



2024

CLIMATE-RELATED RISKS AND OPPORTUNITIES

LOCKHEED MARTIN 

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Lockheed Martin Corporation

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INTRODUCTION

At Lockheed Martin, we are a global aerospace and defense company principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. We also provide a broad range of management, engineering, technical, scientific, logistics, system integration and cybersecurity services. Our main areas of focus are in defense, space, intelligence, homeland security and information technology, including cybersecurity. We serve both U.S. and international customers with products and services that have defense, civil and commercial applications, with our principal customers being agencies of the U.S. Government. Our commitment to sustainability includes a responsibility to mitigate climate risk and safeguard valuable resources. We seek to understand and address climate risks while capturing opportunities to strengthen our business model and operations. The information that follows is aligned with [Task Force on Climate-related Financial Disclosures](#) (TCFD) recommendations, now incorporated within the [International Sustainability Standards Board](#) (ISSB) IFRS S1 and IFRS S2 standards.

Important Information About This Report

For purposes of this report, we used the Task Force on Climate-related Financial Disclosures risk framework, which differs from our approach to the disclosure of risks in our filings with the U.S. Securities and Exchange Commission (SEC). The inclusion of information contained in this report should not be construed as a characterization regarding the materiality of that information for purposes of our SEC filings. See also the caption Forward-Looking Statements at the end of this report for important information on forward-looking statements used in this report.

EXECUTIVE SUMMARY

Lockheed Martin published its inaugural TCFD-aligned climate-related risks and opportunities report in 2020. This latest revision updates select analysis and quantitative data points.

Time Horizons

We use three time horizons when assessing climate-related risks and opportunities: short term (1-3 years), medium-term (3-10 years), and long-term (beyond 10 years). Based on our assessment of plausible global economic, social, and environmental scenarios, we assess physical climate-related drivers in the long-term, while transitional drivers are assessed over the short- to medium-term.

Geographic Scope

Physical climate related risks are assessed across Lockheed Martin and supplier operations primarily in the United States, where over 90% of employees and operations are located. In 2024 we expanded our assessments to include global data sets.

Transition risks (primarily carbon taxation) are assessed at the global level.

Physical Risks

To quantify physical climate related risk, we calculate the Value at Risk (VaR), which is the estimated expected average annual economic loss resulting from a particular natural hazard. VaR is calculated by applying the estimated likelihood of an event occurring each year and a historic loss ratio for such an event to the insurable value of the assets being assessed.

Our current analysis finds that the total 2024 annual VaR for all U.S. based climate risk hazards analyzed is not material and will not be material for the foreseeable future under any of the climate scenarios we modeled. Globally we use a scoring method to assess risks across multiple hazard perils.

Transition Risks

To quantify transition risks, we apply hypothetical carbon prices (tax) to our greenhouse gas (GHG) emissions relative to our operations and our supply chain.

A carbon tax implemented at \$20 per metric ton of carbon dioxide equivalents (MTCO₂e) on our Scope 1 and Scope 2 energy-specific emissions would, if enacted, result in an annual financial impact of approximately \$13 million. The same carbon pricing scenario applied to our supplier-based emissions would result in an additional estimated annual financial impact of \$110 million. These estimates are based on our 2024 emission levels.

The following tables summarize the two scenarios used for our analysis and the associated climate-related risks and opportunities.

SCENARIO ASSUMPTIONS

(Independent of Current Regulatory and Policy Approach)

BELOW 2°C SCENARIO

Lockheed Martin will face increasing physical climate risks now through 2050 because of the locked-in effects from past global GHG emissions. Many physical climate impacts are expected to increase and then plateau towards mid-century. Global average temperatures will slowly begin to decline after mid-century because of stringent, near-term regulation and policy to decarbonize globally. Such transition will likely increase the cost of doing business and may impact the affordability of our products and services, as well as for others in the aerospace and defense industry. Taking action to decarbonize may result in opportunities for competitive advantage. This analysis is based on SSP (Shared Socioeconomic Pathways) 119 (i.e., 1.5°C) and SSP 126 (i.e., Well Below 2°C or WB2C).

ABOVE 2°C SCENARIO

Lockheed Martin will face increasing physical climate risks now until well beyond 2050 with low likelihood of plateau or decline through 2100. New climate policy or regulation is possible after 2050 in reaction to physical change. Customer needs are likely to change minimally in the near term related to efficiency and life cycle carbon due to limited pressure from governmental regulation and policy. This analysis is based on SSP 245 and SSP 585.

CLIMATE-RELATED RISKS AT LOCKHEED MARTIN

Lockheed Martin has significant operations in geographic areas prone to climate-related risks, such as in California, Florida, and Texas, and certain properties have suffered damage from natural disasters in the past and may again in the future. We could incur significant costs should we invest in improvements to the climate resiliency of our infrastructure and supply chain and otherwise prepare for, respond to, and mitigate the effects of climate change.

Lockheed Martin may see indirect costs rise, such as increased energy or material costs, because of policies affecting other sectors of the economy. Scarcity and carbon-based factors are expected to drive up the cost of materials globally. As externalities are factored into product costs in the form of carbon pricing, Lockheed Martin may see costs rise throughout our supply chain. Although most of these increased costs likely would be recoverable through pricing, to the extent that the increase in our costs because of these policies is greater than our competitors'. We may be less competitive on future bids or the total increased cost in our industry's products and services could result in lower demand from our customers.

Future laws, regulations, or policies in response to concerns over GHG emissions, such as carbon taxes, mandatory reporting and disclosure obligations and changes in procurement policies, could significantly increase Lockheed Martin's operational and compliance burdens and costs. In the long-term, we expect placing a price on carbon will be a key driver toward integrating climate-related costs into market supply and demand. Although direct taxation is not currently applicable, Lockheed Martin is assessing the localized impact of carbon pricing on the cost of total energy procurement, product and supplier affordability, and the potential impacts of proposed carbon pricing in legislation over time.

Changes in government procurement laws that mandate or consider climate change considerations in evaluating bids, such as a contractor's GHG emissions, lower emission products or other climate risks, could result in costly changes to Lockheed Martin's operations or affect our competitiveness on future bids.

CLIMATE-RELATED OPPORTUNITIES FOR LOCKHEED MARTIN

Lockheed Martin can design, develop, and use new technologies to address climate-related risk globally. As a leader in technology and innovation, Lockheed Martin is positioned to directly support customer missions through technical solutions. This may take the form of energy, product design, efficiency, manufacturing, sustainment, and operations. Our ability to capitalize on these opportunities depends significantly on the extent to which our customers demand technologies and solutions that address climate-related risks.

Innovation, research and development are integral to the long-term resilience of Lockheed Martin's business model. Climate-related risks are expected to create opportunities across all sectors. Therefore, continued innovation will be required to provide solutions to both our existing government customer base as well as our potential expansion to adjacent customer bases. We have set goals to target directed investment and support in carbon removal technologies and financial support for organizations supporting multiple Sustainable Development Goals (SDGs), specifically SDG 7 – Affordable and Clean Energy.

Advanced manufacturing and supply chain logistics are expected to create an opportunity for Lockheed Martin to reduce operational cost and improve production efficiencies. This may create opportunities for competitive advantage against peers in terms of product affordability, as well as reductions in material use, including energy and water, which may protect operations from climate-related supply shocks and price fluctuations.

STRATEGY

Climate-related risk and opportunity drivers affect our long-term resiliency as a leader in the global security and aerospace industry. We seek to understand and address how those drivers will affect our business.

Drivers are categorical risks and opportunities that are manifested via specific climate-related risks. For example, rising sea levels drive coastal flooding risk. We use three time horizons when assessing climate-related risks and opportunities: short-term (1-3 years), medium-term (3-10 years), and long-term (beyond 10 years).

Impact Assessment

Our process begins by evaluating the risks and opportunities that a climate-focused universe of drivers presents to Lockheed Martin and their relative likelihood and impact. This approach identifies qualitative climate-related drivers to be modeled quantitatively for better understanding of their overall level of significance and impact.

Our qualitative scenarios are based on two hypothetical futures: global temperatures warming to no more than 2°C by 2100

(aligning with [Representative Concentration Pathway](#) (RCP) 1.9 and RCP 2.6); and global temperatures rising above 2°C by 2100 (aligning with RCP 4.5 and RCP 8.5). These scenarios draw on scientific data to project the potential effects of climate change and global warming, and the socio-economic requirements projected to meet different global transition strategies.

We evaluate the estimated relative likelihood and impact of climate-related risks and opportunity drivers on our facilities (any site under Lockheed Martin operational control), production operations, workforce, and supply chain. Each stakeholder category represents a unique application of adaptation or mitigation within our value chain. For each scenario there are multiple sub-strategies used to incorporate variability in key performance measures representing both physical and transition drivers and risks. These scenarios use [Shared Socioeconomic Pathways](#) (SSP) and [Integrated Assessment Model](#) data to determine boundaries for physical and transition changes projected in 2030 (near) and 2100 (long). The SSPs provide insight into the extent that policy and socio-economic drivers will need to shift globally, and regionally, to achieve each desired physical outcome in terms of global average temperature rise.

We use SSP119 and SSP126 to set the parameters for our Below 2°C scenario and align with physical climate projections under RCP 1.9 and RCP 2.6, respectively. The Above 2°C scenario

utilizes SSP245 and SSP585 as more extreme cases of physical change. These SSPs align with RCPs 4.5 and 8.5, respectively.

We use more than 120 distinct climate-related risks, based on 22 individual risk drivers, that are assessed under both hypothetical scenarios. We assess risks based on their anticipated likelihood and the relative impact of each risk driver on our facilities, production operations, workforce, and supply chain. Based on our methodology, the risk assessments identified that Lockheed Martin may face increased physical risk from extreme weather and transition risk because of unabated emissions.

Quantifying Physical Climate-related Risks

Methodology

To assess physical risk, we utilize the U.S. Federal Emergency Management Agency's (FEMA's) National Risk Index (NRI), a tool to help illustrate the U.S. communities most at risk for 18 natural hazards. The NRI provides risk hazard ratings and annual likelihood estimates by U.S. Census Tract but does not include Puerto Rico. Global resources are also not publicly available to provide the same level of risk assessment.

Using FEMA's methodology for Expected Annual Loss, used in the NRI, we have modified the formula to calculate an annual Value at Risk (VaR) value based on annual insurable value for Lockheed Martin assets and contract commitments for a sampling of suppliers; this is instead of "Exposure" as used in the NRI. Annual VaR statistically represents the expected loss from natural hazards annually. It is hypothetical and in any given year actual losses may be significantly lower or higher than the calculated VaR. The variables used to calculate the VAR are: Annualized Frequency (based on NRI data), Historical Loss Ratio (based on NRI data), and Insurable Value/Contract Value (based on Lockheed Martin data).

The variables are subject to judgment and thousands of underlying assumptions; a change in one or more of the variables may have a significant effect on the calculated VaR. The analysis contained in this report is based on 2024 insurable value.

Impact on Lockheed Martin Assets, Programs, and Suppliers

The analysis shows that the annual VaR for all U.S. based assets represents an immaterial risk for Lockheed Martin sites and assessed suppliers.

In 2024, we estimate that \$200M was "at risk" across all NRI hazards but is not a direct cost to the company. VaR estimates are only available for U.S. based locations and incorporate the likelihood and historic loss ratios for various risk hazards. Globally, we do not have VaR values but estimate 12% of our 2024 insurable value is both "critical" and rated above a "Moderate" level of Present Risk and Overall Risk, which accounts for change based on an SSP58.5 scenario

through 2050. This value does not incorporate any geo-specific likelihood of any or all perils occurring and thus is not comparable to our VaR estimates. The perils identified globally that contribute most to our combined climate risk are wind, heat, drought, fire, and precipitation.

Across our U.S. based supply chain, the VaR estimate is approximately \$82M in 2024. Globally the contract commitments amount to 7.2% in 2024 (YTD) as rated above a “Moderate” level of Present Risk and Overall Risk. When looking to 2050, the VaR increases slightly to 7.7%.

Climate-related natural hazards are geographically specific. Climate change is expected to shift and amplify the occurrence of these hazards, but the expected impacts are highly uncertain. Given the future uncertainty we, like FEMA, use historical impact data to determine where natural hazard events are most likely to occur. As a result, each natural hazard is a unique risk. Assets are defined as individual data points in our analysis and represent individual buildings within our operations data or the location in the supplier data.

Quantifying Transition Climate-related Risks

Lockheed Martin evaluates the regulatory-driven climate risk of increased pricing of GHG emissions. In the U.S., only California operates a cap-and-trade program requiring facilities to offset a percentage of their GHG emissions. However, a carbon-based tax is a reasonable expectation when assessing our global operations.

Lockheed Martin manages this risk by stress testing historical cost implications of localized emissions against localized energy expenditures, and through efforts to decarbonize and conserve energy based on per capita metrics.

A carbon tax in the range of \$20-100/MTCO₂e on our Scope 1 and 2 energy-specific emissions would, if enacted, result in an annual financial impact ranging from \$14M – \$72M. These estimates are based on our 2024 emission levels.

A carbon tax in the range of \$20-100/MTCO₂e on our Scope 3 supply chain emissions would, if enacted, result in an annual financial impact ranging from an estimated \$110M – \$552M. These estimates are based on our 2024 emission levels. While the upper range represents an immaterial but significant risk the likelihood of an average price on carbon at or more than \$100/MT CO₂e is considered improbable currently.

The tax rates of \$20 and \$100 per MTCO₂e used in the financial impact estimates provide a range in relative aggressiveness and are based on analyses of recommended science-based CO₂ tax rates in 2020. Sources include proposed Congressional bills, the World Bank, High-Level Commission on Carbon Price, Shared Socio-Economic Pathways, and Carbon Pricing Corridors Initiative.

Select Transition Opportunities

PRODUCTS AND SERVICES – NEW PRODUCTS OR SERVICES THROUGH INNOVATION AND RESEARCH & DEVELOPMENT (R&D)

At Lockheed Martin, we develop instruments and other technologies that monitor climate from space, land, and sea to support our customers in protecting and strengthening global infrastructure. We are a global aerospace and defense company principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. We also provide a broad range of management, engineering, technical, scientific, logistics, system integration and cybersecurity services. Our main areas of focus are in defense, space, intelligence, homeland security and information technology, including cybersecurity. We serve both U.S. and international customers with products and services that have defense, civil and commercial applications, with our principal customers being agencies of the U.S. Government.

As a company driven to provide technical solutions to the most complex challenges facing our customers, we expect our portfolio to expand to meet their needs, including to address climate change and adaptation solutions, which present us with numerous climate-related opportunities. In certain cases, our customers have shaped product development and features based on climate-related risks and opportunities. Examples include the GOES (Geostationary Operational Environmental Satellite) series is designed to improve climate, ocean, environmental, and weather forecasting by providing faster and more detailed data in real time--which will continue through the [GeoXO](#) program; the C-130J/LM-100J aircraft is more fuel efficient than its predecessors; the [Sikorsky FIREHAWK](#) modification of the Blackhawk platform can be tactically paired with our [Firefighting Intelligence](#) platform harnessing AI to fight wildfires; and the [GridStar Flow](#) long-duration energy storage demonstrates grid resilience for the U.S. Army at Fort Carson. Growing resource constraints and changes to our climate will require technologies that strengthen society's resilience and provide solutions for monitoring and addressing impacts for climate change mitigation.

Our ability to capitalize on these opportunities depends significantly on the extent to which our customers support research and development, and/or demand technologies and solutions that address climate-related risks.

RISK MANAGEMENT

Our sustainability strategy is shaped by a structured approach used to determine our most relevant sustainability issues, objectives, and performance measures. At Lockheed Martin we consider a strong relationship between strategy, risk management, and sustainability to be critical.

Risk management processes addressing acute physical climate-related risks are monitored and managed through our Corporate Risk Management, Business Continuity, and Crisis Management programs. Risk Management maintains a robust insurance structure to manage exposure and liabilities. Business Continuity outlines the preparation needed in anticipation of significant incidents that may disrupt business operations. Crisis Management promotes preparedness and response with the goal of protecting Lockheed Martin employees against injury and illness and minimizing damage to Lockheed Martin's assets.

Our Crisis Management and Business Continuity programs establish a strategic framework that directs prompt mobilization of resources to protect Lockheed Martin employees and assets prior to, during, and after any emergency, including impacts from natural disasters. Our business resiliency programs include regular drills and testing to ensure preparedness as well as after-action assessments following implementation of response to improve future readiness.

Our Environment, Safety, and Health Leadership Council and Facilities Leadership Team set the strategic direction and goals for energy management and procurement to drive efficiency, avoid costs, and reduce carbon emissions associated with our facilities.

Risk Identification:

We monitor a dynamic risk universe that includes sustainability topics prevalent in voluntary frameworks, mandatory regulations, and internally identified sources.

Risk Assessment:

We prioritize and evaluate assumptions from a diverse set of risk topics relevant to strategic and operational objectives. This includes examining sustainability factors applicable to risk topics in our business.

Risk Controls and Mitigation:

We conduct periodic examination of the intersection between our enterprise risk management program, our internal audit plan, and our sustainability management plan. We respond to risks related to certain sustainability factors, and we track, measure, and report our performance for greater transparency. This process also informs how we evaluate the effectiveness of controls for risk elements identified through our enterprise risk assessments, ethics, and business conduct process, and internal audits. Our Risk and Compliance Committee oversees enterprise risk management to inform senior executives and our Board of Directors on risk management efforts.

GOVERNANCE

Please refer to Lockheed Martin's [Sustainability Performance Report](#) for a description of our sustainability governance.

METRICS AND TARGETS

Lockheed Martin's business strategy, including related to climate change, is influenced by our stakeholders including employees, academic institutions, investors, non-governmental organizations, customers, policy organizations, suppliers, and analysts. In 2013, Lockheed Martin conducted its initial core issues assessment to evaluate the relative importance and impacts of sustainability factors to our value chain and stakeholders.

In 2019, we formally reassessed our priority sustainability issues based on the company's evolving business portfolio and stakeholder values regarding the economic, social, and environmental aspects of our business model. A description of our current climate-related goals, can be found on our [Emissions Management](#) webpage. In addition, in 2024 we conducted a complete double materiality assessment that will become the foundation of the next formal five-year sustainability management plan and associated goals.

CLIMATE-RELATED DATA AND MEASUREMENTS

Lockheed Martin publishes climate-related data and metrics via our [Performance Index](#).

Forward-Looking Statements

This report contains statements which, to the extent not recitations of historical fact, constitute forward-looking statements within the meaning of the federal securities laws. The words “will,” “enable,” “expect,” “plan,” “forecast,” “anticipate,” “continue,” “achieve,” “scheduled,” “estimate,” “believe,” “intend,” “aim,” “orient,” “goal,” and similar expressions are intended to identify forward-looking statements. Statements and assumptions with respect to achievement of goals and objectives; anticipated actions to meet goals and objectives; allocation of resources; planned, encouraged, or anticipated actions; the likelihood of the occurrence of future events and the impacts of such events; planned performance of technology; or other efforts are also examples of forward-looking statements.

Forward-looking statements are based on our current expectations and assumptions, are not guarantees of future performance, and are subject to risks and uncertainties. Actual results could differ materially due to factors such as (i) the accuracy of our estimates and assumptions, including the selected hypothetical scenario analysis, and the inherent uncertainty and limitations in scenarios attempting to model world climate and human reaction over a multi-decade period;; (ii) our ability to achieve reductions in energy use, greenhouse gas emissions and other sustainability goals and objectives; (iii) changes in our priorities as well as changes in the priorities of our customers and suppliers; (iv) the amount of our future investments;; (v) the future effect of legislation, rulemaking and changes in policy; (vi) the impact of acquisitions or divestitures or other changes in our employee or product and service base; (vii) the competitive environment; (viii) the ability to attract and retain personnel and suppliers with technical and other skills; (ix) the success of technologically developed solutions; (x) the willingness of suppliers to adopt and comply with our programs; and (xi) global economic, business, political, and climate conditions.

These are only some of the factors that may affect the forward-looking statements contained in this report. For further information regarding risks and uncertainties associated with our business, please refer to our U.S. Securities and Exchange Commission (SEC) filings including our Annual Report on Form 10-K for the year ended December 31, 2024, and our subsequent Quarterly Reports on Form 10-Q, which can be obtained at our website www.lockheedmartin.com/investor or through the website maintained by the SEC at www.sec.gov. The forward-looking statements contained in this report speak only as of the date of this report, unless an earlier date is specified. Except where required by applicable law, we expressly disclaim a duty to provide updates to forward-looking statements after the date of this report to reflect subsequent events, changed circumstances, changes in expectations, or in the estimates or assumptions associated with them. The forward-looking statements in this report are intended to be subject to the safe harbor protection provided by federal securities laws.

