

Second Party Opinion

John Deere Sustainability-Linked Bond Framework

April 8, 2022

John Deere and its subsidiaries manufacture and distribute various equipment worldwide. The company operates through four segments: production and precision agriculture; small agriculture and turf; construction and forestry (together, equipment operations); and financial services. John Deere is the world’s largest agricultural equipment manufacturer, operating nearly 80 million square feet of facilities globally, and selling equipment in more than 100 countries. The company is headquartered in Moline, Ill.

In our view, John Deere’s Sustainability-Linked Bond Framework, published on April 8, 2022, is aligned with:

-  Sustainability-Linked Bond Principles, ICMA, 2020

The Framework Alignment Opinion does not assess the alignment of any individual transaction with the Sustainability-Linked Bond Principles (SLBP).

Issuer’s Sustainability Objectives

John Deere’s sustainability strategy is guided by its key goal of developing technologies and solutions that make its customers more profitable and sustainable.

In 2021, John Deere conducted an inaugural materiality assessment to identify sustainability topics that are the most relevant to its business and its stakeholders and to inform its future goals. The materiality assessment revealed climate stewardship and emissions and energy as two of its most significant factors to its business and stakeholders. As a result, John Deere’s initiatives to track, manage, and mitigate scope 1 and 2 emissions across its own operations and scope 3 emissions associated with the activities of its customers and suppliers, are central to its long-term climate strategy. Among social factors, John Deere has identified diversity, equity, and inclusion and employee health, safety, and wellness as the most material issues while governance topics include new technology and innovation and urbanization and sustainable infrastructure. John Deere has announced a set of focused goals, known as “Leap Ambitions”, to measure its strategy across these high priority areas.

John Deere has developed this Sustainability-Linked Bond Framework to highlight its sustainability efforts, specifically its own emission reduction initiatives, and to further align its financing strategy with its sustainability goals.

Selected Key Performance Indicators (KPIs) And Sustainability Performance Targets (SPTs)

KPI	SPT	Baseline	2021 Performance
Absolute GHG emissions from operations – scope 1 and 2 (metric tons CO2e)	Reduce GHG emissions from operations (scopes 1 and 2) by 20% by 2025 and 50% by 2030 vs. 2021 baseline	811,000 MT CO2e (2021)	811,000 MT CO2e

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Second Party Opinion Summary

Selection of key performance indicators (KPIs)

Alignment  John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.


KPI 1 Absolute GHG emissions from operations – scope 1 and 2 (metric tons CO2e) Not aligned Aligned **Strong** Advanced

Calibration of sustainability performance targets (SPTs)

Alignment  John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.


SPT 1 Reduce GHG emissions from operations (scopes 1 and 2) by 20% by 2025 and 50% by 2030 vs. 2021 baseline Not aligned Aligned Strong **Advanced**

Instrument characteristics

Alignment  John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

Instruments the company issues under the framework will be subject to a premium payment in the form of a coupon step-up if John Deere doesn't achieve the sustainability performance targets (SPTs) by the target observation date. It will detail the amount, timing, and mechanism for payment in the offering documentation of each sustainability-linked bond issued under the framework.


Reporting

Alignment  John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

Score Not aligned **Aligned** Strong Advanced

John Deere commits to publish an annual report on its website containing information on the performance of the selected KPI and the company's progress towards achieving the SPT(s).

Post-issuance review


Alignment  John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

John Deere commits to have an independent and external provider of at least limited assurance services verify its performance against the KPI on an annual basis. The company will publish the results of the verification on its website.

Framework Assessment

Selection of key performance indicators (KPIs)

The Principles make optional recommendations for stronger structuring practices, which inform our relevancy opinion as aligned, strong, or advanced. For each KPI, we consider how relevant the KPI is for sustainability by exploring the clarity and characteristics of the defined KPI; its significance for the issuer's sustainability disclosures; and how material it is to the issuer's industry and strategy.

 John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

KPI 1	Absolute GHG emissions from operations – scope 1 and 2 (metric tons CO2e)	Not aligned	Aligned	Strong	Advanced
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We view the selected KPI as strong because its scope, objective, and calculation are clearly articulated in the framework. Furthermore, we believe it addresses an important sustainability challenge for the capital goods sector (climate change mitigation through scope 1 and 2 GHG emission reduction) although it omits scope 3 emissions, which we view to be the most material source of emissions.

John Deere calculates scope 1 and 2 GHG emissions (MT CO2e) in accordance with the GHG Protocol, using the market-based method for scope 2 reporting. The KPI accounts for 99% of John Deere's 2021 operational GHG emissions inventory, excluding 1% from not yet fully integrated acquisitions. Direct scope 1 emissions arise from on-site manufacturing and heating and account for about 50% of the scope 1 and 2 emissions inventory. Indirect scope 2 emissions arise largely from purchased electricity to power manufacturing equipment, heating, cooling, and lighting systems and account for 50% of the measured scope 1 and 2 inventory. The KPI covers both owned and leased facilities worldwide where the issuer has control of operations (e.g., health and safety oversight, ability to turn off equipment, etc.). Finally, the KPI is based on absolute, rather than intensity-based emission reductions, which we view as best practice, in line with the recommendations of the Science Based Target Initiative (SBTi).


In our view, the selected KPI is relevant and material for the capital goods sector given the significant energy consumption associated with equipment manufacturing (see "Key Sustainability Factors: Capital Goods"). We believe this is particularly acute for John Deere given the scope and size of its operations. Moreover, industrial activities are one of the primary sources of GHG emissions in the U.S., according to the Environmental Protection Agency (EPA), accounting for approximately 23% of total U.S. GHG emissions in 2019.

We also believe the KPI is relevant to John Deere's sustainability strategy, namely the "energy and emissions" and "climate stewardship" pillars, which the company identified as two of its most material topics to its business and stakeholders within its inaugural 2021 materiality assessment. In our opinion, the selected KPI directly addresses climate stewardship through the reduction of GHG emissions.

Although we acknowledge reducing scope 1 and 2 emissions is necessary for John Deere to achieve its sustainability objectives, 99% of the issuer's value chain emissions arise from indirect scope 3 emissions. Scope 3 emissions are mainly associated with customer use of its sold products (92% of total scope 3 emissions) and purchased goods and services from suppliers. We believe tackling scope 3 emissions would have a greater impact on the sector's decarbonization efforts. John Deere has set a target to reduce upstream and downstream scope 3 emissions by 30% by 2030, but does not currently plan to include scope 3 emissions as a KPI in its framework. The omission of scope 3 emissions constrains our view of the materiality of the KPI.

Calibration of sustainability performance targets (SPTs)

The Principles make optional recommendations for stronger structuring practices, which inform our ambition opinion as aligned, strong, or advanced. We consider the level of ambition for each target by assessing its clarity and characteristics, how the issuer defines the target with reference either to its past performance, or to external or competitor benchmarks, and how it explains what factors could influence future performance.

 John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

The SPTs selected by John Deere for its Sustainability-Linked Bond Framework work consecutively, as the efforts made to achieve one support the execution of the other. The issuer commits to first reduce absolute scope 1 and 2 emissions by 20% from a 2021 baseline by 2025 (SPT 1.1), and to reduce absolute scope 1 and 2 emissions by an additional 30% to reach a total reduction of 50% by the end of 2030 (SPT 1.2). The observation date for each SPT is Oct. 31 in the respective year.

SPT 1	Reduce GHG emissions from operations (scopes 1 and 2) by 20% by 2025 and 50% by 2030 vs. 2021 baseline	Not aligned	Aligned	Strong	Advanced
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We believe the ambition, clarity, and characteristics of the SPT are advanced. The SPT is benchmarked against the issuer's historical performance and global peers in its sector with the goal to be aligned with emission reductions required to keep global warming to 1.5°C, supporting the ambition of the target in our view.

The framework outlines the baseline year (2021), the expected observation dates (Oct. 31, 2025, and Oct. 31, 2030) and the relevant trigger events, such as the failure to achieve the SPT on the target observation date. John Deere's baseline and historical GHG emissions performance have been externally verified to a reasonable level of assurance and are part of its regular public sustainability reporting. The issuer may make adjustments to its baseline in the event of a significant structural change-- including a merger, acquisition or divestiture, change in KPI methodology, or change in data reported-- following the requirements of the GHG protocol.

The SPT is benchmarked against three years of John Deere's historical performance (2019-2021) during which time the company achieved a 17.5% percentage change reduction in scope 1 and 2 emissions. The company achieved the bulk of this reduction (14%) in 2020, when it entered into a new renewable energy purchase power agreement (PPA) that sped up the reduction of scope 2 emissions. Scope 1 emissions increased from 2020 to 2021 because of colder weather and higher production volumes. To achieve its SPT, John Deere has to reduce emissions by an additional 50% (5% per year until 2025, and 6% per year until 2030) compared with the baseline. While the average annual rate of reduction over the target timeframe is slower than what was previously achieved, we believe the remaining scope 1 emissions are the most difficult to abate, especially if John Deere's production volumes continue to increase, as the company expects. Therefore, in our view the SPT demonstrates a material improvement in GHG emissions beyond business as usual.

When setting the SPT, the company also conducted a benchmarking exercise against its global peers in both the agricultural and construction equipment industries. The results of the benchmarking exercise are not included in the framework but were disclosed to S&P for our review. In our view, John Deere's targets are among the most ambitious in its sector considering the targeted level and timeline. John Deere also worked with an external consultant to set a target that aligns with a 1.5°C scenario. The company has submitted the target to be verified by the Science-Based Targets Initiative and expects verified targets by the end of 2022.

According to the company, the strategy to achieve the SPT is focused in three main areas: energy efficiency (including efficiency improvements and facility upgrades), renewable energy procurement (primarily through PPAs), and fuel switching (to reduce reliance on natural gas). The company stated it does not rely on carbon offsets to achieve GHG emission reduction and has a clear hierarchy for scope 2 reduction, relying on renewable energy contracts (RECs) only when other options, such as PPAs and onsite generation, are exhausted. We believe this strategy is in line with best practices in the industry. Finally, the company outlines the main factors that may hinder its ability to achieve said targets, including extreme events such as pandemics and natural

Second Party Opinion

disasters, equipment failure or unexpected facility shutdowns, regulatory uncertainty, and a delay in the development of new technologies.

Baseline	Reduce GHG emissions from operations (scopes 1 and 2) by 20% by 2025 and 50% by 2030 vs. 2021 baseline	
	2025	2030
2021 811,000 MT CO2e	648,800 MT CO2e	405,500 MT CO2e
	Equivalent to 20% reduction	Equivalent to 50% reduction

Instrument characteristics

The Principles require disclosure of the type of financial and/or structural impact involving trigger event(s), as well as the potential variation of the instrument's financial and/or structural characteristics.

✓ John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

Any John Deere sustainability-linked bond aligned with this framework will be subject to a premium payment in the form of a coupon step-up if it does not achieve the SPT(s) by the target observation date. The exact financial mechanism, including amount and timing for the payment of such premium, will be detailed in the offering documentation and other final terms of each sustainability-linked bond issued under the framework.

The framework also describes relevant fallback mechanisms. For example, if the performance cannot be measured in a satisfactory manner and supported by an independent external reviewer's verification certificate, or if the company does not publish the verification certificate within the time limit stated in the respective instrument's offering documents, a premium payment will apply.

Reporting

The Principles make optional recommendations for stronger disclosure practices, which inform our disclosure opinion as aligned, strong, or advanced. We consider plans for updates on the sustainability performance of the issuer for general purpose funding, or the sustainability performance of the financed projects over the lifetime of any dedicated funding, including any commitments to post-issuance reporting.

✓ John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

Disclosure score

Not aligned

Aligned

Strong

Advanced

We consider John Deere's overall reporting practices to be aligned with the Principles.

The company commits to report annually on the performance of the KPI and baseline where relevant, as well as on its progress towards achieving the SPT(s). It will also publish any additional information required for investors to monitor the level of ambition of the SPT(s) such as updates to the company's sustainability strategy. John Deere's annual report will also include a verification assurance statement outlining the company's progress against the SPT(s) and the related impact on the bond's financial or structural characteristics.

When feasible, the company may also report on the main qualitative and quantitative factors driving KPI performance, the positive sustainability impacts of the performance improvement, any reassessments of KPIs, restatement of the SPT(s), and/or pro forma adjustments of baselines or KPI scope, and updates on regulations relevant to the KPIs and SPT(s).

Second Party Opinion

This information will be published on John Deere's website in the form of an annual Sustainability-Linked Bond Update and will be available within 60 days of the publication of the company's Sustainability Report.

Post-issuance review

The Principle requires post-issuance review commitments including the type of post-issuance third-party verification, periodicity and how this will be made available to key stakeholders. Our opinion describes whether the documentation is aligned or not aligned with these requirements. Please note, our second party opinion is not itself a post-issuance review.





 John Deere's Sustainability-Linked Bond Framework is aligned with this component of the SLBP.

John Deere commits to having an external independent provider of at least limited assurance services verify its performance against the KPI. The verification will be conducted annually, at least until the SPT(s) have been achieved, as well as following a target observation date. The company will publish the verification assurance certificate on its website. In addition, any adjustments to the SPT(s) will be accompanied by an external verification certificate and reported in the Sustainability-Linked Bond Update.

Mapping To The U.N.'s Sustainable Development Goals

The Sustainable Development Goals (SDGs), which the United Nations (U.N.) set up in 2015, form an agenda for achieving sustainable development by 2030.

John Deere's Sustainability-Linked Bond Framework intends to contribute to the following SDGs:

KPI	SDGs			
Absolute GHG emissions from operations – scope 1 and 2 (metric tons CO2e)				
	§9. Industry, innovation and infrastructure	§11. Sustainable cities and communities	§12. Responsible consumption and production	§13. Climate action

§The KPI is likely to contribute to the SDGs.

Second Party Opinion

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