# November 2021

# **Renesas Electronics Corporation**

**Green Bond Framework** 



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# **1** INTRODUCTION

# 1.1 COMPANY OVERVIEW

Renesas Electronics Corporations ("Renesas", "Company") is continuously striving to drive innovation through product solutions in the automotive, industrial, infrastructure, and IoT markets. Our embedded design innovation with complete semiconductor solutions enable billions of connected, intelligent devices to enhance the way people work and live. Following the smooth integration of Intersil, IDT, and most recently Dialog, Renesas is home to approximately 21,000 employees all across the globe and in more than 30 countries, together composing 1 global team.

Our mission, is to develop a safer, healthier, greener, and smarter world by providing intelligence to our four focus growth segments: Automotive, Industrial, Infrastructure, and IoT. We believe it is our responsibility to contribute to the creation of a better society, and strive to make positive impacts through our products and solutions.

# 1.2 OUR SUSTAINABILITY APPROACH

Sustainability is at the heart of what we do. We are committed to developing products and solutions that contribute to a long-term sustainable society. We support the Sustainable Development Goals (SDGs) set by the United Nations that highlight the biggest issues faced by the world today. Among the 17 SDGs set by the United Nations, Renesas is taking action against 13, making contributions through our existing programs to support these goals in order to achieve a better and more sustainable future. Included in our environmental impact goal, is Renesas' commitment to reduce greenhouse gas emissions by 60% from 2013 levels by 2030 and become completely Carbon Neutral by 2050, recently submitting a commitment letter to the Science Based Targets Initiative. Furthermore, we are also committed to making positive contributions in local communities and around the globe, through programs such as The Renesas University Program and promotion of women in engineering. Through these efforts, we have been commemorated by being named one of the companies listed in the SOMPO Sustainability Index as well as S&P/JPX Carbon Efficient Index, which focuses on overweighting companies that have a lower level of carbon emissions per unit of revenue. Renesas also became a signatory of the United Nations Global Compact.



Renesas' strengths can be broken down into 3 main assets, products and solutions, innovative technology, and people, each drivers of Renesas' mission towards sustainability.

# **PRODUCTS AND SOLUTIONS/INNOVATIVE TECHNOLOGY**

Sustainability is at the heart of our products and solutions, and our unwavering commitment to meet customer demand, invest in research and development, and provide the highest standard of quality and low-power sustainable products that contribute to climate change adaptation and transition to a low carbon economy, enables us to serve customers worldwide. We create value by providing innovative and differentiated energy-efficient products that help our customers build systems with very high power efficiency, reducing the carbon and environmental footprint of businesses. Our innovative strengths are also represented by our relentless drive to make our future society safer and more secure, by addressing system-level safety and security concerns held by our customers. This provides them with greater peace of mind for a wide range of applications, from connected and automated vehicles, factories, and robotics to smart home appliances. We will carry on investing in technology research and development to provide innovative technologies and solutions that ultimately make the world more sustainable.

# **OUR PEOPLE**

For Renesas, our people are our greatest assets. We firmly believe growing our people will ultimately grow our business, and our ambitious goals cannot be achieved without the talent and dedication of our people. With this is mind, we introduced the concept of the Renesas Culture, a guideline of conduct for all Renesas Group employees that consist of 5 key elements: "Transparent, Agile, Global, Innovative and Entrepreneurial." These 5 elements underpin everything we do at Renesas, from helping empower our customers in reducing global energy use, to driving prosperity all around the world. Renesas is also recognized as a labor and human rights leader, aiming to drive diversity and inclusion throughout our organization and leadership positions.

In terms of employees, Renesas also places large emphasis on diversity. We actively stress improvement of our work environment and foster a corporate culture that accepts and is inclusive of one another, shown by our many policies such as the policy for board diversity. Renesas, as a global company, is known for its diverse human resources and values, be it nationality, race, philosophy, culture, language, gender, and age, operating in over 30 countries around the world. Moving forward, Renesas will maximize individual abilities by creating an environment in which our diverse workforce with different personalities and values can fully demonstrate their strengths, enhancing our development system so employees can thrive. Through these efforts, Renesas has been made part of the MSCI Japan Empowering Women Index.

### **RENESAS CULTURE**



Going forward, we expect each line of business to grow its revenue and profit by continuing to make investments in people and technology to sustain innovation. These investments will drive the company's future prospects and lay the foundations for prosperous, long term growth, contributing to a more environmentallybalanced and sustainable society.

# 2 GREEN BOND FRAMEWORK OVERVIEW

This Green Bond Framework ("Framework") addresses the four core components and key recommendations (shown below) of the International Capital Markets Association (ICMA) Green Bond Principles (2021) ("the Principles"). These principles and guidelines are voluntary process guidelines for best practices when issuing Green Bonds.

Core Components:

- Use of Proceeds
- Process for Project Evaluation and Selection
- Management of Proceeds
- Reporting

Key Recommendations:

- Framework
- External Review

Sustainalytics, a global leader in environmental, social and corporate governance research and ratings has provided Second Party Opinions on the Framework.

Renesas will, where possible, adhere to best practices in the market and will review the Framework's alignment to updated versions of the ICMA Principles as and when they are released. As such, this Framework may be updated and amended from time to time.

# 2.1 USE OF PROCEEDS

### INTRODUCTION

#### Renesas' Products Help Make the World More Energy Efficient

At Renesas, we aspire to be the world's leading semiconductor company, which also means developing sustainable products and solutions that benefits all humankind. We want to build a future where our products and solutions help make lives easier and create a better world for all of us. To make everything intelligent and connected, high computing performance plays a key role. We believe that energy efficiency and robust safety and security goes even further to make our products and our customers' systems sustainable, which ultimately contributes to realizing a greener society.

#### **Energy-Efficient Products and Solutions**

As the industries addressing CASE (Connected, Autonomous, Shared & Services, Electric) and DX (digital transformation) continue to develop vigorously, energy-efficient embedded processors play a key role in achieving power efficiency for a vast range of verticals, including automotive, industrial, infrastructure and IoT. We recognize that the energy demand of our products contributes to the global environmental impact of technology. Renesas' embedded processors, analog and power products portfolio can be effectively combined to provide our customers with integrated solutions that help their systems achieve the goals of energy efficiency, reliability and reduced bill of materials (BOM) cost.

#### Renesas' Products Enable Customers to Build More Energy-Efficient Systems

At Renesas, we provide devices that contribute to making our customers' electronic equipment and systems energy efficient. Our products include devices that offer extremely low power consumption themselves and devices that contribute to making the customers' systems energy efficient through adoption of such devices. By actively developing these devices, our products contribute to a more sustainable society.

#### **Alleviation of Environmental Impacts**

In addition to making contributions through the development of sustainable products and solutions, Renesas also makes efforts to reduce negative impacts made through our own business activities. Waste and water management as well as greenhouse gas emissions are aspects we place large importance on, and there are many policies and targets set in place to alleviate such environmental impacts.

Below is a list of the green application domains Renesas wants to increase its investments in.

Renesas intends to allocate an amount equal to the net proceeds from the sale of any Green Bonds to finance or refinance, in whole or in part, one or more, and new or existing Eligible Green Projects.

This Framework allows Renesas to allocate the net proceeds from the issuance of Green Bonds to Eligible Green Projects prior to the issue date of the Green Bond (in the case of operating expenditures, during the 36 months prior to the issue date of a Green Bond) or after the issue date of the Green Bond.

## **ELIGIBLE GREEN PROJECTS**

Eligible Green Categories	Use of Proceeds	UN SDGs
Clean Transportation	<ol> <li>Smart Electric Vehicles Solutions</li> <li>Electric Vehicles runs on electricity reducing CO2 emission</li> <li>Smart Autonomous Drive Solutions</li> <li>AD and ADAS not only reduces energy consumption, but also protects driver against potential accidents</li> </ol>	7 AFEREARIE AND CLAUREREY SCORE
Energy Efficiency	<ul> <li>3. Smart Data Center Solutions Next generation data centers, with the transition from DDR4 to DDR5, increases bandwidth as well as energy efficiency 4. Smart Cellular Solutions 5G technology allows for faster connections and more devices to be connected, all while increasing energy efficiency 5. Smart Society Solutions Renesas' various solutions contribute to reduction in CO2 emission and energy consumption in a variety of applications from industrial sectors, renewable energy to home appliances and IoT devices 6. Renesas's Green Devices and Technology Renesas's various product portfolio and technology contribute to less energy consumption and development of eco-friendly products</li></ul>	7 AFFOREABLE AND CHEAN THE AND CHEAN THE AND AND NEXT INFORMATION AND NEXT INFORMATI
Renewable Energy/ Sustainable water and waste water management	<ul> <li>7. Projects related to alleviating environmental impacts through our business activities</li> <li>Reduction of Scope 2 Green House Gas emissions through purchase of Green Electricity, On-site and off-site solar energy projects, energy efficiency measures, including new construction and refurbishment of manufacturing facilities</li> <li>Reduction of total withdrawal of water through improvement in water recycling projects</li> </ul>	6 CLEAN WATER AND SANITATION

#### 1. Smart Electric Vehicles Solutions

It is predicted that by 2050, 21% of the number of vehicles sold (0.13 billion cars) and 16% of vehicles owned around the world (2.1 billion vehicles) will be battery powered electric vehicles (BEVs)/fuel-cell vehicles (FCVs). This is forecasted to result in reducing CO2 emission by 1.4 billion tons. Through the wide adoption of electrified vehicles (xEVs), Renesas' products will contribute to the overall reduction of CO2 emissions <sup>(1)</sup>.

xEVs are becoming increasingly popular with more restrictions being placed on vehicle CO2 emissions, as a measure to deal with global warming and achieving a "sustainable society" that is environmentally friendly, safe and easy to live on. It is estimated that EV and PHEV could reduce GHG (Green House Gas) emission by 67% and 50% against traditional gasoline/diesel cars, respectively <sup>(2)</sup>, and Renesas offers a wide range of solutions and evaluation kits to help accelerate xEV advancements with better power efficiency.

Renesas offers solutions and evaluation kits, more specifically semiconductors such as microcontroller, analog, and power semiconductors that is used to manufacture and run xEVs. An example of this is Renesas' Automotive Battery Management System (BMS), which is designed to meet almost any safety, reliability and performance requirements of next-generation EV applications. It features Renesas' MCU, automotive-grade multi-cell Li-ion battery manager and power management IC (PMIC) that maximizes driving range and battery life for hybrid and electrified vehicles.

Another example is the inverter, which plays a key role in converting direct current (DC) power to alternating currents, and sending out the optimum current to the motor whose rotation speed varies according to driving conditions. Our xEV Inverter Reference Solutions, which coverts DC power to AC power and maximizes HEV/EV motor performance, offers superior power efficiency and 99% maximum inverter efficiency <sup>(3)</sup>.

- (1) https://www.renesas.com/us/en/about/company/sustainability/products-and-solutions
- (2) https://afdc.energy.gov/vehicles/electric\_emissions.html#wheel
- (3) https://www.renesas.com/us/en/application/winning-combinations-automotive/xev-inverter-reference-solution

#### 2. Smart Autonomous Drive Solutions

Autonomous driving or "AD", and Advanced driver assistance system "ADAS", is the future of vehicle transportation, and is predicted to dynamically change the automobile market. AD, as the name implies, refers to autonomous driving, where the vehicle takes control of movement and removes the need for passengers to actually drive the vehicle. ADAS refers to various systems that help as well as protect the driver, by avoiding accidents and insuring safety. AD and ADAS also contributes to reduction of energy consumption and CO2 emission as a tool for promoting eco-driving by assisting the driver in moving the car more efficiently, optimizing the use of engine and battery power <sup>(1)(2)</sup>.

AD and ADAS uses a combination of sensors and cameras to interpret its surroundings (Sensing), processes and analyzes those data (Computing) and controls the vehicle to move appropriately based on its computation (Controlling). Driver and occupant monitoring systems also play a key role, as it supports the driver by providing feedback and ensuring optimal driving.

Renesas' processor line acts as a platform for safe cognitive computing, contributing to sensing and decision-making, as well as body control and infotainment towards level 3 and 4autonomous driving. More specifically, the RH850 microcontroller as well as the R-CAR SoC not only analyses and computes visual data detected by sensors, but it also makes up an electronic control unit (ECU) that controls steering/acceleration of the vehicle. Renesas' processors also support infotainment solutions and high-end cockpits that feed information to the driver through displays. Renesas handles analog semiconductors used to power these systems, in addition to the processors and sensors mentioned previously, allowing for 67%

reduction in power consumption of radar MMICs as an example. Overall, AD and ADAS aids drivers in optimizing their vehicles in terms of engine and battery usage, and Renesas offers a wide range of products that act as a back bone for these systems to operate.

- (1) https://css.umich.edu/factsheets/autonomous-vehicles-factsheet
- (2) "10 Recommendations for Eco-Driving" Revised ECCJ / Asia Energy Efficiency and Conservation Collaboration Center

#### 3. Smart Data Center Solutions

As digitalization takes over and the sheer amount of data continues to increase in size, the role of data centers become more and more important. Additionally hyper scale customers, enterprises that require a large amount of data storage, have greatly contributed to the increase in demand for data centers. As these data centers increase in size and amount, it becomes increasingly important for these data centers to be run as efficiently as possible, with reports showing that global data center electricity demand in 2019 was around 200 TWh, or around 0.8% of global final electricity demand <sup>(1)</sup>.

Renesas leads the industry with its high-quality memory interface chips and timing devices used for data centers. Through provision of these solutions, it is enabling the transition from DDR4 to DDR5, the new generation of data centers that not only increases bandwidth, but also improves bandwidth power efficiency by 16% <sup>(2)</sup>. In addition, the Innovative Optical and Wireless Network (IOWN) concept, a cutting edge communication infrastructure that uses photonics and computing technology, can massively reduce energy consumption used in data centers<sup>(3)</sup>. Overall, Renesas is providing key solutions to lead the transition towards a newer generation of data centers that help reduce energy consumption and contribute to a more sustainable environment.

- (1) https://www.iea.org/reports/data-centres-and-data-transmission-networks
- (2) <u>https://www.renesas.com/us/en/about/press-room/renesas-introduces-ddr5-data-buffer-high-performance-server-and-cloud-service-applications</u>
- (3) https://iowngf.org/

#### 4. Smart Cellular Solutions

5G is the next generation wireless network technology, which compared to the previous 4G network, offers faster connections and allows for more devices to be connected at a time. With experts predicting it could be 20 times faster than previous generations, 5G has the potential to change the way people live and work<sup>(1)</sup>. Similarly, it could also hold positive implications on climate change, due to its ability to support companies and industries in implementing the most efficient and flexible allocation of resources, through computation and AI analysis. Furthermore, it optimizes data transmission efficiency that reduces the amount of CO2 emission per data transferred, with studies showing 5G technologies allow a hundred times more traffic to be carried, without increasing the total energy consumption of the network <sup>(2)</sup>. In particular, in the shift from 5G FR1 (up to 6GHz) to 5G FR2 (mmWave frequencies from 24 to 40 GHz), the shift of the key beamforming technology enables the transmission and reception of radio waves with higher power efficiency.

Renesas offers a complete portfolio of industry-leading products for 4G and 5G infrastructure, and its highly integrated, complete mmWave beamformer solutions integrate digitally controlled phase shifters, step attenuators, PAs, LNAs, and T/R switches. They not only offer best-in-class RF performance, but also provides reduction in overall energy consumption. Other key solutions from Renesas are Timing, Clock Distribution, and synchronization products which improve performance and power efficiency in 5G networks, while also simplifying the physical implementation, one of the many projects supported by governmental authorities for 5G and post 5G infrastructure development. (Post 5G Report by Ministry of Economy, Trade

and Industry) Renesas' 5G technology has been highly appraised, with Renesas being selected as a national project outsourcing company by NEDO (New Energy and Industrial Technology Development Organization) in their post-5G project (P20017). Overall, Renesas offers products and solutions that are best in the industry regarding performance and energy efficiency, assisting the transition to the more environment-friendly 5G FR2 network.

- (1) https://bipartisanpolicy.org/blog/cellular-data-and-digital-divide/
- (2) <u>https://eujournal.org/index.php/esj/article/view/13918</u>

#### 5. Smart Society Solutions

The solutions that Renesas provides through its semiconductors and sensor solutions not only increases energy efficiency of each product, but can also enhance performance of end applications and systems as whole, contributing to reduction in CO2 emission and energy consumption, as well as improvement in the well-being of people. Our MCU/MPU/SoC solutions, sensors, analog and power semiconductors is used in a variety of applications from industrial sectors, renewable energy to home appliances and IoT devices.

Below are illustrative examples of how we contribute to the realization of an energy efficient and smart society that improves and simplifies people's lives.

Renewable Energy – Wind power generation is an energy source that has positive impacts financially as well as environmentally due to its low cost. Regarding wind power generation systems, energy losses are inevitable as the electricity generated is converted from DC to AC when transmitting through the inverter circuit. A majority of this power loss is related to the power devices, and thus minimizing power loss of IGBT directly translates to the energy efficiency of user systems. Renesas' IGBT, which utilizes our low-power construction expertise, allows for more than 30% reduction in power loss and increases energy efficiency of all systems<sup>(1)</sup>.

Building automation - Building automation plays a large role in sustainability, as buildings and construction are responsible for approximately 28% of all carbon emissions in the world, when including indirect emissions from electricity consumption<sup>(2)</sup>. Building automation is realized by measuring light, humidity, and temperature using sensors, and using those information to control HVACs and lighting equipment to optimize energy efficiency. An example is the Air Quality VOC Sensor, which detects subtle changes in specific gases, capable of preventing unexpected spikes in emission <sup>(3)</sup>. Renesas offers sensors and microcontrollers needed to control and operate such automations, leading the movement towards realization of these technologies.

Factory automation - We are making contributions in the industrial sector as well, where digitalization and smartification is now implemented, and demand towards end point computing for factory automation is increasing. Renesas' AI technology designed for factories, adds processing capabilities to MCU/MPUs and achieves the same processing power as high-end AI chips using only a few watts of electricity in the process. Our latest RZ/V microprocessor series could reduce power consumption by 80% compared to our previous generations. Also, studies have shown that factory automation could lead to as high as 30% reduction in overall energy consumption, through increase in efficiency of operations according to typical FA OEM calculations.

IoT, home appliance - Thanks to IoT, home appliances and industrial machinery are attaining greater functionality from network connectivity and human machine interface (HMI) enhancements. This added functionality also leads to greater energy efficiency, which could be seen in technology like air conditioners with inverters included in them, which have 58% less power consumption compared to air conditioners without. Highly efficient motor control is also required to meet worldwide energy-saving trends among home appliances, and Renesas' products and solutions meet these demands as well. Renesas offers optimized

products and solutions for a wide range of consumer and industrial fields, including air conditioners, washing machines, refrigerators, dishwashers and service robots to meet today's demands. An example is the RL78, RX, and RA products from Renesas' MCU portfolio, which achieve 30% less electricity consumption compared to past products.

Overall, Renesas provides a diverse range of products and solutions that help achieve the next generation of technology that is more energy efficient, environmentally friendly and simplifies as well as improve our lives and well-being.

- (1) <u>https://www.renesas.com/jp/en/about/press-room/renesas-electronics-introduces-8th-generation-igbts-improve-system-power-efficiency-through-industry</u>
- (2) https://www.iea.org/reports/tracking-buildings-2020
- (3) <u>https://www.renesas.com/jp/en/about/press-room/idt-expands-its-flagship-integrated-voc-gas-sensor-line-solutions-indoor-air-quality-applications</u>

#### 6. Renesas' Green Devices and Technology

For a long time Renesas has been a world-leading supplier of low-power microprocessors and microcontrollers, and recently has expanded its power-efficient analog and power portfolio through the acquisitions of Intersil, IDT and Dialog. Achieving high energy efficiency in our products is a principal goal in each step of our research and development, as well as design processes.

Illustrated below are few examples of the many initiatives we have taken, in order to develop such green devices and technology.

Renesas Green Device - At Renesas, we promote Eco-Product Initiatives as one pillar of our environmental activities. Through this initiative we provide environmentally-conscious semiconductors throughout the product lifecycle, from procurement and usage, to disposal. To create such eco-friendly products, we evaluate our products in eight categories such as safety and power conservation, indexing the results for comparison to previous generations of products. Products that have been evaluated to exceed a certain level of environmental performance as a result of these assessments, are certified as Renesas Green Devices and are disclosed both internally and externally.

SOTB process technology - Renesas' proprietary technology, SOTB process technology, allows for both low active and standby currents, reducing the amount of energy required by 80% compared to prior MCUs while running, and 50% while on standby. While traditional MCUs require an outside energy source such as batteries, the SOTB built in controllers can run solely on renewable energy, allowing for development of maintenance-free IoT equipment and other energy harvesting solutions.

#### 7. Projects related to alleviating environmental impacts through our business activities

Part of the proceeds from the green bond will be invested in several projects aimed at reducing the negative effects that our business activities have on the environment:

- Reduction of Scope 2 Green House Gas emissions through purchase of Green Electricity, On-site and off-site solar energy projects, energy efficiency measures, including new construction and refurbishment of manufacturing facilities
- Reduction of total withdrawal of water through improvement in water recycling projects

# **EXCLUSION CRITERIA**

An amount equivalent to the net proceeds of Green Bond issuance will not be used to finance projects that contribute to or support any of the followings areas.

- Production or transaction relating to alcohol, gambling, tobacco, weapon, firearm, nuclear power, pornography or genetically modified food
- Production or transaction that involve forced labor and/or child labor
- Business or activities that are deemed illegal under local laws or regulations, bribery, blackmail, conversion, or other conduct considered inappropriate

# 2.2 PROCESS FOR PROJECT EVALUATION AND SELECTION

Projects financed and/or refinanced through this Framework are evaluated and selected based on compliance with the eligibility criteria set above, aligned with Renesas' strategic sustainability objectives and with applicable national and international environmental standards and regulations, to ensure stringent management of any potential negative environmental impacts.

The Eligible Green Projects candidates were proposed by the Sustainability Promotion Office, Chief Technology Officer Office, Corporate Strategy & Finance Division and Environment Promotion Department, and afterwards Automotive Solution Business Unit / IoT and Infrastructure Business Unit Management, Sustainability Promotion Office, and our Chief Technology Officer shall be responsible for the assessment and selection of the Eligible Green Project. Our Chief Financial Officer will make the final decision on project selection.

In addition, all projects with funding allocated from the issuance proceeds will be reviewed and tracked by the group, which include the parties within the Company that were not involved in the selection process, at least once a year until the maturity of the Green Bonds, to ensure the ongoing eligibility of selected Eligible Green Projects and their environmental impact.

### **RISK MANAGEMENT FOR ENVIRONMENTAL AND SOCIAL RISKS**

Renesas also applies risk management measures in its capital allocation decisions which are supported by a company-wide planning, reporting and controlling system. Responsibilities surrounding Renesas' sustainability activities and risk management lies with the Chief Executive Officer. Activities and issues surrounding sustainability as well as environmental and social risks is periodically reported to the Board of Directors through Corporate Officers and the Sustainability Promotion Office nominated by the Chief Executive Officer. The Sustainability Promotion Office was established as a direct organization under the Chief Executive Officer in order to promote sustainability activities across the entire Group. The risks is identified independently within the Company and reported to the Internal Control Promotion Committee, formed by Chief Executive Officer, Chief Financial Officer, Chief Legal Officer, Internal Audit Office Manager and Internal Audit & Supervisory Board Member.

# 2.3 MANAGEMENT OF PROCEEDS

Green Bonds are administered by the Renesas Treasury team. Renesas will at all times keep and monitor a separate register of eligible projects and strive over time to achieve a level of allocation for the Eligible Green Project which, after adjustments for intervening circumstances (including but not limited to, sales and repayments) matches or exceeds the balance of an amount equal to the net proceeds from its outstanding Green Bonds. Additional Eligible Green Projects will be added to our Eligible Green Project Portfolio to the extent required to ensure that an amount equal to the net proceeds from outstanding Green Bonds will be allocated to Eligible Green Projects, until the maturity of the bonds.

Pending allocation of the net proceeds of a green bond to finance Eligible Green Projects (including the amounts Renesas allocates to Eligible Green Projects using other funding source), the net proceeds will be managed according the Company's treasury liquidity practices, which may include (i) temporary investments in cash, cash equivalents, or short-term investments, or (ii) repayment of short-and long-term borrowings. Renesas may specify other use of proceeds pending allocation in the documentation for a given Green Financing.

# 2.4 REPORTING

Within one year from the date of the issuance of the Green Bond, and annually thereafter until an amount equal to the net proceeds of the Green Bond has been allocated to Eligible Green Projects, Renesas will publish a public report with information on the allocation to and estimated impact of the Eligible Green Projects on a designated Renesas website. If significant changes in our funding position occur after the proceeds have been allocated, we will disclose such changes in a timely manner.

# 2.4.1 ALLOCATION REPORTING

Renesas will report to the extent feasible, including the following components:

- The total amount of net proceeds allocated to Eligible Green Projects
- The allocation to Eligible Green Projects at a category level
- The balance of the outstanding amount of net proceeds yet to be allocated to projects at the end of the reporting period

### 2.4.2 IMPACT REPORTING

Where feasible, Renesas also intends to report on the environmental impacts of the projects funded with the Green Bond proceeds. This may be supplemented by qualitative and/or case-study reports on outcomes and impacts of the projects funded. Where relevant, information may be provided on data reporting and impact assessment methodologies, to increase transparency.

# **2.5 EXTERNAL REVIEW**

### 2.5.1 SECOND PARTY OPINION (PRE-ISSUANCE)

Renesas has retained Sustainalytics to provide a Second Party Opinion on the environmental benefits of the Framework, as well as the alignment to the Green Bond Principles. The Second Party Opinion is available on our website.

### 2.5.2 VERIFICATION (POST-ISSUANCE)

Renesas intends to request, one year after issuance, after full allocation of the net proceeds from the sale of the Green Bond or following any material events related to the Eligible Green Project Portfolio, assurance by its external auditor or other third party of a management statement on the allocation of the Green Bond net proceeds to the Eligible Green Project Portfolio.

# **3 APPENDIX**

### GLOSSARY

- MCU: Micro Controller Unit, a small computer with embedded main memory that is part of automated functions such as engine control systems
- RH850: Renesas' high-end MCU product for automotive
- R-CAR SoC: Renesas' System-on-Chip for automotive, especially for ADAS/AD, Infotainment, and Gateway
- MMIC: Monolithic Microwave Integrated Circuit, a type of IC device that operates at microwave frequencies
- DDR4/5: Double Data Rate 4/5, a type of memory with a high-bandwidth interface
- FR1/2: Frequency Range 1/2
- PAs: Power Amplifiers
- LNAs: Low Noise Amplifiers
- T/R switches: Transmit/Receive switch
- RF: Radio Frequency
- MPU: Microprocessor Unit, a component incorporating the functions of a computer's CPU on a single IC, or at most a few ICs without embedded main memory
- IGBT: Insulated Gate Bipolar Transistor, a three-terminal power semiconductor device primarily used as an electronic switch to combine high efficiency and fast switching. Commonly used in EVs
- HVAC: Heating, Ventilation, and Air Conditioning
- VOC Sensor: Gas sensor for Volatile Organic Compounds
- RZ/V: Renesas' embedded AI MPU with a proprietary AI accelerator
- RL78, RX, and RA products: Renesas' MCU product line
- SOTB: Silicon on Thin Buried Oxide, a type of process resulting in vastly improved energy
  performance while also reducing leakage, a problem commonly encountered as process size is
  reduced

# DISCLAIMER

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