# Green Bond Framework

Vodafone Group Plc

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# 1 Introduction

As part of its commitment to sustainability, Vodafone Group Plc has designed this Green Bond Framework under which Vodafone can issue Green Bonds to finance or refinance projects, enabling the company to meet its environmental objectives. This document acts as a framework for what projects are eligible under the use of proceeds, how they are selected, the management of proceeds and reporting. This framework is designed to be in line with the International Capital Market Association (ICMA) Green Bond Principles 2018. Sustainalytics has provided a Second Party Opinion on Vodafone's framework.

## 1.1 Profile Vodafone

Vodafone Group Plc (Vodafone), incorporated on 17 July 1984, has become one of the world's leading international mobile communications groups by revenue. Vodafone provides a wide range of services including voice, messaging, data and fixed broadband. The Group has a significant global presence, with mobile operations in 25 countries and 47 partner networks worldwide. As of 31 March 2018, Vodafone has approximately 19.4 million fixed broadband customers and over 500 million mobile customers around the world. Vodafone's business model is based on continued high levels of investment to build a superior telecommunications network and customer experience relative to its competitors, and to sustain high levels of cash generation with which it can reward shareholders and reinvest in the business. Vodafone aims to take a sustainable approach to the way it does business. The majority of its products and services are designed to offer social and economic benefits for its customers, such as by assisting them to reduce their environmental footprint or by enhancing access to financial services, healthcare and education, particularly in emerging markets.

## 1.2 Data and mobile growth

Mobile data traffic has grown 18-fold over the past five years and will continue to rise at a rapid rate[1]. It is predicted that, by 2020 mobile data traffic will be equivalent to 15 times the volume of all data carried in the global internet in 2005[2]; global IP traffic will increase nearly 100-fold by 2020 from 2005[3]; and there will be an increase to 5 billion mobile internet users and 9 billion mobile connections by 2025, up from 3 and 7.8 billion respectively in 2017[4].

## 1.3 Industry greenhouse gas challenge

The telecommunications and information and communications technology (ICT) industry faces a growing greenhouse gas (GHG) emissions challenge; it is estimated that, by 2030, it will account for around 2% of total global GHG emissions, comparable to the aviation industry[5]. Vodafone must therefore develop innovative ways to mitigate the climatic consequences of this business growth.

## 1.4 Vodafone environmental commitment

In 2015, Vodafone made Energy Innovation one of its three core global transformation areas and following on from its commitment to the Paris Pledge for Action, set new targets using a science-based approach. This year (2018), Vodafone has introduced two new goals that focus on achieving a significant reduction in the GHG emissions associated with its operations: to cut total Scope 1 and 2 GHG emissions across its network and operations by 40% and to use 100% renewable sources for on-grid electricity by 2025. This supports Sustainable Development Goal (SDG) 13, which is focused on climate action, and Goal 7, which includes a focus on clean energy. In parallel, Vodafone's Internet of Things (IoT) services play a significant role in helping customers meet their own commitments to the SDGs, enabling them to operate more efficiently and reduce their GHG emissions. Vodafone has also joined RE100, a collaborative initiative led by The Climate Group, in partnership with CDP, that brings together major businesses committed to switch to 100% renewable power.

## 1.5 Principles of the Green Bond Framework

The ICMA Green Bond Principles are a set of voluntary guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market by clarifying the approach for issuing a Green Bond. The Vodafone Green Bond Framework follows the ICMA Green Bond Principles 2018 edition, which provides guidelines in four key areas:

1. Use of proceeds
2. Process for project evaluation and selection
3. Management of proceeds
4. Reporting

This Green Bond Framework may also be used to govern other green financing for which the use of proceeds is intended for a portfolio of Eligible Green Projects, defined, selected, tracked and reported on in accordance with this Green Bond Framework.

1 2016 Cisco Visual Networking Index (VNI)
2 2016 Cisco Visual Networking Index (VNI)
3 2016 Cisco Visual Networking Index (VNI)
4 GSMA The Mobile Economy 2018
5 Smarter 2030, Global e-Sustainability Initiative

# 2 Use of proceeds

Vodafone intends to allocate the proceeds of Green Bond issuances to a portfolio of Eligible Green Projects within the following eligible categories. This list can be periodically updated as technologies evolve.

## 2.1 Energy efficiency

**A. Internet of Things (IoT)** development and operation of networks, services and products that are specific to enabling IoT. As a recognised world leader in IoT mobile services, Vodafone is helping its customers to manage energy more efficiently and reduce their emissions.

**Network** investments that enable IoT such as, but not limited to[6]:

- Narrowband Internet of Things (NB-IoT) and enhanced Machine-Type Communication (eMTC) for low-power, low-cost IoT supporting: smart metering, smart lighting, smart parking and the sharing economy (e.g. shared bikes);
- high-performance IoT or ultra-reliable, low-latency communication (URLLC) to drive efficiency gains through industry automation; and
- low-complexity IoT or massive Machine-Type Communication (mMTC) as enablers for smart cities, etc.

**IoT solutions and products** such as, but not limited to: smart metering, smart logistics and fleet management, smart cities (smart bin/street lighting) and electric vehicle (EV) charging.

**B. Network** investments to achieve a decoupling of customer data growth from environmental degradation. Furthermore, upgrading and retrofitting legacy systems to more energy efficient solutions.

**Hardware** such as, but not limited to: base station free air cooling (e.g. adiabatic), heat resistant batteries in hot countries, smart meters, efficient power amplifiers (GaN technology), modernisation programmes (replacement of legacy radio equipment) and active antenna.

**Energy optimisation and storage** such as, but not limited to: 'PowerCube' hybrid technology, which integrates energy supply with onsite battery storage, lithium-ion, lead carbon, flow batteries, fuel cells and large-scale energy storage.

**Software** such as, but not limited to: energy-saving software beyond what is currently offered as part of existing licences, such as remote management and data management applications, machine learning and artificial intelligence (AI) applications to reduce power consumption.

**Research and development** such as, but not limited to: the 'Green Island', an innovation hub for energy efficiency, evolution of SON including AI dynamic power management (active network demand pattern recognition to dynamically switch between power modes).

**2.2 Onsite renewable energy** investments or research and development to improve Vodafone's energy mix, in alignment with Vodafone's 2025 renewable target. Such as, but not limited to: solar, wind or biofuel for electricity and absorption cooling (main source: waste from other industries such as used cooking oil and waste pressings from the production of vegetable oils)[7].

**2.3 Green buildings** or operations that meet regional, national or international recognised standards or certifications.

- Top 15% most energy-efficient buildings in the region, defined via Energy Performance Certificates, building codes, building years or refurbished buildings with a demonstrated energy efficiency improvement of at least 30% or two steps in energy performance label compared to original built quality.
- Certified buildings at a minimum of LEED Gold, BREEAM Very Good or equivalent.

6 Exclusionary: products and solutions developed specifically to support the fossil fuel industry/infrastructure.
7 Exclusionary: large hydro over 25MW and geothermal with direct emissions > 100g $CO_2$/kWh[3]

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| Green Bond Principles | SDG | SDG Goal | SDG Target description |
|---|---|---|---|
| **Energy efficiency** | 7 AFFORDABLE AND CLEAN ENERGY | **Affordable and clean energy** | • 7.3 By 2030, double the global rate of improvement in energy efficiency |
| | 8 DECENT WORK AND ECONOMIC GROWTH | **Decent work and economic growth** | • 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead |
| | 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE | **Industry, innovation and infrastructure** | • 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities |
| **Renewable energy** | 7 AFFORDABLE AND CLEAN ENERGY | **Affordable and clean energy** | • 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix |
| **Green buildings** | 11 SUSTAINABLE CITIES AND COMMUNITIES | **Sustainable cities and communities** | • 11.10 Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilising local materials |

# 3 Process for project evaluation and selection

Projects financed and/or refinanced through Green Bond proceeds are evaluated and selected by Vodafone's Green Bond Committee, formed by representatives from Treasury, Sustainable Business, Energy Performance and other parties nominated as subject matter experts. Evaluation and selection methodologies are aligned with achieving environmental targets detailed in Vodafone's yearly sustainability report (found via http://www.vodafone.com/content/index/about/sustainability.html).

Vodafone's Business Principles apply minimum environmental and social requirements and all applicable EU and national environmental and social regulation for all its activities, including those financed with the proceeds of the Green Bond.

# 4 Management of proceeds

Vodafone intends to allocate the proceeds from the Green Bonds to an Eligible Green Project Portfolio. Projects will be selected in accordance with the use of proceeds criteria and the evaluation and selection process presented above.

Any Green Bond funding raised is reflected and tracked in Vodafone's Treasury Management System (TMS) for use towards financing or refinancing eligible projects. Internal budget/accounting systems or invoices are used to identify costs of projects, which are then marked against funds held in the TMS. Vodafone will strive, over time, to achieve a level of allocation for the Eligible Green Project Portfolio that matches the balance of net proceeds from its outstanding Green Bonds. Additional Eligible Green Projects will be added to Vodafone's Eligible Green Project Portfolio to the extent required to ensure that the net proceeds from outstanding Green Bonds will be allocated to Eligible Green Projects.

While any Green Bond net proceeds remain unallocated, Vodafone will hold the proceeds in cash and/or invest in other short-term liquid instruments.

# 5 Reporting

Vodafone will make and keep readily available reporting, covering the allocation of net proceeds to the Eligible Green Project Portfolio and, wherever feasible, reporting on the impact of the Eligible Green Project Portfolio, at least at the category level. Reporting will take place a year following the issuance of the applicable Green Bond and will be renewed annually until full allocation of Green Bond net proceeds (found via http://www.vodafone.com/content/index/about/sustainability.html).

Vodafone intends to provide aggregated reporting for all its Green Bonds and other potential green financings outstanding. Vodafone will align, on a best efforts basis, the reporting with the portfolio approach described in *Green Bonds Working Towards a Harmonized Framework for Impact Reporting (December 2015).*

## 5.1 Allocation reporting

The allocation report will provide:

- the total amount of investments and expenditures in the Eligible Green Projects Portfolio;
- the amount or percentage of new and existing projects; and
- the balance of unallocated proceeds.

## 5.2 Impact reporting

The impact report may provide:

- direct abatement of GHG emissions (in tonnes $CO_2$);
- indirect abatement of GHG emissions (in tonnes $CO_2$);
- energy saved (in MWh); and
- square feet of green buildings

# 6 External review

## 6.1 Second Party Opinion (pre-issuance)

This Vodafone Green Bond Framework has been reviewed by Sustainalytics, who has issued a Second Party Opinion. The Second Party Opinion (found via https://www.sustainalytics.com/wp-content/uploads/2018/08/Vodafone-Group-plc-SPO-Final-Version.pdf) as well as the Green Bond Framework will be made available to the Green Bond investors.

## 6.2 Verification (post-issuance)

Vodafone intends to request a limited assurance report or auditor comfort letter to be produced on the information contained within the allocation of Green Bond proceeds report. This will be completed within one year of issuance.

# 7 Disclaimer

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