Second-Party Opinion

Thermo Fisher Scientific Sustainable Financing Framework

Evaluation Summary

Sustainalytics is of the opinion that the Thermo Fisher Scientific Sustainable Financing Framework is credible and impactful and aligns with the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social Bond Principles 2021. This assessment is based on the following:

USE OF PROCEEDS The eligible categories for the use of proceeds – COVID-19 Response, Racial Equity and Social Justice, Renewable Energy, Energy Efficiency, Green Buildings, Sustainable Supply Chain and Sustainable Products and Processes – are aligned with those recognized by the Green Bond Principles and the Social Bond Principles. Sustainalytics considers that investments in the eligible categories are expected to lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDG 3, 7, 8, 10, 11 and 12.

PROJECT EVALUATION / SELECTION Thermo Fisher's internal process for evaluating and selecting projects is overseen by relevant executives and its Sustainable Finance Committee. Thermo Fisher Scientific's environmental and social risk management system are applicable to all projects under the Framework. Sustainalytics considers the project selection process in line with market practice.

MANAGEMENT OF PROCEEDS Thermo Fisher Scientific will track allocations internally and intends to fully allocate within 24 months and refinance activities up to 36 months prior to issuance. Unallocated proceeds are temporarily invested in cash, cash equivalents, short-term investments, or used to repay other borrowings. This is in line with market practice.

REPORTING Thermo Fisher Scientific intends to report on allocation of proceeds on its website on an annual basis until full allocation. The report will include information on the total amount of proceeds allocated per project category and additional descriptions of select eligible projects. In addition, Thermo Fisher Scientific is committed to reporting on relevant impact metrics. Sustainalytics views Thermo Fisher Scientific's allocation and impact reporting as aligned with market practice.

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Issuer Location	Waltham, MA, USA

Report Sections

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Introduction

Founded in 1956 and headquartered in Waltham, Massachusetts, Thermo Fisher Scientific Inc. ("Thermo Fisher", or the "Company") is a provider of instruments, equipment, software services and consumables for pharmaceuticals, biotechnology, academia, government and research. The Company manufactures and distributes products for sample, material characterization, chemical analysis and clinical diagnoses and biological-based therapeutic manufacturing. As of the second quarter of 2021, the company has more than 90,000 employees and generates an annual revenue of USD 35 billion.

Thermo Fisher has developed the Thermo Fisher Sustainable Financing Framework, dated October 2021 (the "Framework") under which it, or its subsidiaries, intends to issue green, social and sustainability bonds and use the proceeds to finance and/or refinance, in whole or in part, projects that aim to reduce the Company's overall environmental footprint and generate positive social impact. The Framework defines eligibility criteria in six areas:

1. COVID-19 Response
2. Racial Equity and Social Justice
3. Renewable Energy
4. Energy Efficiency
5. Green Buildings
6. Sustainable Supply Chain
7. Sustainable Products and Processes

Thermo Fisher engaged Sustainalytics to review the Sustainable Financing Framework 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), and Social Bond Principles 2021 (SBP).[1] The Framework has been published in a separate document.[2]

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

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent[3] opinion on the alignment of the reviewed Framework with 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;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer's sustainability strategy, 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 Thermo Fisher's management team to understand the sustainability impact of its business processes and planned use of proceeds, as well as the management of proceeds and reporting aspects of the Framework. Thermo Fisher representatives have confirmed that: (1) they understand it is the sole responsibility of Thermo Fisher to ensure that the information provided is complete, accurate and up to date; (2) that they have provided Sustainalytics with all relevant information and (3) 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] 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/
[2] The Sustainable Financing Framework is available on Thermo Fisher Scientific's website at: https://ir.thermofisher.com/investors/overview/default.aspx
[3] 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 Thermo Fisher.

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

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Sustainable Financing Framework

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

- Use of Proceeds:
  - The eligible categories – "Access to Essential Services, Socioeconomic Advancement and Empowerment, Renewable Energy, Energy Efficiency, Green Buildings, Sustainable Supply Chain, and Sustainable Products and Processes" – are aligned with those recognized by the GBP and SBP.
  - Under the "Access to Essential Services – COVID-19 Response" category, Thermo Fisher intends to invest in expenditures related to its COVID-19 testing, treatment and therapeutics operations. Projects in this category may include the following:
    - Investments in research and development, manufacturing and distribution of testing, vaccine, therapies, and solutions to meet the growing health and well-being of underserved population and those in low- and middle-income countries (LMICs).
    - Capital investments in manufacturing capacity targeting COVID-19-related products demanded and procured by development agencies supporting underserved populations and LMICs.
    - Investments and expenditures related to delivering technical and laboratory support to support free, inclusive testing for groups disproportionally impacted by COVID-19.

    Sustainalytics views investments in COVID-19-related solutions that assist groups disproportionately affected by the pandemic as aligned with market expectation.
  - Under the "Socioeconomic Advancement and Empowerment – Racial Equity & Social Justice" category, Thermo Fisher intends to invest in advancing equity and economic opportunity for populations under-represented in science, technology, engineering, and mathematics (STEM) fields. The Framework defines activities in the areas of education, employment, and entrepreneurship:
    - Education – Thermo Fisher intends to invest in STEM education, targeting children and young adults from underserved communities. Sustainalytics considers the financing of educational programmes that are broadly accessible to disadvantaged groups as aligned with market practice.
    - Employment – Thermo Fisher intends to invest in developing employment opportunities for under-represented populations, including women, minorities,

veterans,[4] LGBTQ and disabled persons. This may include expenditures in relation to strategic partnerships or outreach events, as well as programmes offering career development support. Sustainalytics considers such targeted interventions supporting historically disadvantaged groups as associated with positive impacts. Sustainalytics notes that programmes which target exclusively an issuer's own workforce may not be fully aligned with market expectations, and that Thermo Fisher intends instead to support initiatives that provide impacts across the life sciences sector.

  - Entrepreneurship – Thermo Fisher intends to invest in opportunities that advance economic opportunity and equity for communities of colour or small and medium enterprises that are majority owned by members of the Black community. The expenditures in this area will take the form of investments, deposits, and equity contributions in minority-focused capital firms, certified CDFIs, and development funds expressly targeting underserved and capital-scarce areas. Sustainalytics considers such investments as associated with positive impacts for the target populations. Nevertheless, due to the structure of these expenditures and in particular the indirect relationship between Thermo Fisher's investments and the intended impacts, the financing may still hold uncertainty around its end use. Specifically, the financing provided by CDFIs or other firms and funds may not be fully dedicated to eligible social activities that align with market expectations. Thermo Fisher has disclosed that it maintains a high degree of transparency on potential end-use of capital and will aim to prioritize allocations to institutions that dedicate substantially all of their capital to activities with positive social outcomes.

- Within the "Renewable Energy Generation" category, Thermo Fisher intends to finance renewable energy projects related to solar and wind installments both on- and off-site. The Company may also invest in power purchase agreements and virtual power purchase agreements with agreements of at least five years. Sustainalytics considers this to be aligned with market practice.
- Under the "Energy Efficiency" category, Thermo Fisher intends to invest in projects that reduce energy use and increase efficiency in its operations. The Framework specifies three eligible investment areas:
  - Upgrades to buildings such as LED lighting and HVAC optimization or other projects targeting energy efficiency. Thermo Fisher has disclosed that projects dedicated to fossil fuel-powered equipment are excluded from financing. Sustainalytics considers these investments as aligned with market practice.
  - Upgrades to equipment or operational infrastructure, with a focus on electrification and improved overall efficiency. Sustainalytics considers this to be aligned with market practice.
  - Investments related to achieving ISO 50001 certification. Sustainalytics recognizes the explicit focus of this scheme on energy performance and that the use of this certification may result in improved energy efficiency, highlighting that only expenditures related to obtaining and maintaining such certification are eligible under the Framework.
- Within the "Green Buildings" category, Thermo Fisher may finance or refinance the design, construction and/or refurbishment of green buildings. Eligible projects are those that have or are expected to receive a green building certification including LEED Gold or better, BREEAM Excellent or better and Energy Star 85 or higher. Sustainalytics considers the reliance on LEED Gold or better, BREEAM Excellent or better and Energy Star 85 or higher to be aligned with market practice. See Appendix 1 for Sustainalytics' assessment of these certifications.
- Under the "Sustainable Supply Chain" category, Thermo Fisher intends to make investments to programmes related to its suppliers which advances the 2050 goal for carbon neutrality, including (i) investing in programmes and technologies to measure scope 3 emissions, (ii) improving the sustainability performance of its supply chain, including providing resources to suppliers and investing in supplier energy efficiency and (iii) and designing and implementing

[4] Sustainalytics recognizes that veterans often face challenges in relation to reintegrating into society and are often the focus of support programmes, while encouraging Thermo Fisher to focus its outreach effort efforts on veterans who are facing specific hardships in relation to their military service.

interventions in cooperation with key suppliers to decrease scope 3 emissions. Sustainalytics overall, considers these expenditures to be aligned with market practice, noting the following:
    - Thermo Fisher has disclosed that improved tools and capacity to report on GHG emissions as aligned with market practice will form the basis of its future GHG emissions reduction strategy.
    - Investments in and support to suppliers will be directed to specific projects that are implementing GHG emissions reduction initiatives and are not direct investments in the companies themselves.
    - Widely used carbon accounting methodologies do not exist for many of Thermo Fisher's products and supply chains, and therefore improved monitoring of scope 3 emissions has the potential to drive positive impact and represents a commitment beyond business as usual.
- Within the "Sustainable Products and Processes" category, Thermo Fisher intends to invest in the research and development, design or redesign and manufacturing of its packaging and production. The Company intends to invest in three distinct areas within this category:
    - Sustainable products
        - The research and development of sustainable plastics, which are defined as those comprised of at least 90% recycled or bio-based materials, are at least 90% not intended for single-use applications, and where the final product is curb-side recyclable. Sustainalytics considers these criteria to be indicative of positive impact and aligned with market expectations.
        - Investments in improving product design to achieve the My Green Lab ACT label or achieve the ACT label score. Sustainalytics considers the ACT label to be a credible measure of overall environmental impact, noting that accreditation under the scheme has no minimum threshold. As Thermo Fisher's investments are limited to specific interventions aimed to improve eligible products, Sustainalytics considers this to be aligned with market expectations.
        - Investments in software to measure environmental impacts. Sustainalytics views these activities to be aligned with market practice.
    - Sustainable production – Projects in this sub-category include improvements to include enhancements that improve manufacturing processes to increase energy efficiency, reduce water use and material consumption, and reduce waste.
        - Specific investments may be related to capacity-building, pilot projects, and product or process redesign. Sustainalytics considers these activities to be aligned with market practice.
        - Thermo Fisher may also invest in equipment and certifications intended to achieve or demonstrate zero waste manufacturing, defined as diverting over 90% of waste from landfills. Sustainalytics recognizes the broad variety of waste management strategies and technologies in this sector, yet broadly considers this sub-category to be aligned with market practice.
    - Sustainable packaging and distribution – Investments in this sub-category are intended to be allocated towards improvements to minimize packaging, distribution waste, and emissions. Projects may include research and design and prototyping of products that reduce size, waste and environmental inputs and outputs, as well as increasing circularity, for example the substitution of recyclable materials, alterations to packaging and labeling, and reusable shipping materials. Sustainalytics views these investments as aligned with market expectations.

- Project Evaluation and Selection:
    - Eligible projects will be evaluated preliminarily by relevant executives from various teams including the COVID-19 response team, global operations, sustainability and corporate finance teams. Qualifying projects will undergo a secondary evaluation by the Sustainable Finance Committee.
    - Thermo Fisher has in place environmental and social risk management processes that are applicable to projects under the Framework. For additional details, see Section 2.

  - Based on the clear definition of responsibility for evaluation, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
  - Thermo Fisher expects to allocate proceeds to eligible projects within 24 months of issuance. In the event of divestment or if a project no longer meets the eligibility criteria after allocation, the Framework states an intent to reallocate to another eligible project.
  - Pending allocation, the net proceeds may be temporarily invested in debt repayment and transactions that are aligned with the Company's liquidity management policy.
  - Thermo Fisher may apply a look-back period to refinance investments and expenditures made at most 36 months prior to the initial issuance.
  - Sustainalytics considers this process to be in line with market practice.
- Reporting:
  - Thermo Fisher has committed to providing publicly available allocation and impact reporting within one year from the date of issuance of any sustainability bonds, until full allocation. Allocation reporting will include the amounts allocated on a project category level as well as additional descriptions of select eligible projects. Impact reporting will include, where feasible, relevant Impact Metrics for each of the categories in the Framework.
  - Sustainalytics considers Thermo Fisher's reporting commitments as aligned with market practice.

Alignment with Sustainability Bond Guidelines 2021

Sustainalytics has determined that the Sustainable Financing Framework aligns with the four core components of the GBP and SBP which also apply under the Sustainability Bond Guidelines. For detailed information please refer to Appendix 3: Sustainability Bond/ Sustainability Bond Programme External Review Form.

Section 2: Sustainability Strategy of Thermo Fisher

Contribution of Framework to Thermo Fisher's Corporate Social Responsibility Strategy

Sustainalytics is of the opinion that Thermo Fisher demonstrates a commitment to sustainability through its focus on key initiatives that support the improvement of its operations, its involvement in communities where it operates and protection of the environment.

Thermo Fisher's Corporate Social Responsibility (CSR) approach has been developed around the Company's "4i Values": Integrity, Intensity, Innovation and Involvement.[5] The 4i Values are aligned with Thermo Fisher's business model and its four CSR pillars of which two are relevant to eligible projects: (i) Communities and (ii) Environment.

Regarding its commitment to the environment, in 2019 Thermo Fisher set a new greenhouse gas (GHG) reduction target of 30% (over 2018 levels) by 2030.[6] This goal is aligned with the Paris Agreement's emissions targets. In July 2021, Thermo Fisher made a commitment to reach net-zero-emissions by 2050.[7] Thermo Fisher focuses on improving waste diversion rates, develop sustainable products, reduce energy consumption and increased use of renewable energy. At the Karlsruhe, Germany site the Company has successfully procured 100% of its energy from renewable sources and is used as a model to encourage other sites to increase renewable energy use.[8]

Within the social Communities pillar Thermo Fisher has demonstrated its commitment to the communities where it operates through employee volunteering and donations and customer donations via partnerships, in order to increase access to various opportunities for communities, and the development of its STEM

[5] Thermo Fisher, "Corporate Social Responsibility – Our Approach", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/our-approach.html
[6] Thermo Fisher, "Corporate Social Responsibility – Performance and disclosures", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/our-approach.html
[7] Thermo Fisher, "Thermo Fisher Commits to Achieve Net Zero Carbon Emissions by 2050", (2021), at: https://thermofisher.mediaroom.com/2021-07-27-Thermo-Fisher-Scientific-Commits-to-Achieve-Net-Zero-Carbon-Emissions-by-2050
[8] Thermo Fisher, "2019 Corporate Social Responsibility Report", (2020), at: https://www.fishersci.com/content/dam/fishersci/en_US/documents/programs/scientific/brochures-and-catalogs/brochures/2019-corporate-social-responsiblity-report.pdf

programme.[9] Thermo Fisher has implemented the employee-led Community Action Councils that enables its staff to directly connect with their local communities to identify volunteer and philanthropic opportunities. The Company also has a matching gifts program and an in-kind donations system for employees. In 2020, Thermo Fisher's staff donated USD 2.6 million through the programs.[10] Furthermore, customers can also donate. For example, Thermo Fisher encourages customers to "trade-up" their thermal cycler to help advance global science through the Company's partnership with Seeding Labs. These allow the Company to then improve the wellbeing of surrounding communities such as providing access to opportunities for education and combating hunger.[11] The programme partners with not-for-profits to connect with students and provide educational resources. In 2020, the Company's STEM programme had more than 65,000 student participants.[12] Additionally, in 2020 Thermo Fisher reported that over 4100 of its suppliers were minority-owned businesses, including LGBT, veterans, women and disabled peoples

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

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

Sustainalytics recognizes that the use of proceeds from the 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, community relations/stakeholder participation, and emissions, effluents, and wastes.

Sustainalytics is of the opinion that Thermo Fisher is able to manage or mitigate potential risks through implementation of the following:

- Thermo Fisher has a company-wide Environment, Health and Safety (EHS) policy.[13] The policy is support by an EHS Management comprising six elements to support the implementation of the EHS policy namely: (i) Management support and leadership, (ii) Employee participation, (iii) Regulatory compliance, (iv) Hazard identification and risk management, (v) Education and training and (vi) System evaluation and improvement.[14] The EHS and the EHSMS are further supported by an EHS Compliance Audit Programme that verifies compliance across the Company. Some sites have ISO 14001 certification.[15]
- In addition, Thermo Fisher's risk management process is compliant to the CDP and Global Reporting Initiative. The Company discloses its scope 1, 2 and 3 emissions through the CDP disclosure process. Thermo Fisher reports against the Global Reporting Initiative including stakeholder engagement, water and effluents, occupational health and safety, emissions and diversity and equal opportunity.[16]
- Thermo Fisher's Code of Business Conduct and Ethics sets out the standards for the Company's in its operations.[17] This includes compliance with all applicable laws and regulations in various areas, including the protection of the environment, health and safety laws, and potential episodes of theft, bribes, kickbacks and conflicts of interest.

[9] Thermo Fisher, "2019 Corporate Social Responsibility Report", (2020), at: https://www.fishersci.com/content/dam/fishersci/en_US/documents/programs/scientific/brochures-and-catalogs/brochures/2019-corporate-social-responsiblity-report.pdf
[10] Thermo Fisher, "CSR – Communities", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/communities.html
[11]Thermo Fisher, "Donate and be an instrument of change", (2021), at: https://www.thermofisher.com/ca/en/home/products-and-services/promotions/life-science/donate-thermal-cycler.html
[12] Thermo Fisher, "Corporate Social Responsibility – Communities", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/communities.html
[13] Thermo Fisher, "Corporate Social Responsibility – Environment, health and safety", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/operations/environment-health-safety.html
[14] Ibid
[15] Ibid
[16] Thermo Fisher, "Corporate Social Responsibility – Global Reporting Initiative", (2021), at: https://corporate.thermofisher.com/us/en/index/corporate-social-responsibility/our-approach/global-reporting-initiative.html
[17] Thermo Fisher, "Governance – Code of Business Conduct and Ethics", (2021), at: https://s27.q4cdn.com/797047529/files/doc_downloads/governance/Code-of-Business-Conduct-and-Ethics.pdf

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Thermo Fisher 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 seven use of proceeds categories are aligned with those recognized by GBP and SBP. Sustainalytics focuses on two below whose impact is specifically relevant in the context of Thermo Fisher's business operations.

Importance of equitable access to COVID-19 testing, treatment and vaccination

The distribution of tests and vaccines for COVID-19 increased rapidly in various parts of the world, but marginalized groups in the US as well as populations in low- and middle-income countries more broadly have had limited access to them. Individuals in these groups in the US and the entire populations of these countries are therefore disproportionately at greater risk of experiencing severe negative health impacts from the virus and its variants.[18] Many racial and ethnic minority groups in the US face limited access to testing and vaccines.[19] For example, only 5% of African Americans in Kansas had access to testing although they make up a third of the state's total population.[20] Based on a survey of 32 million people between March 2020 and August 2021, the Centers for Disease Control and Prevention (CDC) confirmed that more than 50% of the total number of individuals hospitalized belonged to racial and ethnic minority groups in 16 out of the 18 months surveyed.[21] Additionally, the death rate per 100,000 persons amongst these groups was higher than 70%[22] Underserved populations within the US, such as the elderly and persons with disabilities,[23] are also more likely to have difficulty accessing COVID-19 vaccines. In 2021, the CDC noted that when comparing individuals between the ages of 50 and 64, only 64% of those with disabilities received a vaccine as opposed to 72% of those who did not have a disability, even though the former expressed less vaccine hesitancy.[24,25]

On a global scale, low- and middle-income countries face limited access to COVID-19 vaccines. The World Bank has noted that 45% of the vaccine doses administered occurred in high-income countries such as the US, Canada and UK.[26] Low-income countries also would experience heavy financial burdens from healthcare spending increases in the order of 30% to 60% to vaccinate 70% of their population.[27]

The US government's action on the COVID-19 pandemic has been outlined in the National Strategy for the COVID-19 Response and Pandemic Preparedness. The strategy comprises seven goals, including to advance equity across racial and ethnic groups. This particular goal comprises the following seven commitments: (i) establish the COVID-19 Health Equity Task Force; (ii) increase data collection and reporting for high-risk groups; (iii) ensure equitable access to critical COVID-19 PPE, tests, therapies and vaccines; (iv) expand access to high-quality health care, (v) expand the clinical and public health workforce, including community-based workers, (vi) strengthen the social service safety net to address unmet basic needs and (vii) support communities most at risk for COVID-19.[28] The government has also committed to supporting underserved populations by providing them with better access to COVID-19 vaccines and care. For example, an Executive Order was issued under the Strategy to increase clinical care capacity and supports for long-term and intermediate care facilities for people with disabilities.[29] In 2021, the CDC provided USD 5.6 billion of funding for organizations that support racial and ethnic minority groups, and is investing over USD 150 million to increase the still experimental monoclonal antibody therapeutic treatment for patients in underserved

[18] United Nations, "Health – What is vaccine equity?", (2021), at: https://news.un.org/en/story/2021/09/1100192
[19] CDC, "Health Equity Considerations and Racial and Ethnic Minority Groups", (2021), at:
[20] Vasquez, R.M. (2020), "The Disproportional Impact of COVID-19 on African Americans", Health and Human Rights Journal, US National Library of Medicine – National Institutes of Health, at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7762908/
[21] CDC – COVID-NET, "Laboratory-Confirmed COVID-19-Associated Hospitalizations", (2021), at: https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html
[22] Vasquez, R.M. (2020), "The Disproportional Impact of COVID-19 on African Americans", Health and Human Rights Journal, US National Library of Medicine – National Institutes of Health
[23] US Department of Health & Human Services, "Serving Vulnerable and Underserved Populations", (2019), at: https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/006_Serving_Vulnerable_and_Underserved_Populations.pdf
[24] Mueller, B. (2021), "People with disabilities have a tougher time getting Covid vaccines, the CDC reports", The New York Times, at: https://www.nytimes.com/2021/09/30/health/covid-vaccine-disabilities.html
[25] Ryerson, A.B. et al. (2021), "Disparities in COVID-19 Vaccination Status, Intent, and Perceived Access for Noninstitutionalized Adults, by Disability Status — National Immunization Survey Adult COVID Module, United States, May 30–June 26, 2021", Morbidity and Mortality Weekly Report, at: https://www.cdc.gov/mmwr/volumes/70/wr/mm7039a2.htm?s_cid=mm7039a2_w#suggestedcitation
[26] Mirza, A. et al. (2021), "Here's just how unequal the global coronavirus vaccine rollout has been", The Washington Post, at: https://www.washingtonpost.com/world/interactive/2021/coronavirus-vaccine-inequality-global/
[27] United Nations, "Health – What is vaccine equity?", (2021)
[28] The White House, "National Strategy for the COVID-19 Response and Pandemic Preparedness", (2021), at: https://www.whitehouse.gov/wp-content/uploads/2021/01/National-Strategy-for-the-COVID-19-Response-and-Pandemic-Preparedness.pdf
[29] The White House, "National Strategy for the COVID-19 Response and Pandemic Preparedness", (2021)

communities.[30] To guarantee fair and equitable access of COVID-19 vaccine distributions for low- to middle-income countries, the World Health Organization, UNICEF and other organizations established the COVID-19 Vaccine Global Access Facility (known as "COVAX").[31] As a part of the Strategy, the US government has committed to donate vaccine surpluses and seek funding to support efforts. As of June 2021, 80 million doses will be shared globally with Latin America, Africa, the Caribbean and South and Southeast Asia being priority regions.[32,33]As of June 2021, the government plans to share 80 million doses will be shared with countries in Latin America, Africa, the Caribbean and South and Southeast Asia.[34,35]

Thermo Fisher intends to invest in projects that provide financial capital, know-how and expertise to advance testing and treatment for COVID-19, including services to support disadvantaged populations. By doing so, projects will meet global health challenges regarding the quality of testing, treatment, vaccines, therapies and other COVID-19 solutions, in line with other corporate initiatives and investments lauded by World Economic Forum as having the potential to save millions of lives a year.[36]

Sustainalytics is of the opinion that Thermo Fisher's allocation of proceeds to finance projects that provide COVID-19-related solutions to marginalized groups is expected to increase equitable access therefore contributing to the national strategy and commitments of the United States.

Improving the environmental footprint of laboratory products, packaging, and processes

Laboratory products and their manufacturing processes and packaging can have significant environmental impacts.[37] Without sustainable practices in place, laboratory products are resource-intensive, consume high amounts of energy, and generate large amounts of emissions and waste therefore causing significant environmental damage. With raw material sourcing, solvents used to make certain products can generate up to 7 US tons (6,300 tonnes) of glass bottles in waste annually.[38] During the manufacturing process, the production of chromatography resins for example may consume up to 1,325 m^3 of water annually while freezers used during operations can consume more than 640,000 kWh of energy, which is equivalent to the release of 441 tonnes of carbon.[39] The packaging used for these products also generates large volumes of waste. Packaging and boxes accounted for 28% of total municipal solid waste in the United States in 2018.[40] Laboratory equipment is also energy inefficient, consuming three to six times more energy per unit surface area than office equipment as they are used frequently while needing to regulate temperature and humidity during operation. In fact, health-care buildings accounted for 9% of total primary energy consumption in the US in 2016.[41]

The US government has established a target to achieve 100% carbon pollution-free electricity by 2035.[42] With US President Joe Biden signing an executive order to strengthen the Department of Energy's role in improving

[30] US Department of Health & Human Services, "Biden Administration to Invest $150 Million to Expand Access to COVID-19 Treatments in Underserved Communities", (2021), at: https://www.hhs.gov/about/news/2021/03/17/biden-administration-to-invest-150-million-to-expand-access-to-covid-19-treatments-in-underserved-communities.html
[31] United Nations, "Health – What is vaccine equity?", (2021)
[32] The White House, "National Strategy for the COVID-19 Response and Pandemic Preparedness", (2021)
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energy efficiency.[43] As a result, the DOE established the Appliance and Equipment Standards energy efficiency programme, which sets minimum efficiency standards for various appliances and equipment for residential and commercial buildings.[44] Such programmes also promote the use of energy efficiency labels, such as working with the EPA to help enforce compliance with ENERGY STAR.[45] From a regulatory aspect, the US has a legal framework for the management of nonhazardous and hazardous waste where the EPA has regulatory oversight of the compliance monitoring performed by states and other local authorities.[46,47] Since laboratory products comprise large appliances used in various industries such as healthcare and research, and generates waste during manufacturing and packaging[48], they can be subjected to the above frameworks and programs to ensure that the environmental performance is compliant to local restrictions.

Investments into research and development, design, re-design and manufacturing of resource-efficient laboratory products, and improving the sustainability of packaging and distribution are expected to contribute to reducing resource and energy consumption, emissions and waste. For example, a sustainable design and manufacturing process for pipettes has the potential to reduce raw material usage by 40%.[49]

Sustainalytics is of the opinion that Thermo Fisher's allocation of proceeds to finance projects to develop and produce sustainable laboratory products and processes is expected to contribute to positive environmental impacts in the US.

Alignment with/contribution to SDGs

The Sustainable Development Goals 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 bonds eventually issued under the Thermo Fisher Sustainable Financing Framework are expected to advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Access to Essential Services – COVID-19 Response	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
Socioeconomic Advancement and Empowerment – Racial Equity & Social Justice	8. Decent work and economic growth 10. Reduced Inequalities	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value 10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency

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[49] McArdle, M. (2018), "Editorial Article: 3 Simple Steps to Reduce The Environmental Impact of Your Lab", Select Science, Bath, UK, at: https://www.selectscience.net/editorial-articles/3-simple-steps-to-reduce-the-environmental-impact-of-your-lab/?artID=47395

Green Buildings	11. Sustainable Cities and Communities	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
Sustainable Supply Chain	12. Responsible Consumption and Production	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
Sustainable Products and Processes	12. Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

Conclusion

Thermo Fisher has developed the Thermo Fisher Sustainable Financing Framework under which it may issue green, social and sustainability bonds, and use the proceeds to finance or refinance, in whole or in part, projects that aim to reduce the Company's overall environmental footprint and increase access to essential services for underserved populations. Sustainalytics considers that the projects funded by the bonds' proceeds are expected to provide positive social and environmental impacts.

The Framework outlines a process to track, allocate, and manage proceeds, and makes commitments for Thermo Fisher to report on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Sustainable Financing Framework is aligned with the overall sustainability strategy of the Company and that the use of proceeds categories contributes to advance the UN Sustainable Development Goals 3, 7, 8, 10, 11 and 12. Additionally, Sustainalytics is of the opinion that Thermo Fisher 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 Thermo Fisher is well-positioned to issue green, social, and/or sustainability bonds and that the Framework is robust, transparent, and in alignment with the core components of the Sustainability Bond Guidelines 2021, Green Bond Principles 2021, and Social Bond Principles 2021.

Appendices

Appendix 1: Overview of Referenced Green Building Certification Schemes

	LEED	BREEAM	Energy Star
Background	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.	BREEAM (Building Research Establishment Environmental Assessment Method) was first published by the Building Research Establishment (BRE) in 1990. Based in the UK, BREEAM can be used for new, refurbished or extension of existing buildings and buildings in operation.	ENERGY STAR is a U.S Environmental Protection Agency voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency. Every ENERGY STAR label is independently certified, whether on a product, a home, a building, or a manufacturing plant. It is administered and promoted in Canada by Natural Resources Canada. Certification is given on an annual basis, so a building must maintain its high performance to be certified year to year. And the information submitted in the certification application must be verified by a licensed professional to be eligible for approval.
Certification levels	• Certified • Silver • Gold • Platinum	• Pass • Good • Very Good • Excellent • Outstanding	1-100 ENERGY STAR score (of at least 75 and meet certain other eligibility criteria)
Areas of assessment	• Energy and atmosphere • Sustainable Sites • Location and Transportation • Materials and resources • Water efficiency • Indoor environmental quality • Innovation in Design • Regional Priority	• Energy • Land Use and Ecology • Pollution • Transport • Materials • Water • Waste • Health and Wellbeing • Innovation	• Energy efficient products • Energy savings at home • Energy efficient new homes and apartments • Energy strategies for buildings and plants In case of buildings, the relevant data needed for Commercial Offices benchmarking: • Gross floor area • Hours of operation per week • Number of workers on the main shift • Heating degree days • Cooling degree days • Percent of the building that is cooled • Percent of the building that is heated
Requirements	Minimum requirements independent of level of certification; point-based scoring system weighted by category to determine certification level. The rating system is adjusted to apply to specific sectors, such as: New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, and Existing Buildings: Operation and Maintenance.	Prerequisites depending on the levels of certification, and credits with associated points. This number of points is then weighted by item and gives a BREEAM level of certification, which is based on the overall score obtained (expressed as a percentage). Majority of BREEAM issues are flexible, meaning that the client can choose which to comply with to build their BREEAM performance score.	To be eligible for ENERGY STAR certification, a building must earn an ENERGY STAR score of 75 or higher, indicating that it performs better than at least 75 percent of similar buildings nationwide. Through Portfolio Manager, EPA delivers 1 – 100 ENERGY STAR scores for many types of buildings. The ENERGY STAR score accounts for differences in operating conditions, regional weather data, and other important considerations.

Performance display			

Appendix 2: Overview of the My Green Lab ACT Label Scheme

	My Green Lab ACT
Background	The ACT (Accountability, Consistency and Transparency) scheme is an environmental impact factor label for lab-made products. The label is administered by My Green Lab, a non-profit organization based in California.
Certification Levels	Each impact area is rated on a scale of 1 to 10 with 1 being the lowest level of environmental impact and 10 being the highest. There is no overall scoring level to indicate good performance, instead designed to allow cross-product comparison of environmental impact on defined and relevant criteria.
Areas of Assessment	Applies to the production/lifecycle of lab-made products including manufacturing, use and disposal. The following environmental impact areas are assessed: • Renewable Energy Use • Chemical Management • Shipping Impact • Product and Packaging Content • Use Impact (energy consumption, water consumption)
Requirements	Points are awarded based on the criteria and then an Environmental Impact Factor is calculated by summing all the points. The lower the factor value, the lower the overall environmental impact and vice versa.
Qualitative Considerations	The ACT label is generally viewed positively amongst stakeholders. It is the first industry-wide label focused on laboratory products. Sustainalytics considers the third-party verification aspect and the credentials of the sponsoring entity to strengthen the credibility of the label.

Appendix 3: Sustainability Bond / Sustainability Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Thermo Fisher Scientific
Sustainability Bond ISIN or Issuer Sustainability Bond Framework Name, if applicable:	Thermo Fisher Sustainable Financing Framework
Review provider's name:	Sustainalytics
Completion date of this form:	October 29, 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 and SBP:

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

ROLE(S) OF REVIEW PROVIDER

☒	Consultancy (incl. 2nd opinion)	☐	Certification
☐	Verification	☐	Rating
☐	Other *(please specify)*:		

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 COVID-19 Response, Racial Equity and Social Justice, Renewable Energy, Energy Efficiency, Green Buildings, Sustainable Supply Chain, Sustainable Products and Processes are aligned with those recognized by both the Green Bond Principles and Social Bond Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental or social impacts and advance the UN Sustainable Development Goals, specifically SDG 3, 7, 8, 10, 11 and 12

Use of proceeds categories as per GBP:

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

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

Use of proceeds categories as per SBP:

☐	Affordable basic infrastructure	☒	Access to essential services
☐	Affordable housing	☐	Employment generation (through SME financing and microfinance)
☐	Food security	☒	Socioeconomic advancement and empowerment
☐	Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP	☐	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):

Thermo Fisher Scientific's internal process in evaluating and selecting projects is overseen by relevant executives and the Sustainable Finance Committee. Thermo Fisher Scientific's environmental and social risk management system are applicable to all projects under the Framework. Sustainalytics considers the project selection process in line with market practice.

Evaluation and selection

- ☒ Credentials on the issuer's social and green objectives
- ☒ Documented process to determine that projects fit within defined categories
- ☒ Defined and transparent criteria for projects eligible for Sustainability Bond proceeds
- ☒ Documented process to identify and manage potential ESG risks associated with the project
- ☐ Summary criteria for project evaluation and selection publicly available
- ☐ Other (please specify):

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)*:

Thermo Fisher Scientific will track allocations internally and intends to fully allocate within 24 months and refinance activities up to 36 months prior to issuance. Unallocated proceeds are temporarily invested in cash, cash equivalents, short-term investments, or used to repay other borrowings. This is in line with market practice.

Tracking of proceeds:

- ☒ Sustainability 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):

Thermo Fisher Scientific intends to report on allocation of proceeds on its website on an annual basis until full allocation. The report will include information on the total amount of proceeds allocated at a project category level and additional descriptions of select eligible projects. In addition, Thermo Fisher Scientific is committed to reporting on relevant impact metrics. Sustainalytics views Thermo Fisher Scientific'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):

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): Number of tests delivered/enabled; number of loans; number of programs/partnerships; Sq.-feet of green or third-party certified building; number of greener product lines

launched to market; waste diverted from landfill; number of products with ENERGY STAR or My Green Lab ACT certifications

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): Information will be publicly available

☐ 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 REVIEW PROVIDERS AS DEFINED BY THE GBP AND THE SBP

i. Second-Party Opinion: An institution with sustainability expertise that is independent from the issuer may provide a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Sustainability 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 Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy, and/or processes relating to sustainability and an evaluation of the environmental and social 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 sustainability criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally or socially

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 Sustainability Bond proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed verification.

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.

Disclaimer

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