

What Does NVIDIA Have to Do With Sustainability?

With just six years left until 2030, when the 17 UN Sustainable Development Goals (SDGs) are to be achieved, it's essential to continue assessing risks and opportunities for investors and actions that companies need to take to advance these goals.

The SDGs are 17 aspirational goals with over 100 specific targets concerning the environment, people, and global economy that the United Nations set in 2015. While progress has been made, many of these targets are not on track—their ambition remains unmatched by government policies, corporate action, and investor decision-making.

A structured way to view company contributions to SDG progress

There has been much discussion in the private sector about contributing to the SDGs, and a number of companies claim to have aligned their activities to various SDGs. But what does that tell us about how companies are contributing to progress toward the SDGs?

In 2022, Allspring published a paper on the SDGs that highlights our philosophy on how to measure company contributions to SDG progress and our concerns about the quality and nature of SDG data available in the market. Following that paper, Allspring built a bottom-up framework to help determine which companies are supporting the SDGs and which are hindering progress. We call this framework SDG Lens.

SDG Lens uses a structured and detailed approach to weigh positive and negative outcomes across a company's value chain, taking an industry-specific and detailed view of the SDG targets to formulate key questions about company actions. Our firm's sustainability experts and investment professionals use granular and specific data points to help answer these questions and inform investment decisions. SDG Lens considers information across products and services, operations, and supply chains (we refer to these as impact channels associated with the value chain), including forward-looking targets, current and historical performance data, and management programs and policies. This multivariable approach combines data inputs tailored to the SDG targets to arrive at an integrated, well-supported conclusion.



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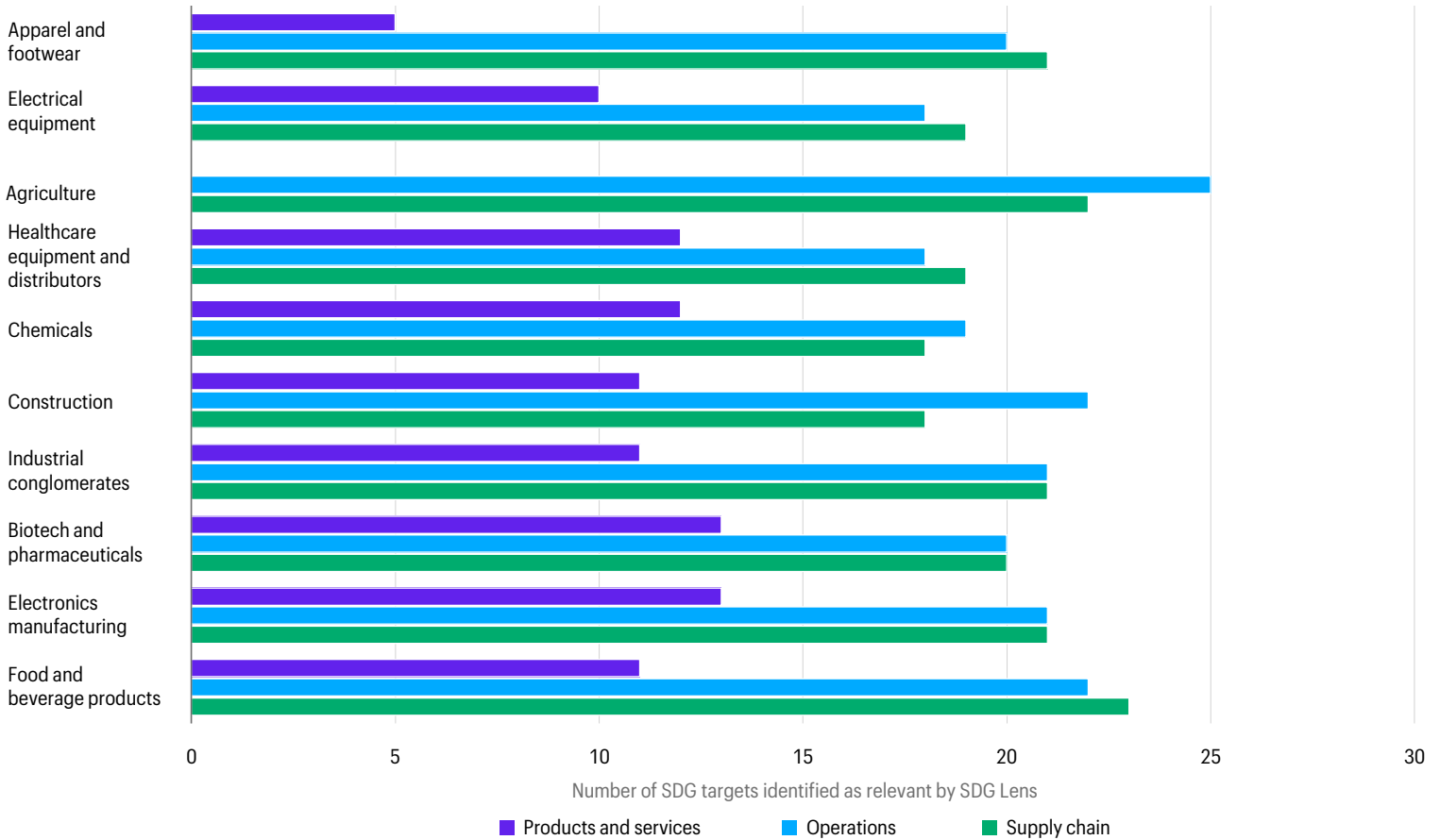
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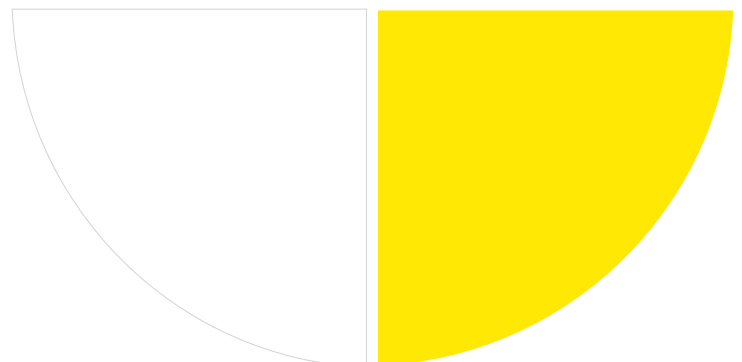
Breadth is a key differentiator of Allspring’s SDG Lens. We believe operations and supply chains, for example, should be considered in any robust analysis of company contributions to SDG progress. In fact, a company’s operations and supply chains have the potential to affect more SDG targets than its products do—across industries. This perspective is included in SDG Lens but is often overlooked by other SDG models that focus only on a company’s revenue exposure to various SDGs.

Figure 1 illustrates this breakdown. It shows the number of targets considered relevant for different impact channels under SDG Lens for the top 10 industries by total number of relevant channels. For each industry, the violet bars, representing the number of targets for which products and services are a relevant impact channel, are far shorter than the blue and green bars, which represent operations and supply chains, respectively.

FIGURE 1: COMPANY OPERATIONS AND SUPPLY CHAINS CAN SIGNIFICANTLY INFLUENCE SDG TARGETS ACROSS INDUSTRIES



Source: Allspring Global Investments, as of February 2024. Industries shown here are based on a proprietary industry grouping used for SDG Lens and are mapped to standard industry classification systems. The number of targets shown in the chart is the total across a sample of seven priority SDGs and their targets.



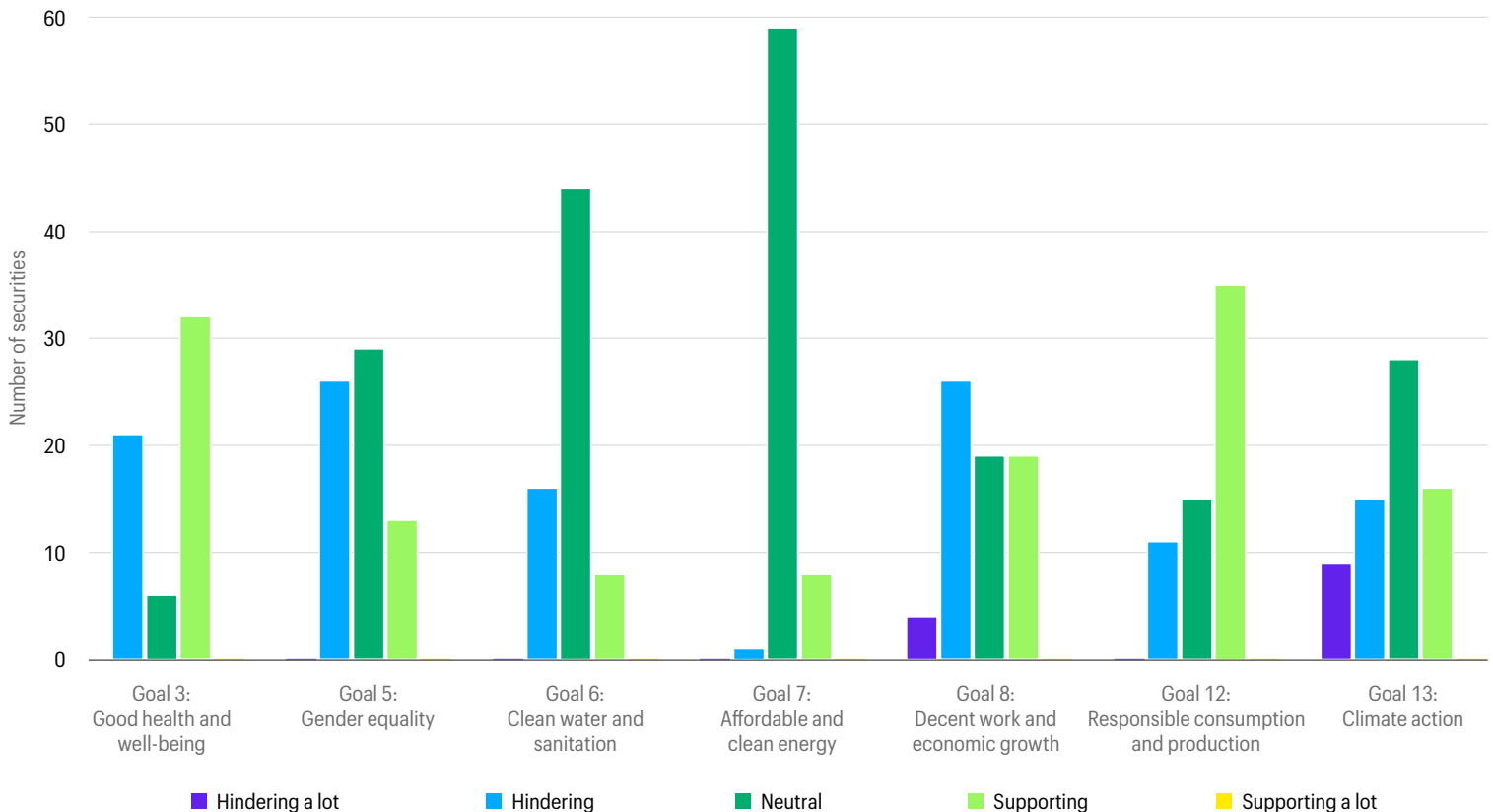


Looking at NVIDIA through SDG Lens

NVIDIA, a dominant player in the semiconductor industry, makes a good case study for how we use SDG Lens. NVIDIA is one of the largest companies in the world (by market capitalization), and SDG Lens shows it to be supporting several of the SDGs. We look at NVIDIA alongside its peers in the Morgan Stanley Capital International (MSCI) All Country World Index (ACWI) (Net).

Figure 2 shows SDG Lens results for semiconductor companies in the MSCI ACWI across a sample of seven SDGs we consider a priority from an investment perspective and where we have seen interest from clients. NVIDIA falls under the “supporting” category for all goals except affordable and clean energy where it is assessed as neutral. At the same time, many of its peers are hindering progress across several SDGs, some of which are hindering progress a lot.

FIGURE 2: SEMICONDUCTOR COMPANIES ARE TAKING ACTION ON THE SDGS BUT EFFORTS HAVE FALLEN SHORT



Source: Allspring Global Investments, as of the end of December 2023. Excludes companies for which we have no information to assess SDG contributions. SDG Lens assesses companies as hindering a lot, hindering, neutral, helping, or helping a lot on each SDG goal and target.

Supporting a lot: The company has a significant positive contribution towards achieving the goal, likely to be exceeding targets set by the UN or creating industry best practice.

Supporting: The company has a positive contribution that is generally on track to meet the targets set by the UN or is in the top peer group.

Neutral: There is data to assess the company, but it shows that the company makes no meaningful positive or negative contribution towards the goal (it may have some positive actions related to the goal but these are not significant enough to actually help with progress on the goal). Or there is data that the company makes positive contributions in some areas related to the target or goal, but these are offset by negative contributions in other areas related to the same target or goal.

Hindering: The company is hindering progress toward achieving the goal, for example through worsening performance on key metrics, lack of action on the issue, or involvement in significant controversies, among other factors.

Hindering a lot: The magnitude of the company’s negative environmental or social outcomes is significant enough to meaningfully hinder progress on the goal.



Progress on energy efficiency, but can NVIDIA do more?

SDG Lens captures a number of ways in which companies support progress on the SDGs. NVIDIA's most meaningful contribution relates to climate action (SDG 13). NVIDIA earns credit in our framework for products that enable customers to reduce emissions, for its Scopes 1 and 2 emissions trajectories, and for its climate targets. (Scope 1 emissions are greenhouse gas emissions generated from burning fossil fuels and from production processes that are owned or controlled by the company. Scope 2 emissions are greenhouse gas emissions that indirectly result from a firm's purchased energy use.)

NVIDIA has set specific climate goals, including a target to reach 100% renewable electricity for operations and data centers by 2025. According to management, its renewable energy goal will result in 100% emissions reduction of Scope 2 emissions. The firm has demonstrated progress, steadily increasing renewable coverage from 25% in 2021 to 38% in 2022 and to 44% in 2023. Its efforts have resulted in its Scopes 1 and 2 emissions being in line with a less than 1.5° Celsius rise in temperatures.

But perhaps its most significant impact comes from its Scope 3 emissions, which are greenhouse gas emissions generated from upstream and downstream activities such as manufacturing of purchased goods and services and the use of its products. NVIDIA's computing platform relies on graphics processing units (GPUs) to enable accelerated computing, which uses parallel processing and is more efficient than traditional computing. For example, NVIDIA's graphics processing units are 20 times more energy efficient for artificial intelligence (AI) and high-performance computing than traditional computer processing units (CPUs). Considering that

computer energy consumption could reach up to 21% of global electricity supply by 2030,¹ NVIDIA's relatively more energy-efficient products could significantly influence progress on the SDG for climate action.

Focusing specifically on the products and services impact channel, the firm gets credit in SDG Lens for its energy-efficient products—not only related to the SDG on climate action but also to target 7.3 (double the global rate of improvement in energy efficiency) within SDG 7 (affordable and clean energy). The firm's revenue exposure to energy-efficient products is an important part of its overall business strategy. As the needs for advanced computing and AI grow, energy efficiency is becoming increasingly important for NVIDIA's customer base and can drive a key competitive advantage. Continued innovation in this area will be important—some of NVIDIA's competitors such as Advanced Micro Devices (AMD) and Intel are not far behind in terms of contributions to affordable and clean energy via their energy-efficiency-related products.

However, while NVIDIA's energy-efficient products and the improving share of renewable energy to power its operations contribute positively to SDG progress on affordable and clean energy, the energy efficiency of its own operations has not shown significant improvement over the past three years. And while NVIDIA plans to engage 67% of its Scope 3 purchased goods and services suppliers by 2026, encouraging the adoption of science-based targets, the firm has not made notable efforts or progress on supplier renewable energy use or energy efficiency more specifically. SDG Lens, therefore, assesses that the company makes a "neutral" contribution to SDG 7. Figure 3 includes sample questions that SDG Lens poses related to target 7.3.

FIGURE 3: SAMPLE SDG LENS QUESTIONS FOR TARGET 7.3 (BY 2030, DOUBLE THE GLOBAL RATE OF IMPROVEMENT IN ENERGY EFFICIENCY)

	PRODUCTS, OPERATIONS, SUPPLY CHAINS, OR CONTROVERSY	WHETHER NVIDIA IS SUPPORTING, ACCORDING TO SDG LENS
Is the company supporting other companies or governments to improve their energy efficiency? This could be through research and development or capital expenditure on developing new products to directly lower customer energy intensity or by selling directly relevant products in new geographies in need or to new customers.	Products	Yes
Is the company on track to double the rate of improvement in its operational energy and/or fuel efficiency by 2030 (compared with 2015)?	Operations	No
Does the company have effective targets or programs in place aligned with doubling the rate of improvement in its operational energy and/or fuel efficiency by 2030 (compared with 2015)? Is the company on track to achieve program or target aims?	Operations	No

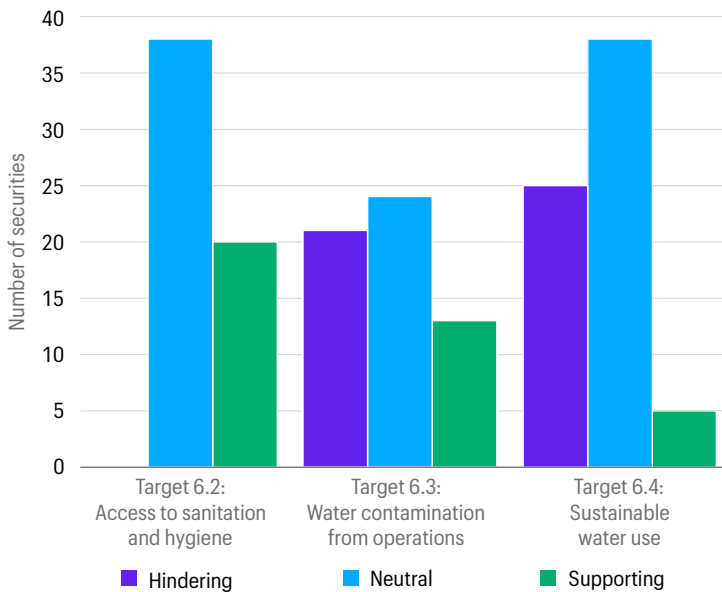
Source: Allspring Global Investments, as of February 2024. Some of these questions can be answered through direct measures; others require proxies.



Only a few semiconductor companies stand out for progress on water

Another significant area in which SDG Lens looks to identify operational and supply chain impacts is in water use. Semiconductor manufacturing is highly water intensive, and this impact is distributed unequally across the value chain. As a fabless semiconductor company, NVIDIA outsources chip manufacturing, which makes water consumption more of a supply chain factor. SDG Lens is designed to capture impact across the value chain, so both fabless and integrated manufacturers are assessed for their influence on clean water and sanitation (SDG 6). Figure 4 shows recent results for SDG 6, broken down by targets relevant to semiconductor companies.

FIGURE 4: FEW SEMICONDUCTOR COMPANIES HAVE HELPED PROGRESS TOWARD CLEAN WATER AND SANITATION



Source: Allspring Global Investments, as of December 2023

For example, SDG Lens assessed the integrated manufacturer Taiwan Semiconductor Manufacturing (TSM)—an NVIDIA supplier—as supporting water-related targets through effective handling of hazardous waste and effluents, improvements in its water withdrawals over time, and more effective water use versus peers, among other factors. NVIDIA itself is assessed as supporting SDG 6 through effective supply chain programs related to water issues. Neither company has faced controversies around their water use—something SDG Lens also tracks.

On the other hand, nearly all other semiconductor companies in the MSCI ACWI were assessed as neutral or hindering clean water and sanitation at the goal level, taking all relevant targets into account.

Leading on gender equality

In addition to environmental goals like energy and water, SDG Lens incorporates social goals such as gender equality (SDG 5). NVIDIA is a leader in female representation in management (SDG target 5.5); women make up 40% of named executive officers, including the chief financial officer and the head of operations. NVIDIA has shown a commitment to diverse talent development through specific initiatives and recently reported promotion parity between men and women. Effective gender equality, equity, and inclusion initiatives—for which the company gets credit within SDG Lens—could influence financial performance, especially in hi-tech companies such as semiconductors.

The value-add of SDG Lens for investment analysis

For fundamental investment analysis of companies, SDG Lens helps identify potential material impacts on companies through various sustainability themes, along with new opportunities or increasing risk that might result. SDG Lens, therefore, also provides insights for our engagement with companies while supporting clients wanting to see progress on global sustainability.

By assessing and integrating information across the value chain, SDG Lens provides a well-supported conclusion on how firm activities are influencing progress toward the UN SDGs. We believe this approach is differentiated from other, more general ESG tools. We analyzed firms across the MSCI ACWI and found low correlations between SDG Lens goal level scores and ESG risk-based scores from two leading ESG data providers, which suggests SDG Lens provides unique insights not found in other models.²

Picturing the future of sustainability

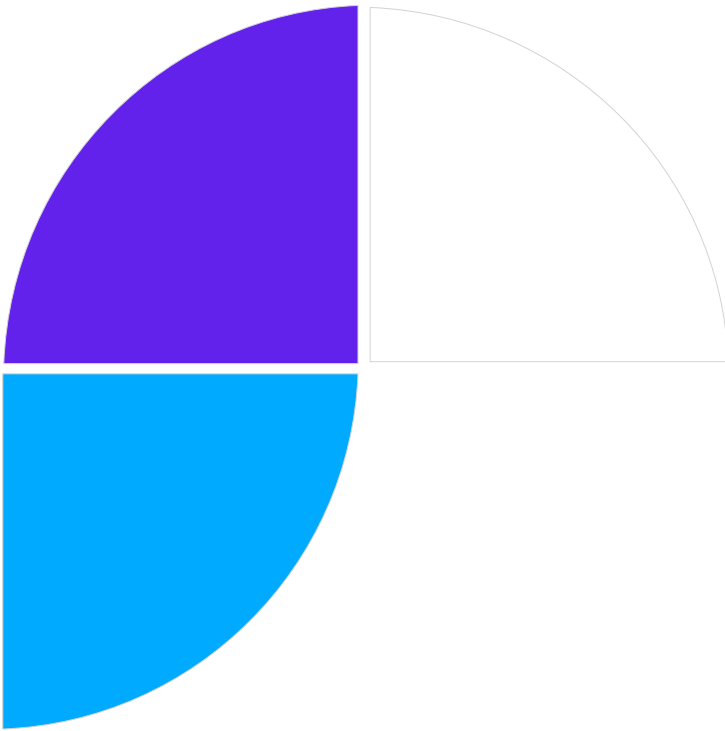
Beyond 2030, many of the sustainability themes embedded in the UN SDGs will remain important, even if individual SDGs take on new form. Allspring's SDG Lens is built to be flexible and adjust as expectations around these themes change over time.

Given the significant gap in achieving the 2030 targets, governments may enhance efforts by introducing new regulations to address these goals. Many of these issues—such as biodiversity loss and human rights—are becoming urgent. Regulations are important, but by the UN's own assessment, investors also have a critical role to play in channeling capital in a way that can help achieve these goals. With tools such as SDG Lens to assess company contributions, and an investment perspective to build upon insights collected, Allspring will look to identify and engage with companies that are fostering progress while benefiting from opportunities. These final six years to 2030 could reset the trajectory for achieving the SDGs.



For further information

We're committed to thoughtful investing, purposeful planning, and the desire to deliver outcomes that expand above and beyond financial gains. Visit our website at www.allspringglobal.com.



ENDNOTES:

1. Nathi Magubane. "The hidden costs of AI: Impending energy and resource strain." PennToday, March 8, 2023. Accessed at <https://penntoday.upenn.edu/news/hidden-costs-ai-impending-energy-and-resource-strain>.

2. In analysis conducted by Allspring, we found correlations between SDG Lens goal scores and ESG risk scores from the two data providers ranging from 17% to 54%.

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