revolving credit facilities. The loan grants a margin reduction of 15 basis points if the company's ESG score improves.

S&P Global Ratings evaluated Masmovil's ESG performance using its ESG Evaluation analytical approach, scoring it 67/100. Our ESG Evaluation is a cross-sector, relative analysis of an entity's capacity to operate successfully in the future, and is grounded in how ESG factors could affect stakeholders and potentially lead to a material direct or indirect financial impact on the entity.

The score reflects Masmovil's relatively recent but growing awareness and commitment to sustainability, adequate preparedness for strategic risks, and the medium exposure of the telecom sector to environmental and social risks. The company has consistently put customer engagement at the core of its strategy; secured multiple long-term roaming agreements; and more recently, focused on data protection, cybersecurity, and talent management. However, the company has yet to formalize other aspects of its sustainability strategy, such as how it assesses ESG risks stemming from its contractors, tracks and reports ESG metrics on a more regular and consistent basis, and completes the integration of the information systems of its recent acquisitions.

With these opportunities come costs. 5G will require dense deployment of upgraded fiber and radio equipment infrastructure and distributed processing in edge data centers, all requiring significant investment. At the same time, the ever-increasing growth of data communications traffic from new connected devices across these networks will boost electricity use, providing additional investment opportunities in network modernization to help mitigate the associated GHG emissions increase. Green bonds may offer a means of funding both. The green bond frameworks published by telecom companies set out energy efficiency and a reduction in associated GHG emissions as key targets for the use of proceeds. Verizon says its new bond will help it to meet its commitment to reduce the carbon intensity of overall operations by 50% by 2025 from a 2016 baseline. Telefonica is aiming to reduce its GHG emissions by 30% in 2020 and 50% in 2030, and it is committed to ensuring its electricity consumption is 100% renewable by 2030. Vodafone had already set up two GHG emissions targets: to cut total Scope 1 and 2 GHG emissions by 40% and to use 100% renewable sources for on-grid electricity by 2025. (The GHG Protocol categorizes direct and indirect emissions into three broad scopes: Scope 1: All direct GHG emissions. Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat, or steam. Scope 3: Other indirect emissions.)

## Weighing The Direct, Indirect, And Other Impacts

We applied our Green Evaluation analytical approach to the three aforementioned transactions based on publically available information. We note that the Green Evaluation is not a credit rating, and it does not consider credit quality or factor in our credit ratings.

The proceeds of the three green bonds issues by the telecom companies are earmarked for three principal types of project:

- Direct impact projects. Proceeds are allocated to upgrading the company's own infrastructure, directly enhancing energy efficiency. Among the declared initiatives are the modernization of the broadband network, moving from copper to fiber optic, more efficient cooling facilities, energy-saving software, smart meters, and green buildings.
- Indirect impact projects. Proceeds are allocated toward investments to improve connectivity performance. This includes IoT services and products, together with a rollout of 5G. These technologies should help end customers to manage energy efficiently and reduce GHG emissions.
- Non-capex projects. Proceeds allocated toward expenditures not generally considered capex or investments. In Telefonica's case, this means purchases of renewable power under power purchase agreements. In Verizon's case, this also includes virtual power purchase agreements (VPPAs).

Under a VPPA contract, a power buyer (or offtaker) agrees to purchase a project's renewable energy for a pre-agreed price. In this agreement, the project receives the market price at the time the energy is sold.

In our preliminary analysis, all three green bonds would likely fall in the top half of our scoring range (the E1 or E2 category on a scale of E1 to E4). However, we only considered direct impact projects. We did not include an evaluation of the relative environmental benefit of the indirect impact projects (5G deployment). In our view, it is hard to be certain about the environmental benefits of telecom green bonds outside their own specific environmental footprint, even though they may extend to end users. Additionally, for the Telefonica green bond evaluation exercise, we did not evaluate the portion of proceeds allocated for the purchase of renewable energy. For Verizon, we acknowledge that the bonds are green in nature, but we did not evaluate projects connected to fuel cell energy, the purchase of renewable energy, the installation or upgrade of water-efficient irrigation systems, or the promotion of biodiversity and conservation. These activities are currently out of scope of our Green Evaluation analysis.

## Telefonica, Verizon, and Vodafone: Comparing The Use Of Proceeds Of Their Green Bonds

|             |                 |                             |                    |
|-------------|-----------------|-----------------------------|--------------------|
| Issuer name | Telefonica S.A. | Verizon Communications Inc. | Vodafone Group PLC |
| Issue date  | Feb. 5, 2019    | Feb. 8, 2019                | May 24, 2019       |

**Telefonica, Verizon, and Vodafone: Comparing The Use Of Proceeds Of Their Green Bonds (cont.)**

|                      |   |  |   |
|----------------------|---|--|---|
| Company information  | Telecom and digital services company which offers connectivity, digital services, and technological solutions, operating in Spain, the U.K., Germany, and Latin America. It is one of the largest telecom companies globally. | U.S. telecom company providing phone, wireless, cable, internet, and other media services. As one of the largest communications technologies companies in the world, Verizon Wireless serves 118.0 million connections on the largest U.S. wireless network. | U.K.-based global telecom operator with operations in 25 countries and 47 partner networks around the world. The company's primary business segment is mobile telecom services, while fixed broadband telecom is a growing strategic focus for the company. |
| Country of risk      | Spain   | U.S.   | U.K.  |
| Green bond framework | Available   | Not available  | Available   |
| Amount issued        | €1 billion (\$1.14 billion)   | \$1 billion  | €750 million (\$840 million)  |
| Proceeds description | Energy efficiency of Telefonica network infrastructure; renewable energy; energy efficiency; digital solutions for the environment.   | Renewable energy, energy efficiency, green buildings, sustainable water management, biodiversity, and conservation.  | Energy efficiency, on-site renewable energy, and green buildings.   |

Sources: Green Bond Fact Sheets from Climate Bond Initiative ([www.climatebonds.net](http://www.climatebonds.net))

All three companies state that their processes for the management of proceeds are aligned with Green Bond Principles. Under our Green Evaluation analytical approach, they would likely achieve a strong governance score because of the procedures put in place to support their transactions. These include tracking and auditing the allocation of proceeds to eligible projects and the measurement of the environmental impact of the projects related to the financing.

Based on publically available information, the green bonds examined would likely achieve varying transparency scores. Under our analytical approach, to achieve a good transparency score, a company would need to disclose to the public project selection criteria based on the environmental objectives of the transaction, as well as the actual or expected environmental impacts of its eligible projects.

**Acceptance For Telecom's Unique Characteristics**

Green bonds issued by Telefonica, Verizon, and Vodafone could be the start of a trend among telecom companies. Our preliminary analysis using our Green Evaluation analytical approach showed that all three labeled green bonds would likely receive a score in the top half of our range based on our assessment of a portion of the proceeds (direct impact projects only).

We acknowledge that some direct impact projects, such as the deployment of fiber, may support both a company's commercial and environmental objectives. As a high performance and premium value product, fiber brings direct competitive and pricing benefits to telecom companies. But it also has a positive impact on the environment by improving a network's energy efficiency. In this respect, we recognize a project's direct green contribution without prejudice to the overlapping motivations behind it. Such instruments issued to date by telecom companies have been popular with investors, suggesting that the market may have accepted the unique characteristics of these bonds and may be willing to finance similar environmentally beneficial financial projects in the future.



## **Related Research**

- Why Linking Loans To Sustainability Performance Is Taking Off, Sept. 3, 2019
- ESG Evaluation: Másmóvil Ibercom S.A., July 11, 2019
- Environmental, Social, And Governance Evaluation Analytical Approach, April 10, 2019
- Green Evaluation Analytical Approach, April 26, 2017

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