



Second-Party Opinion

JD.com Green Finance Framework

Evaluation Summary

Sustainalytics is of the opinion that the JD.com Green Finance Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and the Green Loan Principles 2021. This assessment is based on the following:



USE OF PROCEEDS The eligible categories for the use of proceeds – (i) Green Buildings, (ii) Energy Efficiency, (iii) Circular Economy Adapted Products, (iv) Clean Transportation, and (v) Renewable Energy – are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics considers that investments in the eligible categories are expected to improve JD.com’s environmental performance and help advance the UN Sustainable Development Goals, specifically SDGs 7, 9, 11 and 12.



PROJECT EVALUATION / SELECTION JD.com’s ESG Leadership Group (ELG), comprised of executive managers and senior management across functions, will be responsible for reviewing and selecting eligible projects. JD.com, under the supervision of ELG conducts environmental and social risk assessments in the project identification stage, which is applicable to all allocation decisions made under the Framework. Sustainalytics considers this risk management system to be adequate and the project selection process in line with market practice.



MANAGEMENT OF PROCEEDS JD.com’s treasury team will track the allocations through an internal register. Full allocation is intended within one year from issuance. Pending allocation, proceeds will be invested in cash or cash equivalents or be used to repay JD.com’s existing borrowings. This is in line with market practice.



REPORTING JD.com intends to report on the allocation and impact of proceeds in its sustainability reports, annual reports or on its corporate website on an annual basis until full allocation. Allocation reporting will include information on the aggregate amount allocated to eligible projects, the unallocated amount, the type of temporary investment of unallocated proceeds, and the proportion of financing and refinancing. In addition, JD.com is committed to reporting on relevant impact metrics where feasible. Sustainalytics views JD.com’s allocation and impact reporting as aligned with market practice.

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Introduction

JD.com, Inc. (“JD.com” or the “Company”) is an e-commerce company and online retailer in China. The Company’s key business units include JD Retail, JD Health, JD Logistics, JD Property, JD International and JD Technology. Headquartered in Beijing, China, the Company is listed on the NASDAQ and the Hong Kong Stock Exchange and employed more than 300,000 employees as of December 2020.

JD.com has developed the JD.com Green Finance Framework, dated December 2021 (the “Framework”), under which it intends to issue green bonds, loans and other debt financing instruments¹ and use the proceeds to finance and refinance, in whole or in part, existing and future projects aimed at improving JD.com’s environmental performance.² The Framework defines eligibility criteria in five areas:

1. Green Buildings
2. Energy Efficiency
3. Circular Economy Adapted Products
4. Clean Transportation
5. Renewable Energy

JD.com engaged Sustainalytics to review the JD.com Green Finance Framework and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP)³ and the Green Loan Principles 2021 (GLP).⁴ This Framework will be published in a separate document.⁵

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁶ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA, and the Green Loan Principles 2021, as administered by LMA, APLMA and LSTA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.11, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of JD.com’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 Framework. JD representatives have confirmed (1) they understand it is the sole responsibility of JD.com to ensure that the information provided is complete, accurate or up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Framework and should be read in conjunction with that Framework.

¹ JD.com has clarified to Sustainalytics that other debt-like financing instruments may include convertible and exchangeable bonds in future issuances. Sustainalytics has communicated to JD.com that once the conversion has occurred, the SPO is no longer valid for the assessed securities falling under this asset class. Additionally, net proceeds should be fully allocated prior to the conversion date to be eligible.

² JD.com has communicated to Sustainalytics that the use of proceeds will be primarily located in China, where the Company operates, however there is a possibility of financing future projects outside of China.

³ The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

⁴ The Green Loan Principles are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications & Trading Association and are available at <https://www.lsta.org/content/green-loan-principles/>

⁵ The JD.com Green Finance Framework is available on JD.com’s website at: <https://ir.jd.com/esgcsr>.

⁶ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and JD.com.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. The Second-Party Opinion is valid for issuances aligned with the respective Framework for which the Second-Party Opinion was written for a period of twenty-four (24) months from the evaluation date stated herein.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond and loan proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that JD.com has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the JD.com Green Finance Framework

Sustainalytics is of the opinion that the JD.com Green Finance Framework is credible and impactful and aligns with the four core components of the GBP and GLP. Sustainalytics highlights the following elements of JD.com's Green Finance Framework:

- Use of Proceeds:
 - The eligible categories – (i) Green Buildings, (ii) Energy Efficiency, (iii) Circular Economy Adapted Products, (iv) Clean Transportation, and (v) Renewable Energy – are aligned with those recognized by the GBP and GLP. Sustainalytics considers that JD.com's financing of eligible projects is expected to improve environmental performance of the Company's operations.
 - JD.com has established a 36-month look-back period for its refinancing activities. Additionally, the Company intends to complete the full allocation of proceeds within 12 months after issuance. This is in line with market practice.
 - Under the Green Buildings category, JD.com may finance or refinance construction, renovation or refurbishment of new or existing commercial buildings and warehouses that result in achieving the following green building certification levels: BEAM Plus (Gold or above), LEED (Gold or above), BREEAM (Excellent or above), EDGE, or Chinese Green Building Evaluation Label (two stars or above). For Sustainalytics' assessment of these building certification schemes, please refer to Appendix 1.
 - For renovation or refurbishment of buildings that have achieved an eligible certification scheme, JD.com has communicated to Sustainalytics that it intends to target energy performance improvement of at least 20%, which is in line with market practice.
 - Under the Energy Efficiency category, JD.com may finance or refinance projects related to energy efficiency upgrades to electrified facilities and equipment such as lift, lighting, and fresh air supply systems. In addition, the Company may finance the acquisition, development, construction, operation or maintenance of data centres with Power Usage Effectiveness (PUE) ≤ 1.3 . JD.com intends to finance the installation of energy-efficient technologies, products or equipment that are not primarily driven by fossil fuels. Sustainalytics encourages JD.com to report on estimated or achieved energy efficiency, on a portfolio basis, where feasible.
 - Under the Circular Economy Adapted Products category, the Company may finance or refinance the rent and procurement of reusable⁷ pack boxes that could be made of recycled, waste, or bio-

⁷ JD.com specified that it has processes in place to ensure collection of reusable packaging from customers to be utilized for subsequent shipments. Any damages or losses to such packaging is replaced by vendors accordingly.

based materials. Sustainalytics views this to be in line with market practice, noting in particular the below:

- JD.com has clarified to Sustainalytics that all boxes being financed under the category will be reusable, and single-use products will be excluded. Nevertheless, JD.com intends to procure, where feasible, packaging made of materials that obtain Roundtable on Sustainable Biomaterials (RSB) certification for bio-based materials, and Forest Stewardship Council (FSC) certification and Programme for the Endorsement of Forest Certification (PEFC) for forest-based materials. For Sustainalytics' assessment of RSB and forestry certification schemes, please refer to Appendix 2 and 3.
 - Under the Clean Transportation category, the Company may finance or refinance the procurement of electric or hydrogen vehicles, as well as the installation of charging stations for electric vehicles. Sustainalytics views this to be in line with market practice.
 - The Renewable Energy category may include the financing or refinancing of expenditures related to design, construction, installation and operation of photovoltaic power stations and solar (photovoltaic) panels for rooftops of warehouses. Sustainalytics considers this to be aligned with market practice.
- Project Evaluation and Selection:
 - JD.com's ESG Leadership Group (ELG), which is comprised of executive managers and senior management across functions, will be responsible for the evaluation and selection of projects that comply with the eligibility criteria defined by the Framework.
 - JD.com has in place an ESG governance system which includes the ESG Working Group that is responsible for identifying and managing ESG risks. Following the system, the Company will carry out environmental and social risk management processes in the project identification stage, under the supervision of the ELG. Sustainalytics considers these environmental and social risk management systems to be adequate and aligned with market expectation. For additional detail see Section 2.
 - Based on the cross-functional oversight for project selection and risk management system, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
 - JD.com's treasury team will manage the allocation of net proceeds. JD.com will establish a Green Finance Group (GFG), which is chaired by CFO and collaborates with internal stakeholders, to review and decide the allocation of green finance proceeds towards the eligible projects. The proceeds will be deposited in the general funding accounts and tracked through an internal register system maintained by the Company.
 - Pending allocation, proceeds will be invested in cash or cash equivalents. JD.com may also use unallocated proceeds to repay the Company's existing borrowings and has confirmed the exclusion of refinancing any debts associated with carbon-intensive assets or activities.
 - Based on the presence of an internal tracking system and disclosure of temporary allocation and allocation period, Sustainalytics considers this process to be in line with market practice.
- Reporting:
 - JD.com commits to provide allocation and impact reporting via its sustainability reports, annual reports or corporate website. The reporting will be provided annually until full allocation of the net proceeds.
 - Allocation reporting will include the aggregate amount allocated to eligible projects, the unallocated amount, the type of temporary investment of unallocated proceeds, and the proportion of financing and refinancing.
 - Where possible, JD.com will report on the environmental impacts associated with the eligible projects funded by the net proceeds, such as energy efficiency gains (in MWh or in percentages), annual GHG emissions reduced or avoided (in tCO₂e), and annual energy savings (in MWh, GWh, GJ or TJ). A detailed list of environmental impact indicators can be found in Appendix 4.
 - Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2021 and Green Loan Principles 2021

Sustainalytics has determined that the JD.com Green Finance Framework aligns with the four core components of the GBP and GLP. For detailed information, please refer to Appendix 4: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Strategy of JD.com

Contribution of framework to JD.com's sustainability strategy

JD.com has formulated an Environmental Protection Strategy focused on three key environmental areas: (i) green operation, (ii) low-carbon and green supply chain, (iii) sustainable consumption.

JD.com aims to achieve green operations by reducing the carbon and environmental footprint of its data centre and business operations. In particular, through implementing energy-saving technologies, as of 2020, JD.com's data centre has achieved an annual average PUE below 1.3. Further, JD.com expects to introduce a new technology in the future which can recycle residual heat derived from the data centre's operations to provide a heating source for urban integrated heating supply networks.⁸

Regarding supply chain, JD.com aims to build a green supply chain system that has a lower carbon footprint in logistics, warehousing and packaging. In line with this goal, JD Logistics (JDL), a subsidiary of JD.com, has committed to reduce its GHG emissions by 50% by 2030 compared to 2019. From 2017 to 2020, JDL launched new energy vehicles in more than 50 cities across China, which is expected to reduce 120,000 tonnes of CO₂ emissions every year. JD.com has also set up more than 1,600 new energy vehicle charging stations nationwide.⁹ Additionally, the Company has applied big data technology in real-time optimal route planning and storage network planning to reduce the number of vehicles in transit and optimize the efficiency of logistics transportation. To reduce carbon emissions of warehouses, JD.com has committed to creating more than 200 million m² of rooftop photovoltaic power generation area by 2030.¹⁰ In addition, JD.com aims to install over 200 MW of solar PV power plants for its warehouses and industrial parks nationwide by the end of 2021, which is expected to generate over 160 million kWh annually after completion.¹¹ As for green packaging, JD.com has implemented different strategies to reduce environmental impact, such as promoting reusable delivery boxes and replacing plastic bags. As of 2020, JD.com has achieved 16 million accumulated uses of reusable boxes, reduced use of 180 million disposable foam boxes and 600 million disposable ice packs, and saved nearly 80 million disposable plastic woven bags annually.¹²

With regard to sustainable consumption, JDL's recycling project reached 10 million boxes recycled between 2016 and 2020, and 2 billion boxes saved by recycling and reusing box resources since 2014. JD.com further extended the recycling project to all packaging categories, such as plastic bags, plastic tapes and bubble wrap. In 2019 and 2020, JD.com recycled 100,000 of plastic bottles from large consumer products companies.¹³

Given the above, Sustainalytics is of the opinion that the JD.com Green Finance Framework is aligned with the Company's overall sustainability strategy and initiatives and will further the Company's action on its key environmental priorities.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the net proceeds from the financial instruments issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impact. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks associated with the eligible projects could include issues involving management of emissions, effluents and waste during construction, land use and biodiversity issues associated with large-scale infrastructure development, occupational health and safety, data privacy and security, and supply chain sustainability.

⁸ JD.com, "JD.com Environmental, Social and Governance Report", (2020), at: https://ir.jd.com/index.php/system/files-encrypted/nasdaq_kms/assets/2021/04/19/2-46-41/2020%20JD.com%20Environmental%20Social%20and%20Governance%20Report.pdf

⁹ Ibid

¹⁰ JD.com, "JD.com Corporate Social Responsibility Report", at: <https://corporate.jd.com/static/pdf/Corporate%20Social%20Responsibility%20Report.pdf>

¹¹ JD.com, "JD.com Environmental, Social and Governance Report", (2020), at: https://ir.jd.com/index.php/system/files-encrypted/nasdaq_kms/assets/2021/04/19/2-46-41/2020%20JD.com%20Environmental%20Social%20and%20Governance%20Report.pdf

¹² Ibid.

¹³ Ibid.

Sustainalytics is of the opinion that JD.com is able to manage potential risks through implementation of the following:

- JD.com's construction, renovation, and refurbishment projects comply with China's Environmental Impact Assessment Act and related regulations, under which companies are required to perform an environmental impact assessment (EIA) for projects that may have significant environmental impact. The Act stipulates that an EIA must include analyses of environmental impacts regarding noise, water, ecology, air quality, waste, groundwater and propose measures of environmental protection and management. The environmental protection measures and facilities prescribed in the EIA or applicable environmental regulations must be integrated into the projects' initial design and construction process.¹⁴
- JD.com has in place a Quality, Environment, Occupational Health and Safety Monitoring and Measurement Control System and an Environment, Occupational Health and Safety Operational Control System, both of which are implemented to ensure a safe working environment for JD.com's employees. Additionally, JD.com has received the Occupational Health and Safety Management System Certification issued by the China National Accreditation Service, China's sole national accreditation body.¹⁵
- JD.com has set up a Safety and Risk Control Committee in 2020 to manage consumer data safety and privacy, in compliance with China's law and regulations on data security and user safety.¹⁶ JD.com's Information Security Department is responsible for executing decisions from the Safety and Risk Control Committee, as well as defending the Company's system and network against external cyberattacks through technical control methods, such as data encryption and decryption. JD.com has also obtained the ISO27001 (information security management certification) and ISO27701 (privacy information security management system) certifications.¹⁷
- To minimize environmental and social risks in the supply chain, JD.com has set up a supplier management system which covers aspects such as supplier sourcing, warehousing and resource management. In terms of green procurement, the Company has established a Green Procurement Management Regulation and the Maximum Allowable Values of Energy Performance and Energy Efficiency Grades of Commercial Refrigerating Appliances, which provide specific energy-saving and environmental protection factors in procurement. Additionally, when selecting and admitting suppliers, the Company evaluates and audits suppliers' qualifications regarding their environmental, energy, and occupational health and safety management systems.¹⁸

Based on these policies, standards and assessments, Sustainalytics is of the opinion that JD.com has implemented adequate measures and is well positioned to manage or mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

All five use of proceeds categories are aligned with those recognized by the GBP and GLP. Sustainalytics focuses below on those whose impact is specifically relevant in the local context.

Importance of financing green buildings and energy efficiency projects in China

China is currently the world's largest real estate market, with half of the new buildings constructed annually worldwide being located in China.¹⁹ The buildings sector is a significant contributor to carbon emissions in China, accounting for 22% of China's emissions in 2021.²⁰ Within the building sector, the number of data

¹⁴ The National People's Congress of the People's Republic of China, "中华人民共和国环境影响评价法", at: <http://www.npc.gov.cn/npc/sjxf/fg/201906/5e47c4866d5b44ff8b338997e37ee2cc.shtml>; Ministry of Ecology and Environment of the People's Republic of China, "建设项目环境影响评价分类管理名录 (2021 年版)", at: <https://www.mee.gov.cn/xxgk/xxgk02/202012/W020210928608333204642.pdf>

¹⁵ JD.com, "JD.com Environmental, Social and Governance Report", (2020), at: https://ir.jd.com/index.php/system/files-encrypted/nasdaq_kms/assets/2021/04/19/2-46-41/2020%20JD.com%20Environmental%20Social%20and%20Governance%20Report.pdf

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ JD.com, "JD.com Environmental, Social and Governance Report", (2020), at: https://ir.jd.com/index.php/system/files-encrypted/nasdaq_kms/assets/2021/04/19/2-46-41/2020%20JD.com%20Environmental%20Social%20and%20Governance%20Report.pdf

¹⁹ ReportLinker, "Real Estate Industry 2021 - China Market Research & Statistics", at: <https://www.reportlinker.com/ci02431/Real-Estate.html/coverage/China>

²⁰ Energy of China, "'十三五'建筑节能低碳发展成效与'十四五'发展路径研究", at: <http://www.zhgn.org.cn/Detail.aspx?newsId=8306&TId=363>

centres in China grew to 74,000 in 2019, equivalent to 23% of the global total. Data centres consumed more than 161 TWh of power in China in 2018,²¹ and are expected to consume an additional 30% by 2023, contributing 163 million tonnes of carbon emissions.²²

China has set ambitious goals of achieving peak CO₂ emissions before 2030 and carbon neutrality by 2060,²³ and adopted a series of policies and measures to promote green buildings and enhance energy efficiency. During the 13th Five Year Plan (FYP) period (2016-2020), China accelerated the improvement of building energy-saving standards and required public buildings, including commercial buildings, to fully implement the “energy saving 65%” standard.²⁴ By the end of 2020, the total number of projects labelled as green buildings in China reached 247,000, with a construction area of more than 2,569 million m² and new green buildings accounted for 77% of new civil buildings in cities and towns.²⁵ China’s Ministry of Industry and Information Technology released in 2019 the “Guidelines on Strengthening the Construction of Green Data Centres”, which promote the use of renewable energy and measuring the energy efficiency of data centres in terms of PUE.

Under the 14th FYP, the government aims to further rationalize the allocation of energy resources and improve the utilization efficiency. The 14th FYP sets the target of reducing energy consumption and CO₂ emissions per unit of GDP by 13.5% and 18%, respectively, by 2025 compared to 2020.²⁶ The government also established a policy of promoting a modernized infrastructure system characterized by an efficient energy system. In addition, China has strengthened the legislation that requires residential and commercial buildings to implement green building standards and regulations²⁷ and continuously improved energy saving supervision in new building design and development.²⁸

Based on the above context, Sustainalytics is of the opinion that JD.com’s financing of green buildings and energy efficiency projects is expected to contribute to the reduction of GHG emissions and to achieving carbon neutrality in China.

Importance of renewable energy in China

Global electricity demand is expected to increase by nearly 55% (around 38,700 TWh) by 2050 compared to 2017 (25,000 TWh), due to economic activity and rapid growth in major emerging economies.²⁹ China’s electricity generation from non-renewable sources also grew significantly in 2020, making the country the world’s largest GHG emitter.³⁰ Meanwhile, due to government policies supporting cleaner fuel use and energy efficiency measures, the China’s share of renewable energy has been gradually increasing. In 2020, China was the largest producer of renewable electricity globally, particularly solar and wind power. Renewable energy accounted for 40% of China’s total installed electric power capacity and 26% of total power generation.^{31,32} Further, under the 14th FYP, the Chinese government established targets for the energy sector, committing to raise its non-fossil fuel share of primary energy to 20% by 2025 and 25% by 2030, and increase the total installed capacity of solar and wind to 1,200 GW by 2030.³³

Sustainalytics is of the opinion that JD.com’s financing of renewable energy projects has the potential to contribute to the national goal of China to transit to an economy largely supported by renewable energy and thus reduce GHG emissions.

²¹ South China Morning Post, “China tech giants wake up to renewable energy, but fossil fuels still dominate as electricity source”, at: <https://www.scmp.com/news/china/politics/article/3045616/china-tech-giants-wake-renewable-energy-fossil-fuels-still>

²² China Dialogue, “How will China’s Internet giants become carbon neutral?” at: <https://chinadialogue.net/en/business/how-will-chinas-internet-giants-become-carbon-neutral/>

²³ Climate Action Tracker, “China”, (2020), at: <https://climateactiontracker.org/countries/china/>

²⁴ Energy of China, “‘十三五’建筑节能低碳发展成效与‘十四五’发展路径研究”, at: <http://www.zhgn.org.cn/Detail.aspx?newsId=8306&TId=363>

²⁵ Ibid.

²⁶ CSET, “Outline of the People’s Republic of China 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035”, at: https://cset.georgetown.edu/wp-content/uploads/t0284_14th_Five_Year_Plan_EN.pdf

²⁷ Shen, Y, and Faure, M, (2020), “Green building in China”, International Environmental Agreements: Politics, Law and Economics, at: <https://link.springer.com/article/10.1007/s10784-020-09495-3>

²⁸ Energy of China, “‘十三五’建筑节能低碳发展成效与‘十四五’发展路径研究”, at: <http://www.zhgn.org.cn/Detail.aspx?newsId=8306&TId=363>

²⁹ BloombergNEF, “Global Electricity Demand to Increase 57% by 2050”, at: <https://about.bnef.com/blog/global-electricity-demand-increase-57-2050/#:~:text=Global%20electricity%20demand%20will%20reach%20around%2038%2C700%20terawatt-hours,capacity%2C%20according%20to%20our%20New%20Energy%20Outlook%202018.>

³⁰ Reuters, “China double new renewable energy capacity in 2020”, (2021), at: <https://www.reuters.com/article/us-china-energy-climatechange-idUSKBN29Q0JT>

³¹ IEA, “Global Energy Review 2020: Report extract: Renewables”, (2020), at: <https://www.iea.org/reports/global-energy-review-2020/renewables>

³² China Energy Portal, “Tracking China’s transition to sustainable energy”, (2020), at: <https://chinaenergyportal.org/en/2019-electricity-other-energy-statistics-preliminary/>

³³ Race to Zero, “China’s net zero future”, (2021), at: <https://racetozero.unfccc.int/chinas-net-zero-future/>

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by the year 2030. The instruments eventually issued under the JD.com Green Finance Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Green Buildings	9. 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
Energy Efficiency	7. Affordable and Clean Energy 9. Industries, Innovation and Infrastructure	7.3 By 2030, double the global rate of improvement in energy efficiency 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
Circular Economy Adapted Products	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.
Clean Transportation	9. Industry, Innovation and Infrastructure 11. Sustainable cities and communities	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 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
Renewable Energy	7. Affordable and clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

Conclusion

JD.com has developed the JD.com Green Finance Framework under which it may issue green bonds, loans and other debt financing instruments, and use the proceeds to finance (i) Green Buildings, (ii) Energy Efficiency, (iii) Circular Economy Adapted Products, (iv) Clean Transportation, and (v) Renewable Energy. Sustainalytics considers that the projects funded by the proceeds are expected to improve JD.com's environmental performance.

The JD.com Green Finance Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the JD.com Green Finance Framework is aligned with the

overall sustainability strategy of the Company and that the green use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 7, 9, 11 and 12. Additionally, Sustainalytics is of the opinion that JD.com has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the proceeds.

Based on the above, Sustainalytics is confident that JD.com is well-positioned to issue green bonds and that the JD.com Green Finance Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2021.

Appendices

Appendix 1: Overview and Assessment of Green Building Certification Schemes

	BEAM Plus ³⁴	LEED ³⁵	BREEAM ³⁶	EDGE ³⁷	Chinese Green Building Evaluation Label
Background	BEAM Society Limited (BSL), owner of the Building Environmental Assessment Method (BEAM), is a public body established in 2010. It owns BEAM Plus - a green building assessment tool tailor-made for the high-rise, high density-built environment of sub-tropical climate in Hong Kong.	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.	Building Research Establishment Environmental Assessment Method (BREEAM) was first published by the Building Research Establishment (BRE) in 1990. Based in the UK, BREEAM is used for new, refurbished and extension of existing buildings.	EDGE (or “Excellence in Design for Greater Efficiencies”) is a green building standard and certification system developed by the International Finance Corporation and applicable in 140 countries.	The Chinese Green Building Evaluation Label is a Certification System used in China for residential and public buildings (including commercial, hotel and government-owned) that was introduced in 2006 by MOHURD (Ministry of Housing and Urban-Rural Development).
Certification levels	Bronze Silver Gold Platinum	Certified Silver Gold Platinum	Pass Good Very Good Excellent Outstanding	Certified/ non-certified	1-Star 2-Star 3-Star
Areas of Assessment: Environmental Performance of the Building	<ul style="list-style-type: none"> Site Aspects (location and design of building, emissions from the site, site management) Materials Aspects (selection of materials, efficient use of materials, waste disposal and recycling) Energy Use (annual CO2 emissions or energy use, energy efficient systems and equipment, energy management) 	<ul style="list-style-type: none"> Energy and atmosphere Sustainable Sites Location and Transportation Materials and resources Water efficiency Indoor environmental quality Innovation in Design Regional Priority 	<ul style="list-style-type: none"> Energy Land Use and Ecology Pollution Transport Materials Water Waste Health and Wellbeing Innovation 	<p>1. Climatic Conditions of the Location</p> <p>Monthly average wet and dry bulb temperature; Monthly average outdoor wind velocity; Monthly average outdoor humidity, Solar radiation intensity; Annual average rainfall; Carbon dioxide intensity of the electricity grid; Average cost of energy (by fuel type) and water.</p> <p>2. Building Type and Occupant Use</p> <p>Homes: for both apartments and</p>	<ul style="list-style-type: none"> Land savings and outdoor environment Energy savings and utilisation Water savings and utilisation Material savings and utilisation Indoor environment Operations and management.

³⁴ BEAM, at: https://www.beamsociety.org.hk/en_beam_assessment_project_1.php

³⁵ Leadership in Energy and Environmental Design, at: <https://new.usgbc.org/leed>

³⁶ BREEAM, Building Research Establishment LTD, at: <https://breeam.com/>











³⁷ Website available at: <https://www.edgebuildings.com/marketing/edge/>

	<ul style="list-style-type: none"> • Water Use (water quality, water conservation, effluent discharges) • Indoor Environmental Quality (IEQ) 			<p>houses (assumptions for area and occupancy are based on income categories); Hotels: for both hotels and resorts (assumptions for area, occupancy and the type of support services are based on the star rating of the property); Offices: assumptions are based on occupancy density and hours of use; Hospitals: assumptions are based on the type of hospital (e.g., nursing home, private or public hospital, clinic or diagnostic center); Retail: assumptions are based on the type of retail building (e.g., department store, mall, supermarket, light industry or warehouse); Education: assumptions are based on the type of educational facility (e.g., pre-school, university or sports facility), as well as occupancy density and hours of use.</p> <p>3. Design and Specifications Thermal properties of the building envelope; Window to Wall Ratio; Building Orientation</p> <p>4. Calculation of the End Use Demand</p> <ul style="list-style-type: none"> • Overall energy demand in buildings; heating ventilation and air conditioning demand; virtual energy for comfort, energy 	
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				<p>demand for hot water requirements; lighting energy demand; water demand in buildings; estimations on rainwater harvesting or recycled water onsite; embodied energy in building materials.</p>	
Requirements	<p>Prerequisites for each performance area + Credits with associated points</p> <p>Detailed compliance with legal requirements is a prerequisite for the award of credits.</p> <p>For every performance area BEAM prescribes different prerequisites. Every applicable prerequisite in every BEAM category must be achieved for the project to be assessed.</p> <p>Credits are allocated for each performance area, and every area is weighted as per international consensus.³⁸ The Overall Assessment Grade is determined by the percentage (%) of the applicable credits gained under each performance category and its weighting factor.</p> <p>Verification of compliance with BEAM criteria is</p>	<p>Prerequisites (independent of level of certification) + 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 + Credits with associated points</p> <p>This number of points is then weighted by item³⁹ 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>To achieve the EDGE standard, a building must demonstrate a minimum 20% reduction in operational energy consumption, water use and embodied energy in materials as compared to typical local practices.</p>	<p>Prerequisites:</p> <p>The system functions on a checklist basis, with 1-Star buildings meeting 26 criteria, 2-Star an additional 43 items, and 3-Star on a further 14 items. Criteria and weighting differ for public and residential buildings. In public buildings, more weight is given to energy and material savings, while the standard for residential buildings places greater importance on urban land saving and outdoor environments.</p>

³⁸ BEAM Plus New Buildings, at: <https://www.beamsociety.org.hk/files/download/download-20130724174420.pdf>

³⁹ BREEAM weighting: Management 12%, Health, and wellbeing 15%, Energy 19%, Transport 8%, Water 6%, Materials 12.5%, Waste 7.5%, Land Use and ecology 10%, Pollution 10% and Innovation 10%. One point scored in the Energy item is therefore worth twice as much in the overall score as one point scored in the Pollution item.

	done by an independent BEAM Assessor.				
Performance display	   	  	 <p>Five Outstanding</p>		

Appendix 2: Overview of the Roundtable on Sustainable Biomaterials

	Roundtable on Sustainable Biomaterials ⁴⁰
Background	The Roundtable on Sustainable Biomaterials (RSB) is an international initiative that promotes and supports the sustainability of biomaterials production and processing, bringing together companies, farmers, NGOs and inter-governmental agencies. While the RSB was set up in 2007 as a means of ensuring the sustainability of liquid biofuels for transport, in 2013, it expanded its scope to include biomaterials.
Clear positive impact	Promoting sustainable biomaterials.
Minimum standards	The RSB sets minimum requirements in the areas of legality, planning, monitoring and continuous improvement, GHG emissions, human and labour rights, rural and social development, local food security, conservation, soil, water and air management, use of technology, inputs and management of waste, land rights and chain of custody. The RSB standard requires that biofuels achieve 50% lower lifecycle GHG emissions compared with a fossil fuel baseline. Each Principle also includes type of feedstock as a specific indicator of compliance.
Scope of certification or programme	The RSB certification addresses key risks such as human and labour rights, supply chain, resource management and land and biodiversity use through its criteria.
Verification of standards and risk mitigation	Certified entities undergo a self-assessment process and, afterwards, receives a visit from a third-party auditor. Annual audits will also take place after the validation.
Third-party expertise and multi-stakeholder process	RSB is a full member of the ISEAL Alliance and respects its Codes of Good Practice for multi-stakeholder sustainability standards. RSB's benchmarks are available with Rainforest Alliance, the Sustainable Agriculture Network, the Forest Stewardship Council, Bonsucro and the IFC Performance standards.
Performance Display	
Qualitative considerations	The RSB certification is considered strong by organisations such as WWF, IUCN and NRDC. In 2017, RSB certified 50 industrial facilities and 56,784 hectares of farmland.

⁴⁰ RSB, "About certification" at: <https://rsb.org/certification/about-certification/>.

Appendix 3: Overview and Assessment of Forestry Certifications

	FSC ⁴¹	PEFC ⁴²
Background	Founded in 1993 after the 1992 Earth Summit in Rio failed to produce any international agreements to fight against deforestation, FSC aims to promote sustainable forest management practice.	PEFC was founded in 1999 in response to the specific requirements of small and family forest owners as an international umbrella organisation providing independent assessment, endorsement and recognition of national forest certification systems.
Basic Principles	<ul style="list-style-type: none"> • Compliance with laws and FSC principles • Tenure and use rights and responsibilities • Indigenous peoples' rights • Community relations and workers' rights • Benefits from the forests • Environmental impact • Management plans • Monitoring and assessment • Special sites – high conservation value forests (HCVF) • Plantations 	<ul style="list-style-type: none"> • Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle • Maintenance and enhancement of forest ecosystem health and vitality • Maintenance and encouragement of productive functions of forests (wood and non-wood) • Maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems • Maintenance and appropriate enhancement of protective functions in forest management (notably soil and water) • Maintenance of socioeconomic functions and conditions • Compliance with legal requirements
Governance	<p>The General Assembly, consisting of all FSC members, constitutes the highest decision-making body.</p> <p>At the General Assembly, motions are proposed by one member, seconded by two more and deliberated and voted on by all members. Members are entitled to vote to amend the bylaws, initiate new policies and clarify, amend or overturn a policy decision by the board.</p> <p>Members apply to join one of three chambers – environmental, social or economic – that are further divided into northern and southern sub-chambers.</p> <p>Each chamber holds 33.3% of the weight in votes and within each chamber the votes are weighted so that the North and South hold an equal portion of authority, to ensure influence is shared equitably between interest groups and countries with different levels of economic development.</p> <p>The votes of all individual members in each sub-chamber represent 10% of the total vote of the sub-chamber, while the votes of organizational members make up the other 90%.</p> <p>The members vote for the board of directors, which is accountable to the members. There is an international board elected by all members and a US board elected by the US-based members.</p>	<p>PEFC's governance structure is formed by the General Assembly (GA) which is the highest authority and decision-making body. It is made up of all PEFC members, including national and international stakeholders.</p> <p>Members vote on key decisions including endorsements, international standards, new members, statutes and budgets. All national members have between one and seven votes, depending on membership fees, while international stakeholder members have one vote each.</p> <p>The Board of Directors supports the work of the GA and together the GA and the Board make the formal approval of final draft standards. Standards are developed by working groups.</p> <p>In general, PEFC's governance structure is more representative of industry and government stakeholders than of social or environmental groups, which gives industry and governments more influence in the decision-making process. However, the organisation does include stakeholders from all sectors.</p>
Scope	FSC is a global, multi-stakeholder owned system. All FSC standards and policies are set by a consultative process. There is an FSC Global standard and for certain countries FSC National standards. Economic, social and environmental interests have equal weight in the standard setting process. FSC follows the ISEAL Code of Good Practice for Setting Social and Environmental Standards.	Multi-stakeholder participation is required in the governance of national schemes as well as in the standard-setting process. Standards and normative documents are reviewed periodically at intervals that do not exceed five years. The PEFC Standard Setting standard is based on ISO/IEC Code for good practice for standardization (Guide 59) ⁴³ and the ISEAL Code of Good Practice for Setting Social and Environmental Standards.
Chain-of-Custody	<ul style="list-style-type: none"> • The Chain-of-Custody (CoC) standard is evaluated by a third-party body that is accredited by FSC and compliant with international standards. • CoC standard includes procedures for tracking wood origin. 	<ul style="list-style-type: none"> • Quality or environmental management systems (ISO 9001:2008 or ISO 14001:2004, respectively) may be used to implement the minimum requirements for chain-of-custody management systems required by PEFC. • Only accredited certification bodies can undertake certification.

⁴¹ Forest Stewardship Council, at: <https://www.fsc.org/en>.

⁴² Programme for the Endorsement of Forest Certification, at: <https://www.pefc.org/>.

⁴³ ISO, "ISO/IEC Guide 59:2019", (2019), at: <https://www.iso.org/standard/23390.html>.

	<ul style="list-style-type: none"> • CoC standard includes specifications for the physical separation of certified and non-certified wood, and for the percentage of mixed content (certified and non-certified) of products. • CoC certificates state the geographical location of the producer and the standards against which the process was evaluated. Certificates also state the starting and finishing point of the CoC. 	<ul style="list-style-type: none"> • CoC requirements include specifications for physical separation of wood and percentage-based methods for products with mixed content. • The CoC standard includes specifications for tracking and collecting and maintaining documentation about the origin of the materials. • The CoC standard includes specifications for the physical separation of certified and non-certified wood. • The CoC standard includes specifications about procedures for dealing with complaints related to participant's chain of custody.
<p>Non-Certified Wood Sources</p>	<p>FSC's Controlled Wood Standard establishes requirements to participants to establish supply-chain control systems and documentation to avoid sourcing materials from controversial sources, including:</p> <ol style="list-style-type: none"> Illegally harvested wood, including wood that is harvested without legal authorisation; from protected areas; without payment of appropriate taxes and fees; using fraudulent papers and mechanisms; in violation of CITES requirements; and others, wood harvested in violation of traditional and civil rights, wood harvested in forests where high conservation values are threatened by management activities, wood harvested in forests being converted from forests and other wooded ecosystems to plantations or non-forest uses, wood from management units in which genetically modified trees are planted. 	<p>The PEFC's Due Diligence System requires participants to establish systems to minimise the risk of sourcing raw materials from:</p> <ol style="list-style-type: none"> forest management activities that do not comply with local, national or international laws related to workers' health and labor and indigenous peoples' property, tenure and use rights. operations and harvesting, including land use conversion, <ul style="list-style-type: none"> management of areas with designated high environmental and cultural values, protected and endangered species, including CITES species, health and labour issues, indigenous peoples' property, tenure and use rights, payment of royalties and taxes. genetically modified organisms, forest conversion, including conversion of primary forests to forest plantations.
<p>Accreditation/ Verification</p>	<p>FSC-accredited Certification Bodies (CB) conduct an initial assessment and upon successful completion companies are granted a 5-year certificate. Companies must undergo an annual audit and a reassessment audit every 5 years. Certification Bodies undergo annual audits from Accreditation Services International (ASI) to ensure conformance with ISO standard requirements.</p>	<p>Accreditation is carried out by an accreditation body (AB). A certification body checks that a company meets the PEFC standard, the accreditation body checks that a certification body meets specific PEFC and ISO requirements. Through the accreditation process, PEFC has assurance that certification bodies are independent and impartial and that they follow PEFC certification procedures.</p> <p>PEFC does not have their own accreditation body. Like with the majority of ISO based certifications, PEFC relies on national ABs under the umbrella of the International Accreditation Forum (IAF). National ABs need to be a member of the IAF, which means they must follow IAF's rules and regulations.</p>
<p>Conclusion</p>	<p>Sustainalytics views both FSC and PEFC as well as the PEFC-affiliated. Both schemes have received praise for their contribution to sustainable forest management practices⁴⁴ and both have also faced criticism from civil society actors.^{45,46} In certain instances, these standards go above and beyond national regulation and are capable of providing a high level of assurance that sustainable forest management practices are in place. However, in other cases, the standards are equal or similar to national legislation and provide little additional assurance. Ultimately, the level of assurance that can be provided by either scheme is contingent upon several factors including the certification bodies conducting audits, national regulations and local context.</p>	

⁴⁴ FESPA, "FSC, PEFC and ISO 38200" (2018), at: <https://www.fespa.com/en/news-media/blog/fsc-pefc-and-iso-38200>.

⁴⁵ Yale Environment 360, "Greenwashed Timber: How Sustainable Forest Certification Has Failed" (2018), at: <https://e360.yale.edu/features/greenwashed-timber-how-sustainable-forest-certification-has-failed>.

⁴⁶ EIA, "PEFC: A Fig Leaf for Stolen Timber" (2017), at: <https://eia-global.org/blog-posts/PEFC-fig-leaf-for-stolen-timber>.

Appendix 4: Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	JD.com, Inc.
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	JD.com Green Finance Framework
Review provider's name:	Sustainalytics
Completion date of this form:	December 30, 2021
Publication date of review publication:	

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 GBP:

- | | |
|--|--|
| <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 nd 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 Evaluation 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*):

The eligible categories for the use of proceeds – (i) Green Buildings, (ii) Energy Efficiency, (iii) Circular Economy Adapted Products, (iv) Clean Transportation, and (v) Renewable Energy – are aligned with those recognized by the Green Bond Principles and the Green Loan Principles. Sustainalytics considers that investments in the eligible categories will improve JD.com’s environmental performance and advance the UN Sustainable Development Goals, specifically SDGs 7, 9, 11 and 12.

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 checked="" type="checkbox"/> Clean transportation |
| <input type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |
| <input checked="" 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 GBP | <input type="checkbox"/> Other (<i>please specify</i>): |

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

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

JD.com’s ESG Leadership Group (ELG), comprised of executive managers and senior management across functions, will be responsible for reviewing and selecting eligible projects. JD.com has in place a process of carrying out environmental and social risk management in the project identification stage under the supervision of ELG, which is applicable to all allocation decisions made under the Framework. Sustainalytics considers this risk management system to be adequate and the project selection process 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 checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- Evaluation / Selection criteria subject to external advice or verification
 In-house assessment
- Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

JD.com's treasury team will track the allocations through an internal register. Full allocation is intended within one year from issuance. Pending allocation, proceeds will be invested in cash or cash equivalents or be used to repay JD.com's existing borrowings. 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:

- Allocations to future investments only
 Allocations to both existing and future investments
- Allocation to individual disbursements
 Allocation to a portfolio of disbursements
- Disclosure of portfolio balance of unallocated proceeds
 Other (please specify):

4. REPORTING

Overall comment on section (if applicable):

JD.com intends to report on allocation and impact of proceeds in its sustainability reports, annual reports or on its corporate website on an annual basis until full allocation. Allocation reporting will include the aggregate amount allocated to eligible projects, the unallocated amount, the type of temporary investment of unallocated proceeds, and the proportion of financing and refinancing. In addition, JD.com is committed to reporting on relevant impact metrics where feasible. Sustainalytics views JD.com's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

- Project-by-project
 On a project portfolio basis
- Linkage to individual bond(s)
 Other (please specify):

Information reported:

- Allocated amounts
- Green Bond financed share of total investment
- Other (*please specify*): proportion of financing and refinancing

Frequency:

- Annual
- Semi-annual
- Other (*please specify*):

Impact reporting:

- Project-by-project
- On a project portfolio basis
- Linkage to individual bond(s)
- Other (*please specify*):

Information reported (expected or ex-post):

- GHG Emissions / Savings
- Energy Savings
- Decrease in water use
- Other ESG indicators (*please specify*): Energy efficiency gains

Frequency

- Annual
- Semi-annual
- Other (*please specify*):

Means of Disclosure

- Information published in financial report
- Information published in sustainability report
- Information published in ad hoc documents
- Other (*please specify*): company website
- 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.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

- Consultancy (incl. 2nd opinion)
- Certification
- Verification / Audit
- Rating

Other (please specify):

Review provider(s):

Date of publication:

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

- i. **Second-Party Opinion:** An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. **Verification:** An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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In case of discrepancies between the English language and translated versions, the English language version shall prevail.

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