

## Second-Party Opinion

# Digital Realty Green Bond

Digital Realty refers to Digital Realty Trust, Inc., Digital Realty Trust, L.P. and their subsidiaries (collectively, "Digital Realty").

### Evaluation Summary

Sustainalytics is of the opinion that the Digital Realty Green Bond Framework is credible and impactful, and aligns with the four core components of the Green Bond Principles 2017. This assessment is based on the following:



**USE OF PROCEEDS** The eligible categories for the use of proceeds, green buildings, energy and water efficiency, and renewable energy, are aligned with those recognized by the Green Bond Principles. Sustainalytics considers these categories to have clear positive environmental impacts.



**PROJECT EVALUATION / SELECTION** The responsibility for project selection and evaluation belongs to the Chief Financial Officer, General Counsel, and other senior management in coordination with the company's sustainability department. This is in line with market practice.



**MANAGEMENT OF PROCEEDS** Digital Realty will allocate an amount equivalent to the net proceeds of the green bond to eligible projects, and has a clear system to track proceeds to eligible projects. The disclosure and processes to manage and track proceeds are in line with market practice.



**REPORTING** Digital Realty intends to report on the allocation of proceeds on its website, on an annual basis until proceeds have been fully allocated. The company is committed to reporting a list of eligible projects funded, as well as the allocation of proceeds and environmental certifications and benefits on a category basis. In Sustainalytics' view reporting on these metrics is in line with market practice.

<b>Evaluation date</b>	May 24, 2018
<b>Issuer Location</b>	Global
<b>Issuer Headquarters</b>	San Francisco, USA

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#### For inquires, contact the Project Team:

**Marion Oliver (Toronto)**  
 Manager, Sustainable Finance Solutions  
 marion.oliver@sustainalytics.com  
 (+1) 647 317 3644

**Zach Margolis (Toronto)**  
 Associate, Sustainable Finance Solutions  
 zach.margolis@sustainalytics.com  
 (+1) 647 695 4341

**Charlotte Peyraud (New York)**  
 Manager, Sustainable Finance Solutions  
 charlotte.peyraud@sustainalytics.com  
 (+1) 646 518 0184

## Digital Realty Green Bond

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### Introduction

Digital Realty (the “company”) is an owner and operator of data centers, providing services in 12 countries around the world, headquartered in San Francisco, USA. Digital Realty operates approximately 203 carrier-neutral data centers on four continents, serving over 30 global metropolitan areas. As of January 2018, the company supports the data center, colocation, and interconnection of more than 2,300 firms of all sizes, ranging from cloud and information technology services, communications and social networking to financial services, energy, life sciences, and consumer products.

Digital Realty has developed the Digital Realty Green Bond Framework (the “framework”) under which Digital Realty Trust, Inc., Digital Realty Trust, L.P. or any of their subsidiaries (the “issuer”) intends to issue green bonds the proceeds of which will finance or refinance, in whole or in part, investments related to its data center operations:

1. Construction, refurbishment, renovation of, or tenant improvements to green buildings certified under a verified third-party standard, at the following certification levels:
  - a. LEED: Silver, Gold, or Platinum
  - b. BREEAM: Very Good, Excellent, or Outstanding
  - c. BCA Green Mark: Gold, GoldPlus, or Platinum
  - d. Green Globes: 3 Globes or 4 Globes
  - e. CEEDA: Silver or Gold
  - f. CASBEE: B+, A, or S
  - g. DGNB: Silver, Gold, or Platinum
2. Investment in energy and resource efficiency of buildings, building subsystems, or land, which:
  - a. improve energy efficiency by at least 15%, or
  - b. increase water use efficiency by at least 15%,
  - c. support the use of non-potable or reclaimed water
3. Investment in renewable energy, including:
  - a. On-site renewable energy systems, such as solar photovoltaic generation
  - b. Expenditures on renewable energy power purchase agreements (PPAs)
  - c. Energy storage systems

Digital Realty engaged Sustainalytics to provide a review of the Digital Realty Green Bond Framework and provide a second-party opinion on the alignment of the framework with the Green Bond Principles 2017 (the “GBP”), as administered by the International Capital Market Association (the “ICMA”),<sup>1</sup> and the framework’s environmental credentials. This framework has been published in a separate document.<sup>2</sup>

As part of this engagement, Sustainalytics held conversations with various members of Digital Realty’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the green bond. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Digital Realty Green Bond Framework and should be read in conjunction with that framework.

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<sup>1</sup> ICMA’s Green Bond Principles 2017 <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/GreenBondsBrochure-JUNE2017.pdf>

<sup>2</sup> <https://www.digitalrealty.com/data-center-solutions/sustainability/green-bond/>

## Sustainalytics' Opinion

### Section 1: Sustainalytics' Opinion on the Digital Realty Green Bond Framework

#### Summary

Sustainalytics is of the opinion that the Digital Realty Green Bond Framework is credible and impactful, and aligns with the four core components of the Green Bond Principles 2017. Some of its key strengths are that:

- Green buildings, energy efficiency, water management, and renewable energy are recognized by the Green Bond Principles 2017 as project categories with clear environmental benefits. Sustainalytics views these eligible project categories as having a positive impact (for additional information on impact see Section 3).
  - The eligibility criteria of Digital Realty's certified buildings are based on third-party certification standards, specifically LEED, BREEAM, BCA Green Mark, Green Globes, CEEDA, CASBEE, and DGNB. Sustainalytics has conducted an evaluation of the certifications and views the properties meeting such certification standards as having a positive impact (see Appendix 1 for additional details on the certification schemes).
  - Sustainalytics recognizes that investors view the top two categories within green building certification schemes as the highest threshold for impact. Sustainalytics notes that Digital Realty intends to include green buildings that achieve certification levels below the top two ranks. Nevertheless, given the energy-intensive nature of data centers, which make up the majority of Digital Realty's building portfolio, Sustainalytics is of the view that the inclusion in the framework of green buildings that achieve certification levels ranging from good to excellent (below the top two levels) performance will have a clear positive environmental impact.
  - Digital Realty has set a threshold of 15% improvement in energy efficiency or water use for a project to be eligible for green bond funding under the energy and resource efficiency management criteria. Disclosing a quantitative threshold for energy and water efficiency is in line with market best practice.
  - Digital Realty has specified exclusionary criteria, committing to not knowingly allocate any proceeds of the green bond in direct support of gambling, tobacco, alcohol, weapons, adult entertainment, or nuclear energy.
- Potential eligible projects will be identified by Digital Realty's Sustainability team, and evaluated based on the criteria set out in the framework. Final responsibility for project selection rests with senior management, including the Chief Financial Officer and General Counsel. This is in line with market practice.
- An amount equivalent to the net proceeds of the green bond will be allocated to eligible projects. Pending the allocation of the proceeds, all or a portion of the net proceeds may be used for the payment of outstanding indebtedness or other capital management activities. An external auditor, appointed by Digital Realty, will verify on an annual basis the proceeds allocated and the remaining balance.
- Digital Realty will report annually on the balance of proceeds allocated at a category level, and publish this information on their website<sup>3</sup> until the net proceeds are fully allocated. Environmental impacts and benefits will be reported at the project or category level, including green building certification standard utilized, and level achieved. Sustainalytics encourages, where feasible, the reporting of quantitative metrics on a project-by-project or category basis.

#### Alignment with Green Bond Principles 2017:

Sustainalytics has determined that Digital Realty's Green Bond Framework aligns to the four core components of the Green Bond Principles 2017. For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

<sup>3</sup> <https://www.digitalrealty.com/data-center-solutions/sustainability/green-bond/>

## Section 2: Sustainability Performance of the Issuer

### Contribution of framework to issuer's sustainability commitment

As part of their Environmental Sustainability Policy Statement,<sup>4</sup> Digital Realty sets the goal of leading the global data center industry in sustainable environmental performance. Some notable aspects of its strategy include:

- Issued the first data center industry green bond in June 2015; successfully allocated \$493 million of net proceeds to nine global green building projects.
- Participating in two energy and resource conservation initiatives: the UK Climate Change Agreement and the US Department of Energy Better Buildings Challenge. The targets associated with these initiatives are a 15% reduction in non-IT energy consumption by 2020 (compared to a 2011 baseline) and a 20% reduction in non-IT energy consumption by 2020 (compared to a 2013 baseline). As of December 31, 2016, Digital Realty reported a 12.8% reduction compared to a 2011 baseline. The 20% non-IT energy consumption reduction target was achieved in 2016.
- Executed power purchase agreements in 2016 and 2017 supporting the development of 184 MW of new utility-scale wind and solar power plants in the United States.<sup>5</sup>
- The Clean Start Program, under which the company procures renewable energy on behalf of its clients for the first year of a lease. In 2016, Digital Realty enrolled 100% of new customers in the Clean Start program, procuring 322,000 MWh or Renewable Energy Credits.
- The Colocation and Interconnectivity Business Clean Energy Solution, which sources clean energy from utility-scale suppliers to power the company's Colocation and Interconnectivity business. In 2017, the company met the needs of the US-based portion of this business through 100% renewable electricity, purchased primarily from a wind power facility in Texas.
- The Clean Power Sourcing Initiative, which aims to increase the amount of site-installed renewable energy. In 2017, Digital Realty procured 365,184 MWh<sup>6</sup> of non-utility renewable energy.
- Ongoing tracking of energy and carbon emission performance. Over the period of 2014-2016 the carbon intensity of Digital Realty's operations decreased by 24% (measured on the basis of mTCO<sub>2</sub>e/MWh), and the share of renewable energy used increased by 56%, now making up 1.38 million MWh of the 3.73 MWh consumed worldwide.<sup>7</sup>

Overall, Sustainalytics considers Digital Realty to be well positioned to issue green bonds given its leading sustainability practices and commitments. Furthermore, the issuance of green bonds aligns with the company's sustainability strategy of both increasing building performance (i.e. non-IT loads) as well as meeting data center demands with renewable energy, and will contribute to the realization of its environmental and energy targets.

### Well positioned to address common environmental and social risks associated with the projects

As a global company with investments in real estate and information technology, Digital Realty is exposed to various environmental and social risks such as worker health and safety and environmental degradation and water pollution risk surrounding its facilities.

To mitigate these risks, Digital Realty has a number of policies and procedures in place, including:

- An Environmental Occupational Health and Safety Policy<sup>8</sup>, which lays the company's commitment to achieving EOH&S excellence, and lists eight practices that will be taken to meet this goal, including: meeting or exceeding all applicable legislation, regulations, and rules, preventing occupational injuries and illnesses, preventing environmentally damaging incidents, and continual improvement and commitment.
- A Code of Business Conduct and Ethics<sup>9</sup>, which states that Digital Realty "is dedicated to conducting its business consistent with the highest standards of business ethics" and commits the company and its employees to "providing a safe and healthy working environment" and complying "with all applicable environmental, health and safety laws, regulations and [c]ompany standards."

<sup>4</sup> <https://www.digitalrealty.com/storage/docs/resources/Sustainability-Policy-2015.pdf>

<sup>5</sup> <http://investor.digitalrealty.com/investor-relations/news-and-events/news/news-details/2017/Digital-Realty-Announces-Expansion-of-Industry-Leading-Renewable-Energy-and-Sustainability-Initiatives/default.aspx>

<sup>6</sup> <http://d18m0p25nwr6d.cloudfront.net/CIK-0001297996/1b45108e-f3ce-4ff4-9814-3327d41b25da.pdf>

<sup>7</sup> <https://www.digitalrealty.com/data-center-solutions/sustainability/clean-energy/>

<sup>8</sup> [https://www.digitalrealty.com/storage/docs/resources/Global\\_EOHS\\_Policy.pdf](https://www.digitalrealty.com/storage/docs/resources/Global_EOHS_Policy.pdf)

<sup>9</sup> [http://s21.q4cdn.com/814695872/files/doc\\_downloads/Corporate\\_Governance/2017/Code-of-Business-Conduct-and-Ethics-\(August-2017\).pdf](http://s21.q4cdn.com/814695872/files/doc_downloads/Corporate_Governance/2017/Code-of-Business-Conduct-and-Ethics-(August-2017).pdf)

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- A Supplier Code of Conduct,<sup>10</sup> which sets out Digital Realty's expectation that suppliers and contractors "conduct themselves at all times with integrity, and in full compliance with [...] laws and regulations".
- A commitment to engagement with communities and non-governmental organizations.<sup>11</sup>
- External certifications, such as ISO 14001 and ISO 50001 Environmental Management Systems and an OHSAS 1801:2007 Health & Safety Management System.

Furthermore, as of June 2016, the company had received 50 certifications under various recognized regional or global standards, including 55% that have achieved a rating equivalent to LEED Gold or Platinum,<sup>12</sup> as assessed by Digital Realty. Projects certified under various standards may involve additional processes that will support risk mitigation (see Appendix 1 for comparison table). For example, the company's BREEAM-certified projects require an impact assessment on local populations (neighborhood), and impact assessment on noise and negative visual impacts, air, water, and electromagnetic quality studies, waste management practices and a focus on the use of local materials, and biodiversity protection.

Given the company's stated commitment to environmental, ethical, and health and safety performance, as well as the certifications achieved to date, Sustainalytics is of the opinion that Digital Realty is well-positioned to address common environmental and social risks associated with its project development and operation.

### Section 3: Impact of Use of Proceeds

The use of proceeds categories (green buildings, energy & resource efficiency, and renewable energy) are recognized as impactful by the Green Bond Principles 2017. The section below describes some of the anticipated impacts that are particularly relevant in the context of the IT sector.

#### Importance of energy efficiency and renewable energy for data centers

Data centers are by their very nature energy-intensive facilities. According to the US Department of Energy, they consume 10–50 times more energy per unit of floor space, on average, than commercial office buildings, and collectively make up approximately 2% of the country's total electricity consumption. Despite these high energy demands, recent technological developments have allowed data centers to operate more efficiently. The most common measure of energy efficiency in a data center is the Power Usage Effectiveness (PUE), which is the ratio of total power used to the power used by IT equipment. Although this metric has been criticized by some as being incomplete,<sup>13</sup> it is still widely used, represents a high-level look at a facility's energy use, and is generally accepted as an industry standard metric. Over time, PUE values have trended downwards across the data center industry due to both technological improvements as well as a greater focus within the industry on sustainability.<sup>14</sup> Digital Realty has publicly committed to "continually enhance energy efficiency" and improve their PUE. As part of their involvement in the Better Building Challenge they have achieved a 20% reduction in non-IT energy use. Sustainalytics views positively the ongoing efforts to improve energy efficiency, and is of the opinion that the energy efficiency use of proceeds category can contribute to these efforts.

Despite these increases in efficiency, data centers remain large consumers of electrical power. In 2014, US data centers consumed 70 billion kWh of electrical energy, and this amount is projected to continue to increase to 73 billion kWh by 2020, even if the ongoing trend toward increasingly efficient equipment continues<sup>15</sup>. Worldwide, it is estimated that data centers consumed 416 TWh of electricity in 2015.<sup>16</sup> With such high energy demands, the emissions intensity of the electricity being used can have significant impacts on greenhouse gas emissions if the source of the electricity is fossil fuel-fired generation. To offset this impact, many data center operators have opted to source their electricity from renewable power generators, as well as developing on-site renewable energy systems. In 2016, Digital Realty sourced 35% of its electricity needs from renewable sources,<sup>17</sup> and it is currently the 16<sup>th</sup> largest purchaser of green power in the United States

<sup>10</sup> <http://go.digitalrealty.com/supplier-code-of-conduct>

<sup>11</sup> <https://www.digitalrealty.com/data-center-solutions/sustainability/industry-engagement/>

<sup>12</sup> Digital Realty's certifications have been completed in accordance with one or more of the following: LEED, BREEAM, CEEDA, Green Globes, and BCA Green Mark. <https://www.digitalrealty.com/data-center-solutions/sustainability/certification/>

<sup>13</sup> <https://www.sciencedirect.com/science/article/pii/S1040619016300446>

<sup>14</sup> [www.mdpi.com/1996-1073/10/10/1470/pdf](http://www.mdpi.com/1996-1073/10/10/1470/pdf)

<sup>15</sup> [http://eta-publications.lbl.gov/sites/default/files/lbnl-1005775\\_v2.pdf](http://eta-publications.lbl.gov/sites/default/files/lbnl-1005775_v2.pdf)

<sup>16</sup> <https://cloudscene.com/news/2016/12/going-green/>

<sup>17</sup> <https://cloudscene.com/news/2016/12/going-green/>

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under the EPA's Green Power Partnership.<sup>18</sup> Sustainalytics is of the view that the renewable energy use of proceeds will support the continued expansion of both utility-scale renewable procurement and on-site electrical generation.

### Relevance of green buildings standards for data centers

Sustainalytics recognizes that data centers are unique structures and face different environmental challenges than other building types. The majority of a data center's energy demand relates to IT process load (including the operation of servers and data networks) and cooling load (due to the high amount of heat generated by the computer equipment). The power used for cooling accounts for 40% of energy use in the average data center, and may be as high as 61% at some inefficient facilities.<sup>19</sup> Other studies suggest that at the average center 56% of power is consumed by server racks, 30% allotted to cooling, and the balance to power networks, lighting, security, and other loads.<sup>20</sup> Facilities using water-cooling technology may also have environmental impacts related to water management. In other words, compared to the typical building type, a lower portion of the environmental impact is due to conventional factors such as building structure and envelope, construction materials, fixtures, waste generation, and indoor environments.

To address the unique demands of a data center, some certification schemes have issued additional criteria for data centers. The LEED standard<sup>21</sup> establishes additional requirements for minimum energy performance and optimized energy performance, altering the way that credits are earned in these categories. The BREEAM Scheme Document for data centers<sup>22</sup> provides specific ways to calculate the category scores that are relevant for data centers, as well as altering the overall weighting scheme to emphasize the energy and water categories.<sup>23</sup> The BCA Green Mark system has individual scheme documents for both existing and new data centers<sup>24</sup>, which provide a situation-relevant point allocation system. Additionally, the CEEDA<sup>25</sup> assessment framework is designed specifically for data centers, and eschews many traditional green building criteria in favor of a strong focus on energy usage metrics. Sustainalytics considers criteria that target data centers to increase the robustness of the certification schemes in this context and encourages the usage of green building certification schemes that account for the unique requirements of the sector.

Overall, Sustainalytics views the green building certifications listed in the framework to be credible, and that they ensure an integration of social and environmental considerations during all stages of a building's life cycle. Appendix 1 shows a comparison between the various certification schemes. Although top-level certifications result in greater positive environmental impact, given the energy-intensive nature of data center operations and the challenges faced with the certification of these unique building types, Sustainalytics is of the view that the inclusion in Digital Realty's Green Bond Framework of green buildings that achieve certification levels ranging from good to excellent performance will have a positive impact.

### Alignment with The UN Sustainable Development Goals

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This green bond advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
Green Buildings	9. Industry, Innovation, and Infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency.

<sup>18</sup> <https://www.epa.gov/greenpower/green-power-partnership-national-top-100>

<sup>19</sup> [www.mdpi.com/1996-1073/10/10/1470/pdf](http://www.mdpi.com/1996-1073/10/10/1470/pdf)

<sup>20</sup> [https://stacks.stanford.edu/file/druid:yz143cs2917/WP131\\_0.pdf](https://stacks.stanford.edu/file/druid:yz143cs2917/WP131_0.pdf)

<sup>21</sup> [https://www.usgbc.org/sites/default/files/LEED%20v4%20BDC\\_04.6.18\\_current.pdf](https://www.usgbc.org/sites/default/files/LEED%20v4%20BDC_04.6.18_current.pdf)

<sup>22</sup> [https://www.hrsservices.co.uk/wp-content/uploads/2016/07/SD5068\\_1\\_0\\_BREEAM\\_Datacentres\\_20101.pdf](https://www.hrsservices.co.uk/wp-content/uploads/2016/07/SD5068_1_0_BREEAM_Datacentres_20101.pdf)

<sup>23</sup> Note that there are additional methodological differences, for example LEED bases calculations of energy savings compared to an ASHRAE-modeled baseline while BREEAM awards credits for achieving certain PUE benchmarks.

<sup>24</sup> [https://www.bca.gov.sg/GreenMark/others/GM\\_New\\_DC\\_v1\\_1.pdf](https://www.bca.gov.sg/GreenMark/others/GM_New_DC_v1_1.pdf)

<sup>25</sup> <http://www.ceedacert.com/>

## Conclusion

Digital Realty, an owner and operator of data center facilities, intends to issue green bonds to finance and refinance investments in green buildings, energy efficiency, sustainable water management, and renewable energy systems. By focusing on green investments, the green bond has the potential to create significant environmental benefits.

Sustainalytics is of the opinion that Digital Realty's planned use of proceeds will create a positive impact, and that all categories are aligned with the Green Bond Principles 2017. Furthermore, Digital Realty's project selection and management of proceeds processes are in line with market practice. The company has committed to allocation and impact reporting on an annual basis.

Based on the above, Sustainalytics is confident that the Digital Realty Green Bond Framework is robust, credible, and transparent.

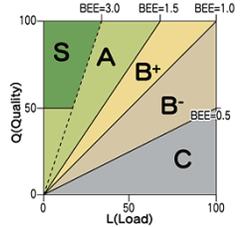
# Appendices

## Appendix 1: Overview and Comparison of Green Building Certification Schemes for Data Centers

	LEED	BREEAM	Singapore BCA Green Mark	Green Globes
<b>Background</b>	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.	BREEAM (Building Research Establishment Environmental Assessment Method) was first published by the Building Research Establishment (BRE) in 1990. Based in the UK. Used for new, refurbished and extension of existing buildings.	The BCA Green Mark Scheme provides real estate certifications in Singapore to promote sustainability in the built environment (during project conceptualization and design, as well as during construction.)	Green Globes, administered by the US Green Building Initiative, is a building certification used primarily in Canada, as well as the US. Originally based off of the BREEAM standard, and re-worked to under the specifications of the Canadian Standards Association (CSA) and the American National Standards Institute (ANSI).
<b>Certification levels</b>	<ul style="list-style-type: none"> <li>• Certified</li> <li>• Silver</li> <li>• Gold</li> <li>• Platinum</li> </ul>	<ul style="list-style-type: none"> <li>• Pass</li> <li>• Good</li> <li>• Very Good</li> <li>• Excellent</li> <li>• Outstanding</li> </ul>	<ul style="list-style-type: none"> <li>• Certified</li> <li>• Gold</li> <li>• Gold Plus</li> <li>• Platinum</li> </ul>	<ul style="list-style-type: none"> <li>• 1 Globe</li> <li>• 2 Globes</li> <li>• 3 Globes</li> <li>• 4 Globes</li> </ul>
<b>Areas of Assessment:</b>	<ul style="list-style-type: none"> <li>• Energy and Atmosphere</li> <li>• Sustainable Sites</li> <li>• Location and Transportation</li> <li>• Materials and Resources</li> <li>• Water Efficiency</li> <li>• Indoor Environmental Quality</li> <li>• Innovation in Design</li> <li>• Regional Priority</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> <li>• Energy</li> <li>• Land Use and Ecology</li> <li>• Pollution</li> <li>• Transport</li> <li>• Materials</li> <li>• Water</li> <li>• Waste</li> <li>• Health and Wellbeing</li> <li>• Innovation</li> </ul>	<ul style="list-style-type: none"> <li>• Climate Responsive Design</li> <li>• Building Energy Performance</li> <li>• Resource Stewardship</li> <li>• Smart and Healthy Buildings</li> <li>• Advanced Green Efforts</li> </ul>	<ul style="list-style-type: none"> <li>• Project Management</li> <li>• Site</li> <li>• Energy</li> <li>• Water</li> <li>• Materials &amp; Resources</li> <li>• Emissions</li> <li>• Indoor Environment</li> </ul>
<b>Specific Criteria for Data Centers?</b>	Yes, additional minimum requirements and altered calculation methodology in energy section.	Yes, re-weighted categories to give extra emphasis to relevant criteria (energy and water)	Yes, different categories and weightings from general-purpose green mark score, emphasizing energy efficiency	No

<p><b>Requirements</b></p>	<p>Prerequisites (independent of level of certification) and credits with associated points.</p> <p>These points are then added together to obtain the LEED level of certification</p> <p>There are several different rating systems within LEED. Each rating system is designed to apply to a specific sector (e.g. New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, Existing Buildings: Operation and Maintenance).</p>	<p>Prerequisites depending on the levels of certification and credits with associated points</p> <p>This number of points is then weighted by item and gives a BREEAM level of certification, which is based on the overall score obtained (expressed as a percentage). Majority of BREEAM issues are flexible, meaning that the client can choose which to comply with to build their BREEAM performance score.</p> <p>BREEAM has two stages/ audit reports: a 'BREEAM Design Stage' and a 'Post Construction Stage', with different assessment criteria.</p>	<p>Prerequisites for each performance area (to demonstrate minimum criteria met), and numerical scores achieved in accordance with the criteria in each performance area. Performance Areas have different weights.</p> <p>Depending on the level of building performance and numerical score achieved in performance area, building's level of certification is determined.</p> <p>Assessment of compliance with Green Mark criteria is done by the Singapore Building and Construction Authority (BCA).</p>	<p>Score-based performance levels, with 1,000 total points available. The number of points available in each category varies on the certification type (i.e. new construction or existing building). A score of 35% (350 points) must be obtained in order to receive the lowest (1 Globe) rating.</p> <p>The evaluation system combines web-based submissions by the project team and remote and on-site assessments by qualified third party assessors.</p> <p>Qualification systems exist for New Construction (NC), Existing Buildings (EB), and Sustainable Interiors (SI).</p>
<p><b>Performance display</b></p>				
<p><b>Qualitative Considerations</b></p>	<p>Widely recognised internationally, and strong assurance of overall quality.</p>	<p>Used in more than 70 countries: Good adaptation to the local normative context. Predominant environmental focus. Minimum standards less strict than LEED.</p>	<p>Strongly applicable in local market. Is officially licensed by the government of Singapore.</p>	<p>Limited recognition outside of North America.</p>

	CEEDA	CASBEE	DGNB
<b>Background</b>	CEEDA (Certified Energy Efficient Datacenter Award) is a global certification program target specifically at data center owners and operators. The methodology, focused primarily on energy usage, draws from ASHRAE, Energy Star, Green Grid, and other sources.	CASBEE (Comprehensive Assessment System for Built Environment Efficiency) represents a green building management system from Japan, evaluating and rating the environmental performance of buildings and the built environment. CASBEE is formed of four assessment tools tailored to different scales: housing, building, district and city.	The German Green Building Certification or DGNB was developed in 2007 by the non-profit German Sustainable Building Council in partnership with the German Federal Ministry of Transport, Building, and Urban Affairs in order to actively encourage sustainable building.
<b>Certification levels</b>	<ul style="list-style-type: none"> <li>• Bronze</li> <li>• Silver</li> <li>• Gold</li> </ul>	<ul style="list-style-type: none"> <li>• C (Poor)</li> <li>• B- (Slightly Poor)</li> <li>• B+ (Good)</li> <li>• A (Very Good)</li> <li>• S (Excellent)</li> </ul>	<ul style="list-style-type: none"> <li>• Bronze</li> <li>• Silver</li> <li>• Gold</li> <li>• Platinum</li> </ul>
<b>Areas of Assessment:</b>	<ul style="list-style-type: none"> <li>• Operational energy efficiency (95% of score)</li> <li>• O&amp;M</li> <li>• M&amp;E, IT, and Water Management Best Practices</li> </ul>	<ul style="list-style-type: none"> <li>• Built Environment Quality</li> <li>• Built Environment Load</li> <li>• Energy Efficiency</li> <li>• Resource efficiency</li> <li>• Local environment</li> <li>• Indoor environment</li> </ul>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Economic</li> <li>• Sociocultural and functional aspects</li> <li>• Technology</li> <li>• Processes</li> <li>• Site</li> </ul>
<b>Specific Criteria for Data Centers?</b>	Yes, entire scheme is specific for data centers. Framework tailed for specific data center types.	No	No
<b>Requirements</b>	Weighted score based on a checklist of various metrics, as assessed by an independent auditor.	Score-based performance level CASBEE uses the BEE (Built Environment Efficiency) as its assessment indicator, which is calculated from Q (Built Environment Quality) as the numerator and L (Built Environment Load) as the denominator. Q and L are obtained through the classification and rearrangement of the four areas of	Percentage-based performance index.  The total performance index (expressed as a percentage) is calculated by adding the six key areas of assessment. The environmental, economic, socio-cultural and functional aspects and technical quality each account for 22.5% of the total, process accounts

		<p>assessment. Buildings may receive ranks ranging from C (poor) to S (excellent), in order of increasing BEE value. For authorization, a building must receive a report from the CASBEE Certification system, which is afterwards assessed by the local government.</p>	<p>for 10% and the site quality is given a separate grade.</p> <p>Depending on the total performance index, a DGNB award will be given to the project, starting from Silver (at least 50%), then Gold (at least 65%) and finally Platinum (at least 80%). Bronze is awarded for already existing buildings and is conferred as the lowest rank with a total performance index of at least 35%.</p>
<p><b>Performance display</b></p>			
<p><b>Qualitative Considerations</b></p>	<p>Strong energy focus. Relevant in the data center context but limited wider recognition.</p>	<p>In Japan, many local governments have made CASBEE assessment results mandatory for building permits. Compared to similar tools available internationally, CASBEE displays a unique and simple structure.</p>	<p>DGNB certification is based on current European Union standards and norms and is being recommended by the German Federal Transport, Building and Urban Development.</p>

## Appendix 2: Green Bond / Green Bond Programme - External Review Form

### Section 1. Basic Information

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**Issuer name:** Digital Realty

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**Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:** *[specify as appropriate]*

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**Review provider's name:** Sustainalytics

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**Completion date of this form:** May 24, 2018

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**Publication date of review publication:** *[where appropriate, specify if it is an update and add reference to earlier relevant review]*

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### Section 2. Review overview

#### SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBPs:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds        | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting                                    |

#### ROLE(S) OF REVIEW PROVIDER

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification   | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other <i>(please specify)</i> :                        |  |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

#### EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Executive Summary above.
--

### Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

**1. USE OF PROCEEDS**

Overall comment on section *(if applicable)*:

1. Construction, refurbishment, or renovation of or tenant improvements to green buildings certified under a verified third-party standard, at the specified certification levels:
  - a. LEED: Silver, Gold, or Platinum
  - b. BREEAM: Very Good, Excellent, or Outstanding
  - c. BCA Green Mark: Gold, GoldPlus, or Platinum
  - d. Green Globes: 3 Globes or 4 Globes
  - e. CEEDA: Silver or Gold
  - f. CASBEE: B+, A, or S
  - g. DGNB: Silver, Gold, or Platinum
2. Investment in energy efficiency and water efficiency of building, building subsystems, or land, which:
  - a. improve energy efficiency by at least 15%, or
  - b. increase water use efficiency by at least 15%, including systems that support the use of non-potable or reclaimed water
3. Investment in renewable energy, including
  - a. On-site renewable energy systems, such as solar photovoltaic generation
  - b. Expenditures on renewable energy power purchase agreements (PPAs)
  - c. Energy storage systems

**Use of proceeds categories as per GBP:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Renewable energy   | <input checked="" type="checkbox"/> Energy efficiency  |
| <input type="checkbox"/> Pollution prevention and control  | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation   | <input type="checkbox"/> Clean transportation  |
| <input checked="" type="checkbox"/> Sustainable water and wastewater management  | <input type="checkbox"/> Climate change adaptation   |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes                             | <input checked="" type="checkbox"/> Green buildings  |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs | <input type="checkbox"/> Other <i>(please specify)</i> :   |

If applicable please specify the environmental taxonomy, if other than GBPs:

**2. PROCESS FOR PROJECT EVALUATION AND SELECTION**

Overall comment on section (if applicable):

## Digital Realty Green Bond

The responsibility for project selection and evaluation belongs to the Chief Financial Officer, General Counsel, and other senior management in coordination with the company's sustainability department. This is in line with market practice.

### Evaluation and selection

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives            | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories               |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input type="checkbox"/> Summary criteria for project evaluation and selection publicly available                  | <input type="checkbox"/> Other ( <i>please specify</i> ):   |

### Information on Responsibilities and Accountability

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other ( <i>please specify</i> ):  |  |

### 3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

Digital Realty will allocate the net proceeds of the green bond to the eligible projects. Pending the allocation of the proceeds, all or a portion of the net proceeds may be used for the payment of outstanding indebtedness or other capital management activities. An external auditor, appointed by Digital Realty, will verify on an annual basis the proceeds allocated and the remaining balance. This is in line with market practice.

### Tracking of proceeds:

- Green Bond proceeds segregated or tracked by the issuer in an appropriate manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (*please specify*):

### Additional disclosure:

- |   |  |
|---|--|
| <input type="checkbox"/> Allocations to future investments only | <input type="checkbox"/> Allocations to both existing and future investments |
|---|--|

- |  |   |
|--|---|
| <input type="checkbox"/> Allocation to individual disbursements                  | <input type="checkbox"/> Allocation to a portfolio of disbursements |
| <input type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other ( <i>please specify</i> ):           |

#### 4. REPORTING

Overall comment on section (if applicable):

Digital Realty intends to report on the allocation of proceeds on its website, on an annual basis, until the net proceeds are fully allocated. The company is committed to reporting a list of eligible project funded, as well as allocation of proceeds and environmental certifications and benefits on a category basis. In Sustainalytics' view reporting on these metrics is in line with market practice.

#### Use of proceeds reporting:

- |  |   |
|--|---|
| <input type="checkbox"/> Project-by-project            | <input checked="" type="checkbox"/> On a project portfolio basis                    |
| <input type="checkbox"/> Linkage to individual bond(s) | <input checked="" type="checkbox"/> Other ( <i>please specify</i> ): Category basis |

#### *Information reported:*

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Allocated amounts     | <input type="checkbox"/> Green Bond financed share of total investment |
| <input type="checkbox"/> Other ( <i>please specify</i> ): |  |

#### *Frequency:*

- |  |                                      |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual       | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): |                                      |

#### Impact reporting:

- |  |  |
|--|--|
| <input type="checkbox"/> Project-by-project            | <input checked="" type="checkbox"/> On a project portfolio basis           |
| <input type="checkbox"/> Linkage to individual bond(s) | <input checked="" type="checkbox"/> Other (please specify): Category basis |

#### **Frequency:**

- |  |                                      |
|--|--------------------------------------|
| <input checked="" type="checkbox"/> Annual       | <input type="checkbox"/> Semi-annual |
| <input type="checkbox"/> Other (please specify): |                                      |

#### **Information reported (expected or ex-post):**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> GHG Emissions / Savings | <input checked="" type="checkbox"/> Energy Savings   |
| <input checked="" type="checkbox"/> Decrease in water use   | <input checked="" type="checkbox"/> Other ESG indicators (please specify): Building certifications |

## Digital Realty Green Bond

### Means of Disclosure

- |   |   |
|---|---|
| <input type="checkbox"/> Information published in financial report  | <input type="checkbox"/> Information published in sustainability report     |
| <input type="checkbox"/> Information published in ad hoc documents  | <input checked="" type="checkbox"/> Other (please specify): Company website |
| <input type="checkbox"/> Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review): |   |

Where appropriate, please specify name and date of publication in the useful links section.

### USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

<https://www.digitalrealty.com/data-center-solutions/sustainability/green-bond/>

### SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

#### Type(s) of Review provided:

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 <sup>nd</sup> opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification / Audit                                   | <input type="checkbox"/> Rating        |
| <input type="checkbox"/> Other ( <i>please specify</i> ):                       |  |

**Review provider(s):**

**Date of publication:**

### ABOUT ROLE(S) OF REVIEW PROVIDERS AS DEFINED BY THE GBP

- i. **Consultant Review:** An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a Green Bond, such as the establishment/review of an issuer's Green Bond framework. "Second Party Opinions" may fall into this category.
- ii. **Verification:** An issuer can have its Green Bond, associated Green Bond framework, or underlying assets independently verified by qualified parties, such as auditors. In contrast to certification, verification may focus on alignment with internal standards or claims made by the issuer. Evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria.
- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against an external green assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.
- iv. **Rating:** An issuer can have its Green Bond or associated Green Bond framework rated by qualified third parties, such as specialised research providers or rating agencies. Green Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Green Bond frameworks / programmes.

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For more information, visit [www.sustainalytics.com](http://www.sustainalytics.com)

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