



# Second-Party Opinion

## Baidu, Inc. Sustainable Finance Framework

### Evaluation Summary

Sustainalytics is of the opinion that the Baidu, Inc. Sustainable Finance Framework is credible and impactful and aligns with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, Social Bond Principles 2021, and Green Loan Principles 2021. This assessment is based on the following:



**USE OF PROCEEDS** The eligible categories for the use of proceeds – Green Buildings, Energy Efficiency, Clean Transportation, Renewable Energy, Pollution Prevention and Control, and Access to Essential Services (Healthcare) – are aligned with those recognized by the Green Bond Principles, Social Bond Principles and Green Loan Principles. Sustainalytics considers that investments in the eligible categories will improve the environmental performance and social impact of Baidu’s operations in China and advance the UN Sustainable Development Goals, specifically SDG 3, 7, 9, and 12.



**PROJECT EVALUATION / SELECTION** Baidu’s Sustainable Financing Working Group (SFWG), composed of representatives from the Company’s Corporate Social Responsibility, Finance, Treasury and Investor Relations teams, will select Eligible Projects in accordance with the Framework’s eligibility criteria. In addition, the Chief Financial Officer will be responsible for the final approval of Eligible Projects. The Company’s environmental impact assessments and ongoing environmental and health and safety requirements are applicable to all allocation decisions under the Framework and is viewed as adequate risk management systems. Sustainalytics considers the project selection process in line with market practice.



**MANAGEMENT OF PROCEEDS** The SFWG will manage and track the net proceeds from the issuance of each Sustainable Finance Transaction using internal tracking processes. Pending allocation, net proceeds will be temporarily invested in cash equivalent, deposits, structured deposits, money market funds and other high liquidity products. This is in line with market practice.



**REPORTING** Baidu intends to report on the allocation and impact of proceeds on its website on an annual basis until full allocation. Allocation reporting will include information on eligible projects financed, proportion of financed and refinanced projects, unallocated proceeds and details on temporary allocation. In addition, Baidu is committed to reporting on relevant impact metrics. Sustainalytics views Baidu’s allocation and impact reporting as aligned with market practice.

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## Introduction

Baidu, Inc. (“Baidu”, or the “Company”), founded in 2000 as a search engine platform, over the last decade developed into an artificial intelligence (AI) company offering AI-driven tools, platforms and infrastructure. Headquartered in Beijing, China, the Company employs around 41,000 employees.

Baidu has developed the Baidu Sustainable Finance Framework (the “Framework”) under which it intends to issue sustainability bonds and/or loans and other forms of debt financing instruments<sup>1</sup>, and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that reduce the carbon footprint of Baidu’s business activities and provide social benefits in China. The Framework defines eligibility criteria in five green and one social areas:

Eligible Green Projects:

1. Green Buildings
2. Energy Efficiency
3. Clean Transportation
4. Renewable Energy
5. Pollution Prevention and Control

Eligible Social Projects:

1. Access to Essential Services (Healthcare)

Baidu engaged Sustainalytics to review the Baidu, Inc. Sustainable Finance Framework, dated August 2021, and provide a Second-Party Opinion on the Framework’s environmental and social credentials and its alignment with the Sustainability Bond Guidelines 2021 (SBG), Green Bond Principles 2021 (GBP), Social Bond Principles 2021 (SBP)<sup>2</sup>, Green Loan Principles 2021 (GLP), and Social Loan Principles 2021 (SLP)<sup>3</sup>. This Framework has been published in a separate document.<sup>4</sup>

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

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent<sup>5</sup> 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 Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social 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 1.9.2, 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 Baidu’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. Baidu representatives have

<sup>1</sup>Other debt financing instruments include convertible bonds and exchangeable bonds (mandatory convertible bonds). For standard convertible bonds, once the conversion has occurred, the SPO is no longer valid for the assessed securities falling under this asset class. In the case of mandatory convertible bonds, net proceeds should be fully allocated prior to conversion date to be eligible.

<sup>2</sup> The Sustainability Bond Guidelines, Green Bond Principles, and Social Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/>

<sup>3</sup> The Green Loan Principles and Social 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/#> and <https://www.lsta.org/content/social-loan-principles-slp/>

<sup>4</sup> The Baidu, Inc. Sustainable Finance Framework is available on Baidu, Inc.’s website at: [esg.baidu.com](http://esg.baidu.com)

<sup>5</sup> 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.

confirmed (1) they understand it is the sole responsibility of Baidu 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.

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

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 bond and loan 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.

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 Baidu has made available to Sustainalytics for the purpose of this Second-Party Opinion.

## Sustainalytics' Opinion

### Section 1: Sustainalytics' Opinion on the Baidu Sustainable Finance Framework

Sustainalytics is of the opinion that the Baidu Sustainable Finance Framework is credible, impactful and aligns with the four core components of the GBP, SBP, and GLP. Sustainalytics highlights the following elements of Baidu's Sustainable Finance Framework:

- Use of Proceeds:
  - The eligible categories – Green Buildings, Energy Efficiency, Clean Transportation, Renewable Energy, Pollution Prevention and Control, Access to Essential Services – Health – are aligned with those recognized by the GBP, SBP and GLP. Sustainalytics considers that Baidu's investments in eligible projects are expected to improve the environmental performance and the social impact of the Company's operations in China.
  - Baidu has established a 24-month look-back period for its refinancing activities. Additionally, the Company intends to complete the full allocation of proceeds within 36 months after issuance. Sustainalytics views it to be in line with market practice.
  - Under the Green Buildings category, Baidu intends to invest in the following:
    - The design, construction, and improvements of internet data centers (IDCs). Both new and upgraded IDCs will meet one of the two following criteria (i) IDCs with Power Usage Effectiveness ("PUE") below or equal to 1.3, or (ii) IDCs with PUE below 1.5 and that comply with the AAAAA Chinese Low-carbon Assessment of Data Centers.<sup>6</sup> Sustainalytics considers the financing of IDCs with PUE < 1.5 to be market practice, and views positively the inclusion of a complementary scheme that evaluates the environmental performance of IDCs focusing on the energy efficiency, energy saving technology green management aspects. Sustainalytics notes that Baidu's IDCs in operation have an annual average PUE of 1.14 while any investment going into a new data center is planned with a PUE below 1.5.
    - The design, construction and maintenance of buildings that have received or are expected to receive the following third-party green building certification levels: Chinese Green Building Standards (two stars or above); LEED (Gold or above), or BREEAM

<sup>6</sup> The certification scheme solely applies to data centers and not to the building envelope.

(Excellent or above). For Sustainalytics' assessment of these building certification schemes, please refer to Appendix 1.

- Under the Energy Efficiency category, Baidu intends to invest in the design, construction, operation and maintenance of facilities and infrastructure that are non-motorized and powered by electricity. This may include the replacement of existing lights with LED, the installation of electrical cooling systems and smart energy management system. This is in line with market practice.
- Under the Clean Transportation category, the Company intends to invest in the manufacture and research and development of electric vehicles as well as the procurement and maintenance of electric Robo Taxis. Sustainalytics views this to be in line with market practice.
- The Renewable Energy category may include the financing and/or refinancing of expenditures related to solar power generation such as photovoltaic power rooftop systems and wind power purchase agreements (PPAs) at Baidu's sites and offices. Sustainalytics notes that Baidu reviews and renews its PPAs on an annual basis and is committed to the long-term use of such agreements to support the operation of its IDCs. Sustainalytics considers this to be aligned with market practice.
- Under the Pollution Control and Prevention category, Baidu intends to finance and/or refinance the installation and maintenance of infrastructure to segregate waste, and the recycling of waste water in Baidu's offices and facilities or IDCs.<sup>7</sup> In addition, expenditures may also include R&D costs associated with the development and maintenance of a waste sorting application, made accessible to the public. Sustainalytics considers these expenditures to be in line with market practice. Sustainalytics notes that Baidu intends to limit R&D expenditures as per the Framework to no more than 10% of overall proceeds and considers this criterion to be aligned with market practice.
- With regards to Access to Essential Services – Healthcare, Baidu may finance and/or refinance expenditures related to the use of artificial intelligence and/or technologies that provide customized healthcare solutions and enhance medical diagnosis to improve medical expertise and reach in public and private hospitals and clinics in rural areas. Examples of expenditures may include auxiliary clinical decision-making systems to help provide doctors in rural areas with information and tools to recognize symptoms and diseases, recommend treatment plans, and provide access to standardized electronic medical records. Baidu confirmed that expenditures in private hospitals will be limited to those in rural areas and exclude private hospitals in tier 1 and 2 cities. Additionally, Baidu has clarified that the Company strictly abides by relevant applicable laws and regulations on the use of data from its healthcare platforms and will limit the use of data to support doctors' diagnosis alone. For more details on mitigating data privacy and security risks please refer Section 2. Sustainalytics notes that expenditures of this category would be limited to less than 5% of all net proceed.
- Project Evaluation and Selection:
  - Baidu has established a Sustainable Finance Working Group (SFWG), comprised of representatives from the Company's Corporate Social Responsibility, Finance, Treasury and Investor Relations teams, to select Eligible Projects that comply with the Framework's eligibility criteria as required. In addition, all Eligible Projects will undergo a final review and approval by the Chief Financial Officer (CFO).
  - The Company includes environmental impact assessments and ongoing environmental and health and safety requirements at all sites financed and/or refinanced under the Framework. Sustainalytics considers these environmental and social risk management systems to be adequate and aligned with market expectation. For additional details see Section 2.
  - Based on the presence of cross-functional oversight for project selection, Sustainalytics consider this process to be in line with market practice.
- Management of Proceeds:
  - The SFWG will track the net proceeds to the Eligible Project Portfolio and will also ensure that an amount equal or greater than the total net proceeds from sustainable finance transactions that are outstanding matches the aggregate amount of eligible projects in the Eligible Project Portfolio. In case expenditures to Eligible Projects are at the subsidiary level, such amounts will

<sup>7</sup> Baidu confirmed the exclusion of e-waste. In addition, the Company intends to separate all recyclables from the waste.

- be adjusted for Baidu's pro-rata equity ownership in the relevant subsidiary or joint-venture company.
- Pending allocation, net proceeds will be temporarily invested in cash equivalent, deposits, structured deposits, money market funds and other high liquidity products in accordance with Baidu's corporate treasury policy. In case a project no longer meets the eligibility criteria of the Framework, the project will be replaced, and the corresponding amount reallocated to other Eligible Projects.
  - Based on the presence of an internal tracking system and the disclosure on temporary allocation and allocation period, Sustainalytics views this process to be aligned to market practice.
- Reporting:
    - Baidu commits to allocation and impact reporting of the net proceeds from each Sustainable Finance Transaction on its corporate website, starting with the first anniversary of the closing of such transactions and yearly thereafter until net proceeds have been fully allocated.
    - Allocation reporting will include the amounts allocated to eligible projects, unallocated amounts and their temporary allocation, proportion between financing and refinancing, and examples of eligible projects.
    - Where feasible, Baidu will report on relevant environmental and social impact indicators, including annual energy savings (MWh), greenhouse gas emissions avoided (mtCO<sub>2</sub>e), trailing 12-month PUE, data center or office space certified including type of scheme and certification level, amount of waste reused or recycled (ton), number of healthcare facilities or systems upgraded, number of people benefitted from healthcare products or services, and number of senior citizens benefitted. A detailed list of impact metrics can be found in Appendix 2.
    - Based on the annual allocation and impact reporting commitment, Sustainalytics considers this process to be in line with market practice.

### Alignment with Sustainability Bond Guidelines 2021

Sustainalytics has determined that the Baidu Sustainable Finance Framework aligns with the four core components of the GBP, SBP and GLP. For detailed information please refer to Appendix 2: Sustainability Bond/ Sustainability Bond Programme External Review Form.

## Section 2: Sustainability Strategy of Baidu

### Contribution of Framework to Baidu, Inc.'s sustainability performance

In 2020, Baidu conducted a materiality assessment to identify ESG issues that are important to its operations and stakeholders. Baidu's sustainability strategy focuses on the following environmental and social areas; Cybersecurity, privacy protection, responsible AI, nurturing talent, green data centers, green office practices, protection of intellectual property rights and contribution to community using AI.<sup>8</sup>

On the environmental front, Baidu recognizes the importance of Internet Data Centre (IDCs) on its operations and is committed to creating low-carbon, and energy efficient IDCs. While designing IDCs, Baidu integrates advanced energy-saving and consumption-reducing technologies into power supply and cooling systems and leverages its AI capability to promote higher levels of energy efficiency as compared to industry standards. As a result, in 2020, Baidu's data centers achieved an annual average Power Usage Effectiveness (PUE) of 1.14, as compared to the industry average of PUE 1.59.<sup>8</sup> In addition, Baidu actively reduces the environmental impacts of its operations, with a focus on improving energy efficiency and reducing waste and emissions. As a step towards reducing CO<sub>2</sub> emissions, Baidu increased the wind power contracted for its IDCs by 50% to reach 45 million kWh in 2020, compared to 30 million kWh in 2019.<sup>9</sup> In the same year, the Company renovated the lighting of the garages in the Baidu Building and installed 1,622 LED lights, which is estimated to save at least 300 MWh electricity per year and reduce 183 tons of CO<sub>2</sub> emissions.<sup>9</sup> To ensure effective waste management, in 2020, Baidu set up 1,374 sets of recycling bins in work areas and rest areas.<sup>8</sup>

As part of its contribution to communities, Baidu is committed to using AI for social good. Baidu has been connecting its users with doctors and hospitals that best suit their healthcare requirements through Baidu Health platform.<sup>10</sup> In 2020, the highest number of queries per day on Baidu Health reached 190 million.<sup>10</sup> Baidu has launched a machine that can detect ocular fundus disease offline. This machine helps in early diagnosis of diseases in people living in remote locations that lack access to healthcare services.<sup>8</sup> Baidu has also

<sup>8</sup> Baidu, Inc., "Environment, Social and Governance Report 2020" at: <https://esg.baidu.com/Uploads/File/2021/03/29/u606184a15e8af.pdf>

<sup>9</sup> Baidu, Inc., "Special Report on Low Carbon Development 2020" at: <https://esg.baidu.com/Uploads/File/2021/03/29/u606193b66ceb2.pdf>

<sup>10</sup> Baidu Inc., "Annual Report 2020" at: <https://esg.baidu.com/Uploads/File/2021/03/11/u6049b8d128246.pdf>

launched a clinical decision support system, which has diagnoses and treatment of doctors at top tertiary hospitals. This reduces misdiagnosis and helps grassroots doctors improve their diagnosis and treatment.<sup>8</sup> During the COVID-19 pandemic, Baidu leveraged its AI capabilities to help users, municipalities and health organizations cope better by providing free online doctor consultations on its healthcare platform, leveraging Baidu's AI call centre solutions to allow local municipalities and health commissions to contact people and survey their health conditions and travel information.<sup>8</sup>

Sustainalytics is of the opinion that the Baidu Sustainable Finance Framework is aligned with the company's overall sustainability strategy and initiatives and will further the Company's action on its key environmental and social priorities.

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

While Sustainalytics recognizes that the use of proceeds from Baidu Sustainable Finance Framework will be directed towards eligible projects that are expected to have positive environmental and social impact, 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 occupational health and safety, land use and biodiversity associated with large-scale infrastructure development, waste generated in construction, risks associated with the Company's own energy consumption and GHG emissions, and data privacy and security risks linked with the use of software or app-based platforms.

Sustainalytics highlights the following systems, mechanisms and practices followed by Baidu to mitigate these risks:

- With a view to mitigate occupational health and safety risks, Baidu follows several internal safety management policies, including the Baidu Specification on Office Management and Baidu Office Emergency Plan.<sup>8</sup>
- For Baidu's infrastructure projects financed in China, Sustainalytics notes China's Environmental Impact Assessment Act, under which companies are required to perform an environmental risk assessment for all projects (construction, reconstruction, expansion or refurbishment) during the initial phase of project design and feasibility analysis. The Act stipulates that the evaluation must identify key risk factors related to air, water, soil pollution or human health. Moreover, the Act requires that companies undergo an independent and certified environmental impact assessment to avoid potential conflict of interest.<sup>11</sup>
- Baidu integrates energy-saving and consumption-reducing technologies into power supply and cooling systems to minimize the energy consumption and emissions of its own operations. Baidu's data centers achieved an annual average Power Usage Effectiveness (PUE) of 1.14, as compared to the industry average of PUE 1.59.<sup>8</sup>
- Baidu has established the Baidu Data Security Strategies with a view to protect data assets and users' personal information, to raise employees' awareness of data security, to avoid risks or losses to the company as a result of data leaks and misconducts, etc.<sup>12</sup> The Company has also put in place the Baidu Information and Product Security Punishment Measures to safeguard interests of the company's information and product security, to strengthen the responsibility system for security, and to enhance the security awareness of all departments.<sup>13</sup> Baidu follows the Cybersecurity Law of the People's Republic of China and has obtained national and international security certifications to ensure internet service compliance. These certifications include ISO 27001 for Information Security Management System, ISO 27017 for Cloud Security Management System, ISO 27032 for Cybersecurity Management System, ISO 27701 for Privacy Information Management System etc.<sup>14</sup>
- Baidu has clarified that the Company excludes any investments in carbon intensive or polluting industries and projects under the Framework.<sup>15</sup>

<sup>11</sup> Zhengzhou Weichi Foreign Enterprise Service Center, "Environmental Impact Assessment Law of the People's Republic of China", at: <https://www.waizi.org.cn/law/11686.html>

<sup>12</sup> Baidu, Inc., Statement on the Baidu Data Security Strategies at: <https://esg.baidu.com/article?articleid=264&moduleid=45>

<sup>13</sup> Baidu, Inc., Statement on the Baidu Information and Product Security Punishment Measures at: <https://esg.baidu.com/article?articleid=263&moduleid=47>

<sup>14</sup> Baidu, Inc. has shared its 'Special Report on Data Security, Privacy Protection, and Content Management Security 2020' with Sustainalytics

<sup>15</sup> Baidu, Inc. has shared its internal policy of Sustainable Finance Management with Sustainalytics

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

### Section 3: Impact of Use of Proceeds

All six use of proceeds categories are aligned with those recognized by GBP, SBP or GLP. Sustainalytics has focused on three below where the impact is specifically relevant in the local context.

#### Importance of financing energy efficiency and energy efficient data centre projects in China

According to the International Energy Agency (IEA), China accounted for 22% of global energy consumption and 29% of total CO<sub>2</sub> emissions from fuel combustion in 2020. As China is the world's largest energy consumer, its efforts to improve energy efficiency are key to global energy and climate landscapes.<sup>16</sup> As part of its 14th Five Year Plan (2021-2025), the People's Republic of China targets to reduce energy intensity by 13.5% per unit of GDP and carbon intensity by 18% per unit of GDP during 2021-2025.<sup>17</sup> At the UN General Assembly in 2020, China announced that it intends to reach carbon neutrality before 2060.<sup>18</sup>

While China has been making efforts to move towards renewable energy, it has also identified the need for promoting energy efficiency in its data centres.<sup>19</sup> In 2018, China's data centres accounted for 2% of the country's total power consumption.<sup>20</sup> Studies suggest that if China's energy mix remains unchanged, its data centres' power consumption will account for 163 million tonnes of carbon emissions in 2023.<sup>20</sup> In 2019, China's Ministry of Industry and Information Technology, National Energy Administration, National Government Offices Administration released the 'Guidelines on Strengthening the Construction of Green Data Centres' that promote usage of renewable energy to power data centres and highlights the importance of third-party green assessments. These Guidelines also emphasize on the use of PUE as a measure to understand the efficiency of a data centre.<sup>19</sup>

Sustainalytics believes that Baidu's investments in greening of its IDCs and energy efficiency projects have the potential to provide positive environmental impact by enhancing energy efficiency and reducing CO<sub>2</sub> emission while supporting China's climate goals.

#### Importance of clean transport in China

According to IEA, transportation is responsible for 24% of direct CO<sub>2</sub> emissions from fuel combustion and out of that, road vehicles<sup>21</sup> contribute to nearly three-quarters of CO<sub>2</sub> emissions.<sup>22</sup> As per the World Resources Institute, transportation is one of the top five sectors contributing to China's GHG emissions.<sup>23</sup> In 2018, automobiles consumed 42% of China's oil and over 80% of its refined oil.<sup>24</sup> In 2019, green vehicles were only 5% of all new car sales in China.<sup>25</sup> However, China is committed to promoting clean transportation. In 2020, the State Council of China released the New Energy Vehicle Industrial Development Plan (2021 to 2035) which targets to have majority of its new vehicle sales coming from Battery Electric Vehicles and aims for large-scale adoption of highly autonomous intelligent and connected vehicles by 2035.<sup>26</sup> In 2021, the State Council of China released the "Outline of the National Comprehensive Three-Dimensional Transportation Network

<sup>16</sup> International Energy Agency, "E4 Country Profile: Energy Efficiency in China" (2021) at: <https://www.iea.org/articles/e4-country-profile-energy-efficiency-in-china>

<sup>17</sup> Asian Development Bank, "The 14th Five-Year Plan of the People's Republic of China - Fostering High-Quality Development: Observations and suggestions" (2021) at: <https://www.adb.org/sites/default/files/publication/705886/14th-five-year-plan-high-quality-development-prc.pdf>

<sup>18</sup> World Resources Institute, "4 questions about China's New Climate commitments" (2020) at: <https://www.wri.org/insights/4-questions-about-chinas-new-climate-commitments>

<sup>19</sup> Data Centre Dynamics, "How China is going green with data centers" (2019) at: <https://www.datacenterdynamics.com/en/analysis/how-china-going-green-data-centers/>

<sup>20</sup> 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/>

<sup>21</sup> Road vehicles include cars, trucks, buses and two- and three-wheelers.

<sup>22</sup> International Energy Agency, "Tracking Transport 2020" (2020) at: [Tracking Transport 2020 – Analysis - IEA](https://www.iea.org/reports/tracking-transport-2020)

<sup>23</sup> World Resources Institute, "4 Charts Explain Greenhouse Gas Emissions by Countries and Sectors" (2020) at: <https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors>

<sup>24</sup> Council on Foreign Relations, "Fossil Fuel Free: A Plan to Phase Out China's ICEVs" (2019) at: <https://www.cfr.org/blog/fossil-fuel-free-plan-phase-out-chinas-icevs> Council on Foreign Relations, "Fossil Fuel Free: A Plan to Phase Out China's ICEVs" (2019) at: <https://www.cfr.org/blog/fossil-fuel-free-plan-phase-out-chinas-icevs>

<sup>25</sup> Nikkei, Asia, "China plans to phase out conventional gas-burning cars by 2035" (2020) at: <https://asia.nikkei.com/Business/Automobiles/China-plans-to-phase-out-conventional-gas-burning-cars-by-2035>

<sup>26</sup> International Council on Clean Transportation, "China's New Energy Vehicle Industrial Development Plan for 2021 to 2035" (2021) at: <https://theicct.org/sites/default/files/publications/China-new-vehicle-industrial-dev-plan-jun2021.pdf>

Planning" which targets to make 95% of China's transport infrastructure green by 2035.<sup>27</sup> The Outline also targets to achieve 90% digitalization of transport infrastructure. As a result of these policies, there are significant opportunities for clean and intelligent transportation in China.

Sustainalytics views Baidu's investment in clean transportation and intelligent transportation projects to have positive environmental impact by reducing GHG emissions and supporting China's transition towards a low carbon economy.

#### Importance of access to essential healthcare services in China

The three main problems faced by the Chinese healthcare sector include rural-urban disparity related to access to healthcare, tertiary hospitals being overburdened and a clear shift in the needs of patients as a result of China's ageing population.<sup>28</sup> Moreover, rural clinics in China are seen to be usually understaffed, undersupplied and underutilized, thereby pushing people to travel to bigger cities for treatment. As a result, tertiary hospitals in large cities, which are ideally meant for specialized treatment, are typically overcrowded.<sup>28</sup> This uneven distribution of resources and lack of access in remote areas often leads to high cost of healthcare services in China. However, according to Healthy China 2030 plan launched by the Chinese government in 2016, China is committed to promoting equal and fair access to healthcare services. As per the plan, China also expects innovative solutions and scientific development to play a key role in ensuring prevention, early diagnosis and treatment.<sup>29</sup> Even as per the World Economic Forum, China's problem of shortage of medical professionals which often leads to lack of healthcare access in rural areas can be solved by leveraging AI.<sup>30</sup>

Sustainalytics believes that Baidu's investments in projects that improve access to healthcare services and leverage AI to improve quality of diagnosis have the potential to positively contribute to China's goal of improving healthcare services, especially in rural areas.

#### Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 by the United Nations General Assembly and form an agenda for achieving sustainable development by the year 2030. The bonds, loans and other debt-like financing instruments issued under the Baidu Sustainable Finance Framework 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	7.3 By 2030, double the global rate of improvement in energy efficiency
Clean Transportation	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

<sup>27</sup> GIZ, "National Comprehensive Three-dimensional Transportation Network Planning Outline" (2021) at: <https://www.changing-transport.org/wp-content/uploads/Outline-of-the-National-Comprehensive-TDT-network.pdf> GIZ, "National Comprehensive Three-dimensional Transportation Network Planning Outline" (2021) at: <https://www.changing-transport.org/wp-content/uploads/Outline-of-the-National-Comprehensive-TDT-network.pdf>

<sup>28</sup> Collective Responsibility, "Chinese Healthcare: Challenges and Opportunities" (2018) at: <https://www.coresponsibility.com/chinese-healthcare-challenges-opportunities/>

<sup>29</sup> Elsevier, "Healthy China 2030: A Vision for Health Care" (2017) at: [https://www.ispor.org/docs/default-source/publications/newsletter/commentary\\_health-care\\_china\\_2030.pdf?sfvrsn=3b155d92\\_0](https://www.ispor.org/docs/default-source/publications/newsletter/commentary_health-care_china_2030.pdf?sfvrsn=3b155d92_0)

<sup>30</sup> World Economic Forum, "AI can solve China's doctor shortage. Here's how" (2018) at: <https://www.weforum.org/agenda/2018/09/ai-can-solve-china-s-doctor-shortage-here-s-how/>

Renewable Energy	7. Affordable and clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Pollution Prevention and Control	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Access to Essential Services - Health	3. Good Health and wellbeing	3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

## Conclusion

Baidu, Inc. has developed the Baidu Sustainable Finance Framework under which it may issue green, social and sustainability bonds and/or loans and other debt-like financing instruments, and use the proceeds to finance or refinance projects that improve the Company's environmental performance and provide social benefits in rural China. Sustainalytics considers that the projects funded by the bond and loan proceeds are expected to provide positive environmental and social impact.

Baidu's Sustainable 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 Baidu is aligned with the overall sustainability strategy of the company and that the use of proceed categories will contribute to the advancement of the UN Sustainable Development Goals 3, 7, 9, 12. Additionally, Sustainalytics is of the opinion that Baidu has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Based on the above, Sustainalytics is confident that Baidu, Inc. is well-positioned to issue sustainability bonds and that the Baidu Sustainable Finance Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles (2021), Social Bond Principles (2021) and Green Loan Principles (2021).

## Appendices

### Appendix 1: Overview and Assessment of Green Building Certification Schemes

	Chinese Green Building Evaluation Label (China Three Star)	LEED <sup>31</sup>	BREEAM <sup>32</sup>	BCA Green Mark
<b>Background</b>	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).	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.	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.) <sup>33</sup>
<b>Certification levels</b>	1-Star 2-Star 3-Star	Certified Silver Gold Platinum	Pass Good Very Good Excellent Outstanding	Certified Gold Gold Plus Platinum
<b>Areas of Assessment: Environmental Performance of the Building</b>	<ul style="list-style-type: none"> <li>Land savings and outdoor environment;</li> <li>Energy savings and utilisation;</li> <li>Water savings and utilisation;</li> <li>Material savings and utilisation;</li> <li>Indoor environment;</li> <li>Operations and management.</li> </ul>	<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>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>
<b>Requirements</b>	Prerequisites:  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	Prerequisites (independent of level of certification) + Credits with associated points  These points are then added together to obtain the LEED level of certification  There are several different rating systems within LEED. Each rating system is designed to apply to a specific sector (e.g. New Construction, Major	Prerequisites depending on the levels of certification + Credits with associated points  This number of points is then weighted by item <sup>34</sup> 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	Prerequisites for each performance area (to demonstrate minimum criteria met) + numerical scores achieved in accordance with the criteria in each performance area. Performance Areas have different weights. <sup>35</sup>  Depending on the level of building performance and





<sup>31</sup> Leadership in Energy and Environmental Design, at: <https://new.usgbc.org/leed>

<sup>32</sup> BREEAM, Building Research Establishment LTD, at: <https://breeam.com/>

<sup>33</sup> About BCA Green Mark Scheme, at: [https://www.bca.gov.sg/greenmark/green\\_mark\\_buildings.html](https://www.bca.gov.sg/greenmark/green_mark_buildings.html)

<sup>34</sup> 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.

<sup>35</sup> Green Mark at: [https://www.bca.gov.sg/GreenMark/others/Green\\_Mark\\_NRB\\_2015\\_Criteria.pdf](https://www.bca.gov.sg/GreenMark/others/Green_Mark_NRB_2015_Criteria.pdf)

	<p>importance on urban land saving and outdoor environments.</p>	<p>Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, Existing Buildings: Operation and Maintenance).</p>	<p>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>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><b>Performance display</b></p>				

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

### Section 1. Basic Information

<b>Issuer name:</b>	Baidu, Inc.
<b>Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable:</b>	Sustainable Finance Framework
<b>Review provider's name:</b>	Sustainalytics
<b>Completion date of this form:</b>	August 16, 2021
<b>Publication date of review publication:</b>	

### 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 and SBP:

- |  |  |
|--|--|
| <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 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 – Green Buildings, Energy Efficiency, Clean Transportation, Renewable Energy, Pollution Prevention and Control, and Access to Essential Services (Healthcare) – are aligned with those recognized by both the Green Bond Principles, Social Bond Principles, Green Loan

Principles, and Social Loan Principles. Sustainalytics considers that investments in the eligible categories will improve the environmental performance and social impact of Baidu's operations in China and advance the UN Sustainable Development Goals, specifically SDG 3,7,9, and 12.

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Renewable energy   | <input checked="" type="checkbox"/> Energy efficiency  |
| <input checked="" 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 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 (please specify):   |

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

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

- |   |   |
|---|---|
| <input type="checkbox"/> Affordable basic infrastructure  | <input checked="" type="checkbox"/> Access to essential services                        |
| <input type="checkbox"/> Affordable housing   | <input type="checkbox"/> Employment generation (through SME financing and microfinance) |
| <input type="checkbox"/> Food security  | <input type="checkbox"/> Socioeconomic advancement and empowerment                      |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP | <input type="checkbox"/> Other (please specify):  |

If applicable please specify the social taxonomy, if other than SBP:

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

Overall comment on section (if applicable):

Baidu's Sustainable Financing Working Group (SFWG), composed of representatives from the Company's Corporate Social Responsibility, Finance, Treasury and Investor Relations teams, will select Eligible Projects in accordance with the Framework's eligibility criteria. In addition, the Chief Financial Officer will be responsible for the final approval of Eligible Projects. The Company's environmental impact assessments and ongoing environmental and health and safety requirements are applicable to all allocation decisions under the Framework and is viewed as adequate risk management systems. Sustainalytics considers the project selection process in line with market practice.

**Evaluation and selection**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Credentials on the issuer's social and green 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 Sustainability Bond proceeds | <input 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 (please specify):   |

**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 (please specify):   |  |

**3. MANAGEMENT OF PROCEEDS**

Overall comment on section (*if applicable*):

The Sustainable Finance Working Group will manage and track the net proceeds from the issuance of each Sustainable Finance Transaction using internal tracking processes. Pending allocation, net proceeds will be temporarily invested in cash equivalent, deposits, structured deposits, money market funds and other high liquidity products. This is in line with market practice.

**Tracking of proceeds:**

- |   |
|---|
| <input checked="" type="checkbox"/> Sustainability Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (please specify):  |

**Additional disclosure:**

- |   |   |
|---|---|
| <input type="checkbox"/> Allocations to future investments only                             | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements                             | <input checked="" type="checkbox"/> Allocation to a portfolio of disbursements          |
| <input checked="" type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other (please specify):  |

**4. REPORTING**

Overall comment on section (if applicable):

Baidu intends to report on the allocation and impact of proceeds on its website on an annual basis until full allocation. Allocation reporting will include information on eligible projects financed, proportion of financed and refinanced projects, unallocated proceeds and details on temporary allocation. In addition, Baidu is committed to reporting on relevant impact metrics. Sustainalytics views Baidu'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
  Sustainability Bond financed share of total investment  
 Other (please specify): unallocated amounts and their temporary allocation, proportion between financing and refinancing, and examples of eligible projects

**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
  Number of beneficiaries  
 Target populations
  Other ESG indicators (please specify): Quantity of photovoltaic panels installed and electricity produced in IDCs or Baidu's office buildings, CO<sub>2</sub> (or other GHG) emissions avoided (ton of CO<sub>2</sub>e) as a result of Intelligent Transportation, electricity from clean and renewable energy (MWh), amount of waste reused or recycled (ton or in % of total waste, amount of waste treated in an environmentally sound manner (ton) from Baidu's facilities, number of healthcare facilities upgraded or improved



- 
- iii. Certification: An issuer can have its Sustainability Bond or associated Sustainability Bond framework or Use of Proceeds certified against a recognised external sustainability 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, Social and Sustainability Bond Scoring/Rating: An issuer can have its Sustainability Bond, associated Sustainability 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 and/or social performance data, process relative to the Principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material sustainability risks.

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