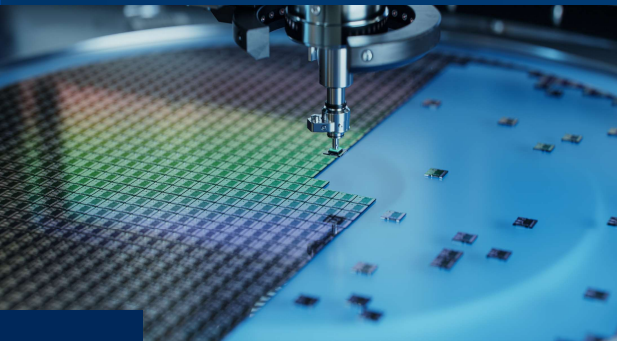


The Intel logo, consisting of the word "intel." in white lowercase letters on a blue square background.

# 2023-24 Climate Transition Action Plan





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## A Letter from our CEO

We are in a new era of global expansion where computing power has become foundational to a bigger opportunity and better future for every person on the planet. It has the power to make industries more sustainable and to unlock new solutions in the fight against climate change. We are all participating in an evolving economy enabled by the magic of silicon. These tiny chips are essential to maintaining and enabling our modern lives. And as we continue to discuss exponential growth thanks to Moore's Law, we also must acknowledge the need to be more sustainable.

At Intel, we are committed to delivering the silicon that powers our world while driving to the lowest possible environmental footprint. In 2022, I was proud to announce our goal to achieve net-zero greenhouse gas emissions across our global operations by 2040. In 2023, we took that goal a step further and committed to work with our value chain to achieve net-zero upstream greenhouse gas emissions by 2050.

Our Climate Transition Action Plan provides the roadmap for how we will achieve these critically important goals. It demonstrates our commitment to integrating sustainability into our core business, building resilience into our operations and value chain, and fostering innovation. Our research teams are thinking a decade or more into the

future, and work is already underway to identify greener chemistries, to improve equipment designs and facility systems, and to deliver more energy-efficient products.

Lowering greenhouse gas emissions is one of our industry's most complicated challenges. As one of the world's leading semiconductor design and manufacturing companies, Intel is championing collective action to achieve more sustainable computing. This is demonstrated by our founding membership of the Semiconductor Climate Consortium and founding co-sponsorship of the Catalyze program, a renewable electricity accelerator for the semiconductor supply chain.

We are proud to lead the semiconductor industry in sustainable manufacturing and innovations in energy efficiency, but we do not underestimate the challenges ahead. We push forward with our purpose at the heart of everything we do — creating world-changing technology that improves the life of every person on the planet. This includes leaving our world a better place for generations yet to come.

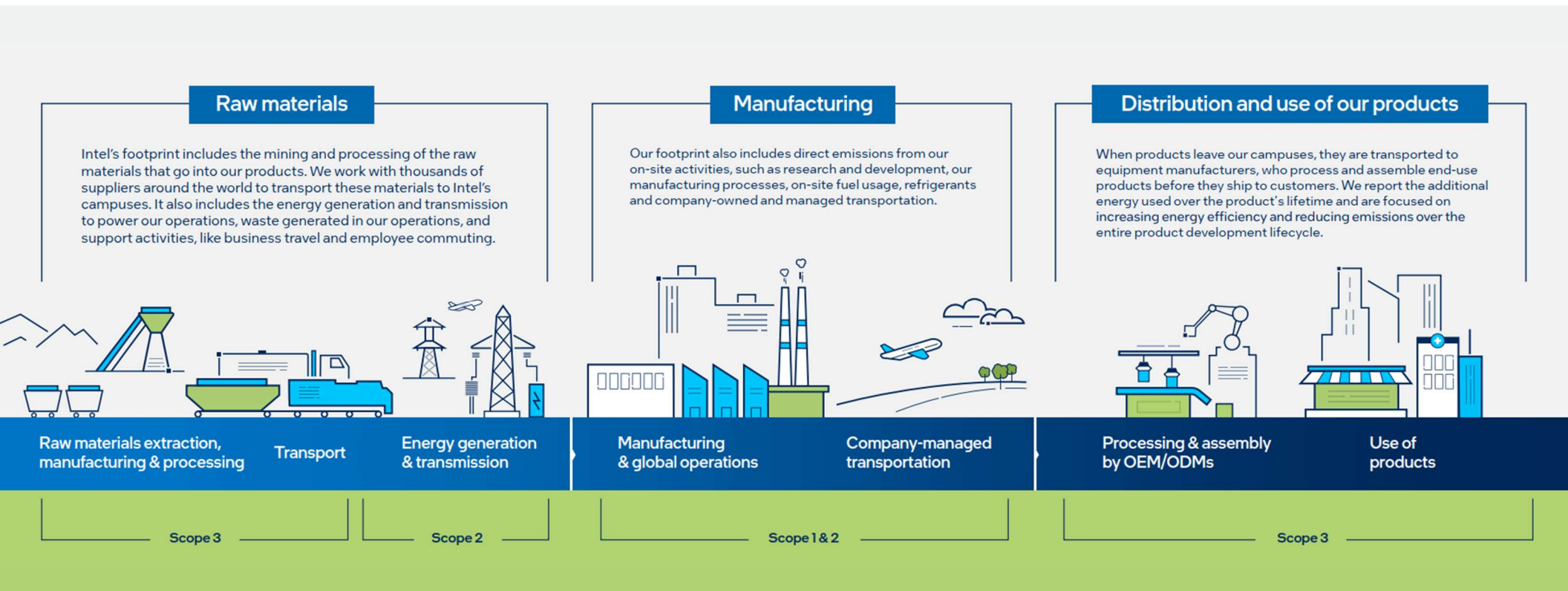
**Pat Gelsinger**  
Chief Executive Officer, Intel Corporation



## Background

Driving to the lowest possible environmental footprint helps us create efficiencies, support our communities, and respond to the needs of our stakeholders. We focus on reducing our own climate impact—the emissions resulting from our own operations, our supply chain, and the marketing and use of our products. We also work to identify ways that Intel technology can help others reduce their climate impacts. Our [Climate Change Policy](#) outlines our formal position on climate change and our policy advocacy principles.

The infographic below describes our greenhouse gas (GHG) emissions throughout our value chain. As a semiconductor manufacturing company, Intel has direct GHG emissions from our operations (Scope 1) as well as indirect emissions from the use of electricity (Scope 2). We also have indirect emissions across our value chain from our supply chain and downstream processing and use of our products (Scope 3).

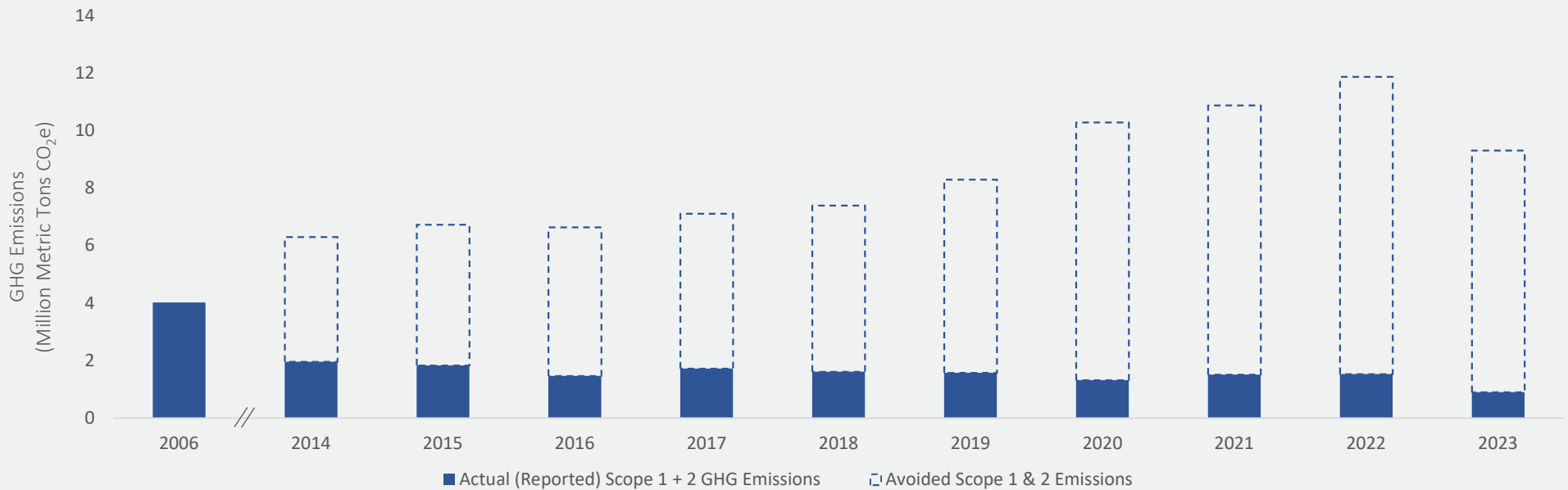


## History

For over two decades, Intel has set aggressive GHG reduction goals to conserve energy and minimize GHG emissions. We invest in GHG reductions, including chemical substitution, abatement, energy conservation, process optimization, and renewable and alternative electricity. As a result of these actions, we have avoided nearly 82% of our cumulative Scope 1 and 2 GHG emissions over the last decade and have reduced our absolute operational GHG emissions by 78% from our peak year of 2006. We continue to collaborate with others in the semiconductor and other manufacturing industries to identify new and innovative approaches to reduce emissions.



Intel's Scope 1 + 2 GHG Emissions: Avoided Emissions and Absolute Reduction Since Peak Year





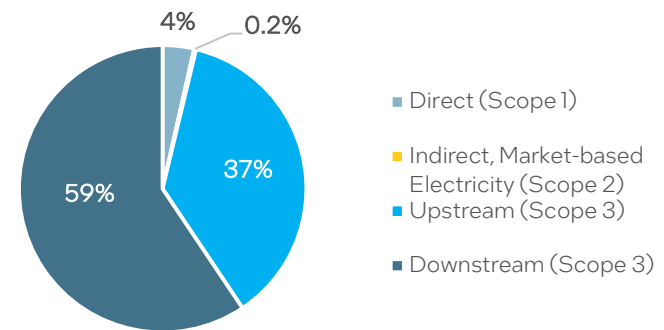
As a result of our longstanding commitment and voluntary action to reduce emissions, in 2023, Intel’s direct GHG emissions from operations (Scope 1) accounted for 4% of our total GHG emissions (Scopes 1, 2, and 3). Scope 1 emissions are primarily comprised of process emissions [e.g., fluorinated-GHG (F-GHGs) and nitrous oxide (N<sub>2</sub>O)], heat transfer fluid emissions, emissions from the combustion of fossil fuels in abatement and facilities equipment, and other miscellaneous sources.

Because of our investments in renewable electricity, GHG emissions from purchased electricity (Scope 2) in 2023 made-up less than 1% of our total GHG emissions. We have reduced Scope 2 emissions over 92% since 2019, which is a direct result of the progress towards our goal of purchasing 100% renewable electricity across our global operations by 2030. In 2023, Intel achieved 99% renewable electricity globally. In addition to generating on-site and off-site renewable electricity and purchasing renewable electricity from our utility suppliers, we purchase green attributes from multiple sources of generation. These include wind, solar, hydroelectric, and geothermal, many of which are certified and verified by nonprofit validation accreditors such as the [Center for Resource Solutions’ Green-e program](#).

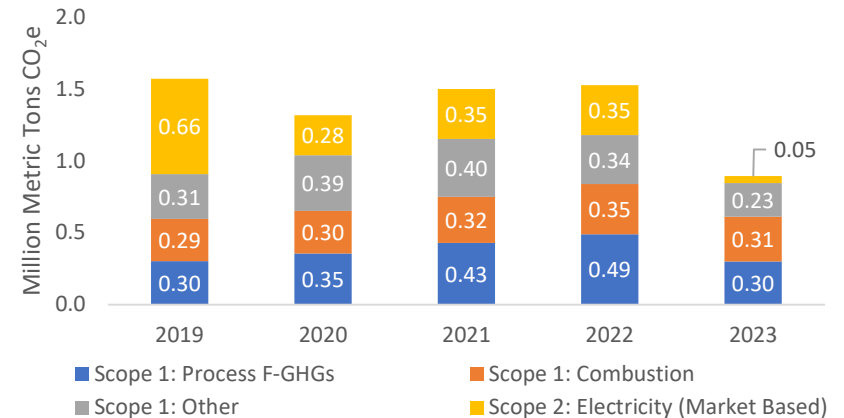
In 2023, upstream Scope 3 GHG emissions accounted for 37% of our total value chain GHG emissions, predominantly due to emissions from our supply chain. We also include the downstream energy use of our products in our Scope 3 GHG emissions as we believe this depicts the most accurate overview of our footprint. With each new generation of products, we aim to offer higher performance and improved energy efficiency compared to previous generations, as described in our [Corporate Responsibility Report](#).

Our emissions calculations are based on Global Reporting Initiative (GRI) Standards, the World Resources Institute/World Business Council for Sustainable Development’s *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*, *GHG Protocol Scope 2 Guidance*, *GHG Protocol Scope 3 Calculation Guidance*, and internal criteria defined by Intel management.

### Profile of Intel's 2023 Global GHG Emissions



### Intel's Global Scope 1 and 2 GHG Emissions



Sources of guidelines and data used in GHG emissions calculations include the Intergovernmental Panel on Climate Change (IPCC), International Energy Agency (IEA), and US Environmental Protection Agency (EPA).

Since 2012, we have obtained third-party assurance for GHG emissions, renewable electricity, energy, and water metrics as reported in the Appendix to our [Corporate Responsibility Report](#). For the 2023-24 Corporate Responsibility Report, we engaged Apex Companies LLC to complete the assurance review. Intel’s reported Scope 1, 2, and 3 GHG emissions can be found on page 76 of Intel’s 2023-24 [Corporate Responsibility Report](#).



# Our Plan

## Greenhouse Gas Commitments: Reduction Targets and Progress

Intel has set ambitious emissions reduction targets, including short, medium, and long-term, to address GHG emissions throughout our value chain. Intel’s 2030 goals are part of our RISE strategy, which aims to create a more **responsible, inclusive, and sustainable** world, **enabled** through our technology and the expertise and passion of our employees.

	Global Target <sup>1</sup>	Target Year	CY2023 Progress
Operations	Achieve a 10% reduction in our absolute Scope 1 and 2 GHG emissions from a 2019 baseline	2030	43% reduction in Scope 1 and 2 GHG emissions
	Reach net-zero Scope 1 and 2 GHG emissions	2040	
	Achieve 100% renewable electricity	2030	99% renewable electricity
	Conserve 4 billion kWh of energy cumulatively	2030	1.6 billion kWh of electricity savings cumulatively since 2020
	Build new factories and facilities to meet US Green Building Council LEED® standards	2030	Certification achieved for 18.9 million square feet of space in 55 buildings (cumulatively)
	Launch a cross-industry initiative to identify greener chemicals with lower global warming potential and to develop new abatement equipment	2030	We continued to collaborate through industry consortia to identify research needs and key areas of focus.
Supply Chain	Reduce Scope 3 GHG supply chain emissions by 30% from what they would have been in the absence of action from a 2021 baseline	2030	GHG emissions reduction actions and initiatives implemented by key first-tier suppliers resulted in an estimated 9% of emissions avoidance in the supply chain.
	Reach net-zero upstream Scope 3 GHG emissions	2050	
Products	Increase product energy efficiency 10x for Intel client and server microprocessors to reduce Scope 3 emissions from a 2019 baseline	2030	Client and server microprocessor energy efficiency goals on track. Please see Intel’s <a href="#">Corporate Responsibility Report</a> for details.
	Reduce the carbon footprint of platform reference designs for future client form factors by 30% or more from a 2019 baseline	2030	For the Intel Core Ultra processor platform, we created over 14 technologies, including Intel Intelligent Display.

<sup>1</sup>See the most recent [Intel Corporate Responsibility Report](#) for full details on our climate goals.



Intel has made significant progress in reducing our GHG emissions, making decades-long contributions to the global effort to reduce emissions. We support the consensus to limit warming to 1.5°C and have aligned our net-zero Scope 1, 2, and upstream Scope 3 goals to that effort. However, we face challenges in setting net-zero targets in-line with the Science-Based Targets Initiative (SBTi) 1.5°C pathway for numerous reasons.

First, the absolute contraction approach for setting GHG targets that meet SBTi requirements does not allow companies to account for early action to reduce emissions. By not accounting for these historical reductions in Scope 1 and 2 emissions, companies that have demonstrated leadership in early, voluntary emissions reductions are at a disadvantage compared to companies that are now beginning their GHG reduction efforts. While Intel's long-term net-zero GHG goals are in line with a 1.5°C emissions reduction scenario required by SBTi, we are challenged by the near-term reduction requirement without the ability to account for significant historical reductions.

Second, demand for semiconductors is increasing, due in part to the role that technology plays in driving climate change solutions.

Current frameworks do not include consideration of the reduction in GHG emissions through the application of technology, or the “handprint”—the environmental benefit that technology provides. To advance progress on a collective approach, in 2023, we continued to engage via organizations such as the Semiconductor Climate Consortium to work to accelerate reductions in GHG emissions in our industry.

Intel's priority is to actively reduce its emissions, in line with international standards and climate science. We will use credible carbon removal credits or offsets to achieve our 2040 goal of net-zero Scope 1 and 2 GHG emissions only if other options are exhausted.

We also recognize the link between the potential for human rights related impacts and climate transition activities. Human rights are the fundamental rights, freedoms, and standards of treatment to which all people are entitled. Intel's [Global Human Rights Principles](#), policies, and integrated approach to respecting human rights draw upon internationally recognized labor and human rights standards. As we progress towards our net-zero goals, we actively consider the broader impacts of a climate transition.





## Roadmap and Milestones

Intel takes a portfolio approach to GHG emissions reductions and engages teams across the company to define short-term, medium-term, and long-term actions to progress our climate goals.

### Short-Term 0–3 years

We consider the short-term horizon as the actionable plan or our current focus and path to achieve longer term goals.

For example, we may set a longer term GHG reduction goal with a target of 8–10+ years, but the actions necessary to achieve that goal are performed during the current year and in accordance with short term roadmaps established for the next 1 to 3 years.

### Medium-Term 3–10 years

We set our environmental strategy based on a medium-term horizon, which determines our short-term actionable plans. We typically develop external sustainability goals based on 10 years from baseline to target year.

For example, in our 2020-2021 Corporate Responsibility (CSR) Report, we introduced our 2030 RISE goals that will guide our actions over the next decade and have provided updates on our progress in subsequent CSR reports.

### Long-Term 10–50 years

We have a long-term horizon for the vision of our company, and we continue to develop that vision by considering the type of company we aim to be.

Moore’s Law, a law of economics predicted by Intel’s co-founder Gordon Moore over 50 years ago, continues to be a strategic priority and guides where we want to be in the next 50 years. To support Moore’s Law, our Technology Development research teams are thinking 10 or more years into the future. This long-term vision enables us to develop the medium-term strategy, which enables us to develop our short-term implementation plans.

As an example, Intel has set long-term commitments to achieve net-zero Scope 1 and 2 GHG emissions by 2040 and net-zero upstream Scope 3 GHG emissions by 2050.





Roadmap to Advance our Goals, by Decade<sup>2</sup>

		2020 - 2030	2031 - 2040	2041 - 2050
Scope 1	Process	<ul style="list-style-type: none"> <li>Work with the industry to develop novel abatement technologies with higher destruction removal efficiencies (DREs) and less combustion emissions.</li> <li>Install novel abatement technologies at new factories for F-GHGs and N<sub>2</sub>O.</li> <li>Reduce process chemistry use through tool optimization.</li> <li>Identify and implement process chemistry alternatives to F-GHGs and N<sub>2</sub>O, where feasible.</li> </ul>	<ul style="list-style-type: none"> <li>Implement process chemistry alternatives to F-GHGs and N<sub>2</sub>O, where feasible.</li> <li>Install novel abatement technologies at legacy factories.</li> <li>Where energy conservation, electrification, and other energy sources are unavailable, investigate the implementation of renewable natural gas.</li> <li>Retrofit legacy natural gas burning equipment, where feasible.</li> <li><b>Achieve net-zero GHG emissions.</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Maintain net-zero GHG emissions.</b></li> </ul>
	Fossil Fuels	<ul style="list-style-type: none"> <li>Install electric facilities equipment at new offices and factories.</li> <li>Implement energy conservation projects, including those to increase the energy efficiency of process tools and facilities equipment.</li> </ul>		
	Other	<ul style="list-style-type: none"> <li>Reconfigure facility systems to reduce GHG emissions.</li> <li>Transition to low- and/or no- Global Warming Potential (GWP) heat transfer fluids, where feasible.</li> <li>Electrify on-site and leased vehicle fleets, where feasible.</li> </ul>		
Scope 2		<ul style="list-style-type: none"> <li><b>Reach 100% renewable electricity across our global operations.</b></li> <li>Implement energy conservation projects, including those to increase the energy efficiency of process tools and facilities equipment.</li> <li>Build new factories and facilities to US Green Building Council LEED® green building standards.</li> </ul>	<ul style="list-style-type: none"> <li><b>Maintain 100% renewable electricity across our global operations.</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Maintain 100% renewable electricity across our global operations.</b></li> <li><b>Maintain net-zero GHG emissions.</b></li> </ul>
Upstream Scope 3		<ul style="list-style-type: none"> <li>Partner with others in the semiconductor value chain as a founding co-sponsor of the Catalyze program</li> <li>Support collective action on industry-wide emissions reductions as a founding member of the Semiconductor Climate Consortium (SCC).</li> <li>Request suppliers set 100% renewable electricity and net-zero targets and develop project roadmaps to achieve their goals.</li> <li>Implement spent chemical reuse, where feasible.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to support collective action on industry-wide emissions reductions through the SCC and direct supplier engagement.</li> <li>Track supplier renewable electricity and net-zero commitments and progress-to-goals.</li> </ul>	<ul style="list-style-type: none"> <li><b>Achieve net-zero upstream Scope 3 GHG emissions.</b></li> </ul>
Downstream Scope 3		<ul style="list-style-type: none"> <li>Reduce the carbon footprint of platform reference designs for future client form factors by 30% or more.</li> <li>Meet annual milestones to achieve 10x energy efficiency for Intel client and server microprocessors to reduce Scope 3 emissions.</li> <li>Enable more grid renewable electricity by offering smart grid technology solutions to partners and customers.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to increase product energy efficiency for Intel microprocessors to reduce Scope 3 emissions.</li> <li>Continue to enable more grid renewable electricity.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to increase product energy efficiency for Intel microprocessors to reduce Scope 3 emissions.</li> <li>Continue to enable more grid renewable electricity.</li> </ul>

<sup>2</sup>Specific 2030, 2040, and 2050 goals are marked in bold font. See the most recent [Intel Corporate Responsibility Report](#) for full details on our climate goals.

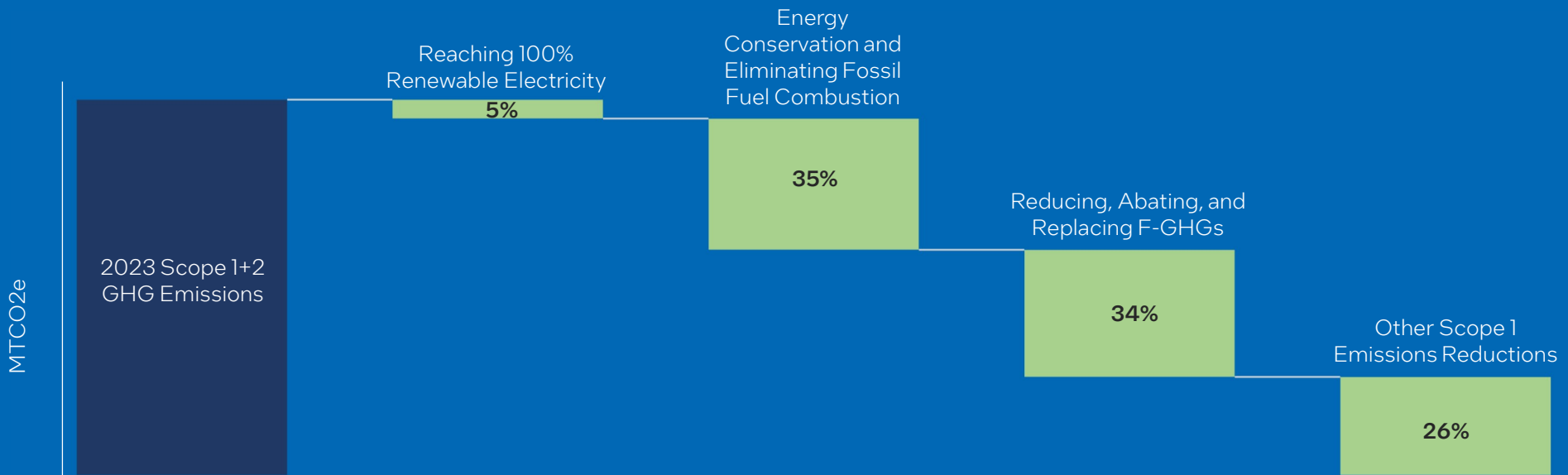


Execution of Intel’s roadmap to achieve our GHG reduction goals will require immense collaboration across our value chain, including suppliers, industry peers, and customers. Lowering GHG emissions is one of the semiconductor industry’s most complicated challenges due to the energy needed to make chips and the unique chemistry requirements of the manufacturing processes. This complexity is compounded as the semiconductor ecosystem must also expand globally to meet the growing demand for chips. Achieving net-zero Scope 1 and 2 GHG emissions requires identifying, developing, and piloting novel green chemistry solutions, abatement technologies, equipment designs, and facility systems, many of which do not exist today. As one of the world’s largest semiconductor companies doing research, design, and manufacturing, Intel is deepening its long-

standing collaboration across the ecosystem to achieve a future of more sustainable computing.

Value chain engagement is also important to address uncertainties and challenges associated with the reduction of supply chain emissions and other indirect emissions sources that are not directly within Intel’s control. In 2023, we became a founding co-sponsor of the Catalyze program, a semiconductor industry collaboration focused on accelerating the transition to renewable electricity in the semiconductor supply chain. We also continue to focus on advancing collective action on industry-wide emissions reductions through active engagement in the SCC.

### Strategies to Reduce Scope 1+2 GHG Emissions to Net-Zero



Together, the comprehensive initiatives outlined in our roadmap will be key to achieving net-zero Scope 1+2 GHGs by 2040.

## External Engagement

Intel understands that it is critical to engage across our value chain and with external groups to enable us to achieve our GHG reduction goals. For our supply chain, in 2023, we asked approximately 130 first-tier suppliers to complete the CDP Climate Change Questionnaire. Of those suppliers, about 99% submitted the questionnaire, and approximately 97% of those suppliers made their responses public, providing important information on their GHG footprints and climate change related strategies, goals, and initiatives. By collaborating with our suppliers to decrease their environmental and climate impacts, we reduce our own environmental impact, lower supply chain risk, and potentially decrease costs. Using information provided in our suppliers' CDP Climate Change Questionnaire also helps us ensure that we are focusing on the largest climate change impacts. In addition to engagement, supplier incentives also play an important role. Compliance with Intel's climate-related reporting requests is required for suppliers to achieve full Intel supplier report card credit and to be eligible for Intel's prestigious supplier Excellence, Partnership, Inclusion, and Continuous Improvement (EPIC) program public awards. Also in 2022, we became a founding member of the Semiconductor Climate Consortium (SCC), which is focused on advancing collaboration and collective action across the semiconductor value chain to reduce GHG emissions.

We also engage with our Original Equipment Manufacturer (OEM) and Original Device Manufacturer (ODM) customers to build energy efficiency into the design of computing products through collaborations, including contributing to EPEAT, ENERGY STAR, and lifecycle assessment (LCA) frameworks.

We must also work outside of our direct value chain to drive the change necessary to limit global warming to 1.5°C. Together with other companies in the information and communications technology (ICT) industry and companies in other industries that use ICT in critical parts of their manufacturing, we are committed to the Digital Climate Alliance to advance discussions with policymakers on the value and opportunity of the ICT "handprint," or the ways in which technology can be applied to help reduce climate impact.

Intel supported the passage of the Infrastructure Investment and Jobs Act, as well as the climate-related provisions of the Inflation Reduction Act, both of which were signed into law by President Biden. Intel also joined a strong coalition within the business community to enhance tax credits for various clean energy technologies, increase federal procurement of green products and services, and increase investments in climate adaptation science. Intel continues to be a vocal advocate for the advancement of sustainability policies that will have tangible impacts on the environment and encourage domestic growth and job creation in this critical space.

In addition, Intel is following ongoing legislative and regulatory developments on greenhouse gases worldwide via our corporate partners and trade associations.





# Governance

## Climate Oversight and Accountability

We follow an integrated approach to addressing climate change - with multiple teams responsible for managing climate related activities, initiatives, and policies - including manufacturing and operations, government and public affairs, finance, legal, supply chain, and product business units.

The Intel Board of Directors has ultimate oversight with respect to ESG (Environment, Social, and Governance) matters, including climate-related oversight. Three members of our Board of Directors ([Ms. Barbara Novick](#), [Mr. Gregory Smith](#), and [Mr. Dion Weisler](#)) are particularly knowledgeable on climate-related issues as a result of their prior experiences.<sup>3</sup>

The Corporate Governance and Nominating Committee of the Intel Board of Directors supports the Board in overseeing Intel’s sustainability initiatives and performance, including with respect to GHG emissions. Management provides formal updates to the Governance Committee at least twice each year, and at least annually to the full Board, on the company’s corporate social responsibility performance and related disclosures. In 2023, this included a review of the 2022-2023 Corporate Responsibility Report and updates on issues including environmental sustainability, climate risk and transition action plan, human capital, and human rights. For the majority of 2023, five Board members served on this committee.

Our integrated outreach team, led by our Investor Relations group, provides updates to the CEO and the Board on investor expectations with respect to ESG matters, which allows for integration into climate-related strategy, investments, and goals.



<sup>3</sup> For more information on the ESG experience of our Directors, please see page 42 of the [2024 Proxy Statement](#)



Intel is committed to ensuring our new factories and facilities are built to US Green Building Council LEED® standards, including in Ohio, where we are investing more than \$20 billion to construct two new leading-edge factories.

Management provides updates on corporate responsibility strategy and goals to the Board at least annually. We believe that environmental commitment starts at the top of the organization. The CEO has primary responsibility for the operational leadership and strategic direction of Intel, including climate-related issues, and reviews Intel's climate goals annually.

The CEO is supported by the ESG Executive Steering Committee, which is comprised of select members of Intel's Executive Leadership Team and provides further oversight, leadership, and direction for climate-related initiatives. This committee reviews and approves ESG and climate-related decisions, including Intel's Climate Transition Action Plan.

The RISE Management Review Committee (MRC) is responsible for supporting and directing Intel's ESG strategy and escalating relevant topics to members of Intel's Executive Leadership Team, as necessary. The RISE MRC also reviews and provides operational direction and feedback for ESG and climate-related topics.

Management accountability is further segmented by the impacted area of the business. There are two cross-functional management committees that are responsible for the execution of Intel's Climate Transition Action Plan:

- **The Foundry Manufacturing and Supply Chain Environmental Steering Committee**, which includes the Chief Sustainability Officer and Corporate Vice Presidents from our technology development, supply chain, and operations organizations. This committee drives initiatives designed to achieve our operations and supply chain GHG reduction targets and reviews progress to these goals at least annually.
- **The Low Carbon Management Review Committee**, which includes the Chief Product Sustainability Officer and technical leaders from product, platform engineering, and software divisions. This committee is responsible for driving sustainability goals and standards for Intel products, platforms, and ecosystem. Progress is reviewed at least annually by this committee.

## Incentives

Since 2008, we have linked a portion of executive and employee compensation to corporate responsibility factors through our Annual Performance Bonus (APB).<sup>4</sup>

Our 2023 APB incorporated environmental related metrics aligned to our 2030 and 2040 sustainability goals, including achieving 95% renewable electricity, reducing Scope 1 and 2 GHG emissions by 130,000 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e), conserving and restoring 12 billion gallons of water, and sending ≤ 5% waste to landfill by the end of 2023. We surpassed each of these targets, reaching 99% renewable electricity, reducing Scope 1 and 2 GHG emissions by 424,000 metric tons of CO<sub>2</sub>e, conserving and restoring 13 billion gallons of water, and sending 4% of waste to landfill by the end of 2023.

In 2024, environmental metrics include achieving at least 95% renewable electricity globally, reducing Scope 1 and 2 GHG emissions by 25,000 metric tons of CO<sub>2</sub>e, certifying two additional sites to ISO 50001, conserving and restoring 13.5 billion gallons of water, and achieving ≥ 90% recycling rate of construction waste. Progress on these APB targets are reviewed at least quarterly at the organizational level and annually with Intel’s Executive Leadership Team, which includes our CEO. These metrics represent short-term goals and milestones to enable Intel to meet its medium and long-term GHG reduction goals and mitigate climate-related risk.

### 2023 Annual Performance Bonus Metrics

# 99%

Intel achieved 99% renewable electricity globally

# 424,000 MT CO<sub>2</sub>e

Reduced Scope 1 and 2 GHG emissions across our global operations

# 13 B

Gallons of water conserved and restored to local watersheds through Intel-funded, nonprofit-led projects



To support our net positive water goal, Intel invests in nonprofit-led water restoration projects around the world, benefitting watersheds where we operate. [Learn more >](#)

<sup>4</sup>The APB is referred to as the Annual Cash Bonus Plan in our Proxy Statement.

# Risk Management

## Identification of Risks and Opportunities

Our assessment of climate risks informs changes to our climate-related strategy, goals, and disclosure practices. We identify risks using the results of our Climate Risk Management process and Environmental, Social, and Governance (ESG) Materiality Assessment, both of which gather extensive input from a broad set of internal stakeholders.

We adapted our overall, corporate-wide Enterprise Risk Management (ERM) framework to identify climate-related risks and opportunities that may impact Intel across our value chain. Stakeholders from across the company, including key managers and technical program managers in operations, supply chain, and product business groups, use a qualitative assessment to evaluate risks and opportunities for their business groups. As part of this assessment, these stakeholders identify and score climate-related risks and opportunities on a 1-5 scale for impact and likelihood. Risks are assessed for both inherent and residual risk to Intel. The results of this analysis will also inform risk assessments at the sub-enterprise level.

Our climate risk management system also incorporates the results of our ESG Materiality Assessment.<sup>5</sup> We engage a third party to conduct the Assessment every two years to identify priority topics and emerging matters. Our most recent update was completed in early 2023, building on the previous assessment that was used to inform the development of our 2030 ESG strategy and goals. This assessment included a review of industry best practices, analysis of matters identified through stakeholder dialogue, and completion of interviews with internal and external stakeholders.

<sup>5</sup>References to materiality refer to materiality within the context of our corporate responsibility program and priorities and do not refer to concepts of materiality used in securities or other applicable law.

Water stewardship is an important part of addressing Intel's climate-related physical risks. Our Ocotillo site in Arizona earned Platinum Certification from the Alliance for Water Stewardship (AWS), the highest under the program. This certification recognizes our water stewardship efforts, making Intel the first semiconductor company in the United States to achieve AWS certification at one of its sites. [Learn more >](#)



The process compiles a list of issues, such as climate change risk and energy efficiency opportunities, that are identified by a wide range of stakeholders and sources.

We align the climate risks and opportunities derived from the Climate Risk Management process with the findings from our ESG Materiality Assessment. The resulting top climate-related risks will then be integrated into the company's overall ERM process through which top overall risks to Intel are presented to the Board.





## Risks and Opportunities

In 2023, we identified the following climate-related risks and opportunities that could be most relevant to our value chain – from upstream procurement, to manufacturing and operations, to downstream product use – and any actions to mitigate the potential

impact. For risk identification, we consider both the inherent and residual risk. We identify how the risk or opportunity could impact Intel, including the potential financial impact, in each area of our value chain.

	Time Horizon	Risk	Potential Impact: Upstream	Potential Impact: Operations	Potential Impact: Downstream	Potential Financial Impact	Actions to Mitigate Risk
Physical Risks	Short-term	<b>Water stress</b>	Disruption of the supply chain of raw material, finished goods, and/or semi-finished goods.	Impact to ability to manufacture.  Limits on expansion.	Impact to customer supply chain and operations.	Decrease in revenue due to decreased production.  Increase in operating costs.	Commitment to achieve net positive water by 2030.  Investment in water conservation projects. Intel has invested over \$99 million in 2021-2022 to operate our water reclaim facilities in Oregon and Arizona.  Annual risk assessments (audits) of manufacturing facilities; development of mitigation strategies.  Evaluation of top-priority manufacturing suppliers in water-stressed regions <sup>6</sup> via CDP Water Security Questionnaire.  Use of selective buy ahead strategies and/or actively engage in geo diversification, as needed.
	Short-term	<b>Extreme weather and climate events</b> (droughts, flooding, wildfires)	Disruption of the supply chain of raw material, finished goods, and/or semi-finished goods.	Impact to ability to operate factories – personnel, waste, and material movement.	Impact to customer supply chain and operations.	Decrease in revenue due to decreased demand and production.  Increase in operating costs.	Annual risk assessments (audits) of manufacturing facilities with mitigation strategies.  Evaluation of top-priority suppliers via CDP Climate Change Questionnaire.  Use of selective buy ahead strategies and/or actively engage in geo diversification, as needed.

<sup>6</sup> As defined using the WRI's Aqueduct tools.



Climate Related Risks, continued

Time Horizon	Risk	Potential Impact: Upstream	Potential Impact: Operations	Potential Impact: Downstream	Potential Financial Impact	Actions to Mitigate Risk	
Transition Risks	Short-term	Emerging regulations	Disruption of the supply chain of raw material, finished goods, and/or semi-finished goods.	Limits on capacity and expansions.  Limits on ability to procure inputs required for manufacturing.	Impact to customer supply chain and operations.  Impact to Intel and customer market access.	Increase in operating costs.  Decrease in growth potential.	Cooperate with industry associations, coalitions, consortia, and regulators to ensure consistent, balanced, and responsible outcomes.  Support the advancement of collective actions across the value chain through the Semiconductor Industry Association (SIA) and Semiconductor Climate Consortium (SCC).
	Short-term	Increased stakeholder concern of climate impacts	Disruption of the supply chain of raw material, finished goods, and/or semi-finished goods.	Challenge to ability to operate.	Customers seek alternative products, services, or industry partners.	Decrease in growth potential.  Decrease in revenue due to decreased demand and production.	Actions to realize long-term sustainability goals, such as 2040 and 2050 net-zero goals and product innovations.  Founding member of the SCC to support advancement of collective action across the value chain.
	Medium-term	Transition to use lower-emissions technology	Disruption of the supply chain of raw material, finished goods, and/or semi-finished goods.	Cost of retrofit and installation of new, lower-emissions equipment.  No or low availability of needed technology.	Cost to customers as they transition to lower emissions technology or practices.	Increase in capital expenditures.  Decrease in revenue or margins due to impact on customer costs.	Establishment of internal R&D roadmap and/or pilots of new technology.  Implementation of new, lower-emissions technologies when building new factories, limiting potential future cost of retrofit.  Collaboration with supply chain and industry to identify solutions.



### Climate Related Opportunities

Time Horizon	Opportunity	Potential Impact: Upstream	Potential Impact: Operations	Potential Impact: Downstream	Potential Financial Impact	Actions to Realize Opportunity	
Opportunities	Short-term	<b>More efficient production and distribution</b>	Increase in climate change resilience.  Increased efficiency.	Reduction in energy and material requirements for manufacturing.	Reduction in contribution to customers' Scope 3 GHG emissions.	Decrease in energy costs.  Increase in revenue due to increase in demand for products and services built using more efficient processes.	Energy conservation activities.  Optimization of manufacturing processes.  Engagement through SCC and other forums to support collective action across the value chain.
	Short-term	<b>Use of lower-emission sources of energy</b>	Increase in climate change resilience.	Increase in climate change resilience through lower dependence on fossil fuels.	Reduction in contribution to customers' Scope 3 GHG emissions.	Increase in revenue due to increase in demand for products and services built using lower emission sources of energy.	Commitment to achieve 100% renewable electricity by 2030.  Founding sponsor of Catalyze program.  Engagement through SCC and other forums to support collective action across the value chain.
	Medium-term	<b>Lower-emission goods and services</b>	Increase in climate change resilience.	Increase in climate change resilience.	Meet market demand for low-emission goods and services.	Increase in revenue due to increase in demand for low carbon products and services.	Product innovations that offer higher performance and improved energy efficiency compared to previous generations.  Engagement through SCC and other forums to support collective action across the value chain.
	Medium-term	<b>Shift in consumer preferences</b>	Increase in climate change resilience.	Increase in climate change resilience.	Increase in demand for low carbon products and services.	Increase in revenue due to increase in demand for low carbon products and services.	Product innovations that offer higher performance and improved energy efficiency compared to previous generations.  Engagement through SCC and other forums to support collective action across the value chain.

## Scenario Analysis

Intel uses scenario analysis to assess the potential impacts of climate-related risks and opportunities, and we employ a variety of climate-related assessments and scenarios across multiple aspects of our business. In 2022, subject matter experts from multiple business groups partnered to further drive the integration of climate change considerations into our processes for assessing risks and opportunities and to conduct a climate change scenario analysis. In 2023, Intel further refined that scenario analysis.

To develop a well-rounded assessment grounded in reputable analysis, we have developed scenarios based on internationally recognized scenario pathways: a 1.5°C increase, or **low-carbon transition**, scenario and a 2.6-3.5°C increase, or **business-as-usual**, scenario. The qualitative scenario assumptions and narratives are described below.

### Low-Carbon Transition

- Global, coordinated action toward a low-carbon economy
- Global implementation of carbon pricing
- Increased demand for products and services supporting energy efficiency and the global transition to a low-carbon economy
- Increased expectations for climate change and sustainability ambition from customers, investors, and other stakeholders
- More limited change in physical risk
- Considers a 1.5°C increase by end of the century, and net-zero by 2050, scenario

### Business-as-Usual

- More limited action toward a low-carbon economy in-line with the current state
- No global implementation of carbon pricing, with only currently stated carbon pricing policies considered
- Minimal change in climate change and sustainability ambition expectations from customers, investors, and other stakeholders
- Increased physical risk
- Considers a 2.6-3.5°C increase by end of the century

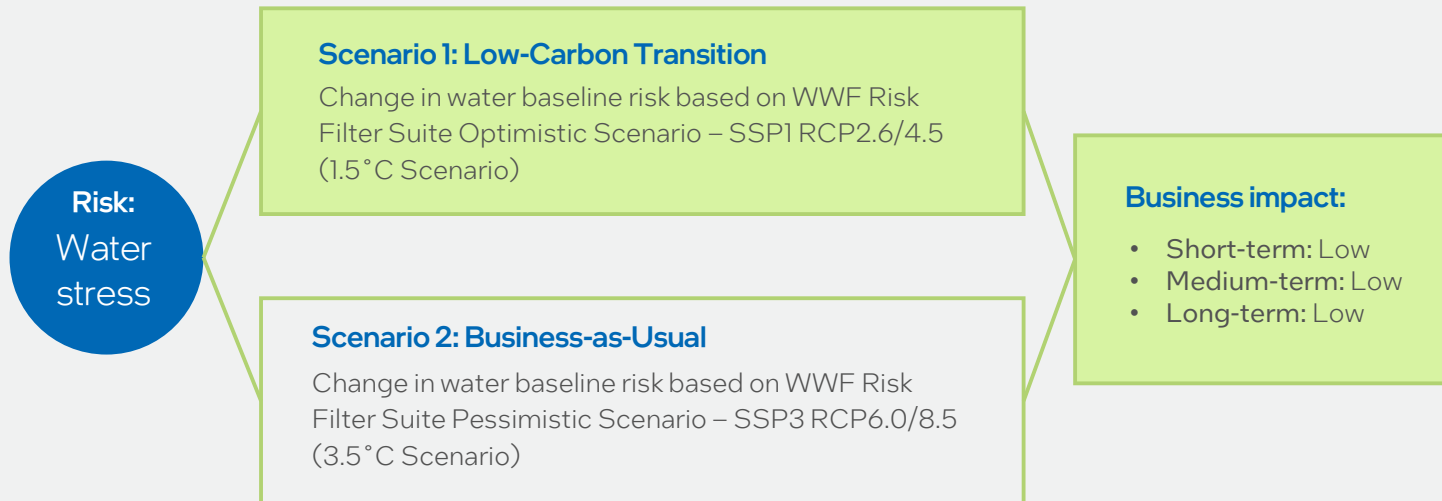
## Scenario Analysis Results

We have included the results from analysis performed on a top risk and top opportunity identified during our 2023 Climate Risk Management process. We assessed the level of monetary impact against thresholds informed by our corporate-level Enterprise Risk

Management process. The listed “Business Impact” reflects our assessment of the risk and opportunity after accounting for the impact of our currently implemented strategies.<sup>7</sup>

### Our Top Identified Risk

- **Description of risk:** Semiconductor fabrication requires significant water use. Changes in the availability of water are driven by both acute and chronic climatic changes, which may impact utility costs, water conservation/re-use strategies, and our water restoration program. This risk is specific to our direct operations.
- **Our approach to assessment:** We used the WWF Risk Filter Suites to evaluate potential future changes in water stress at 7 high-volume manufacturing sites, and we estimated potential impacts to indirect costs and capital costs. We assumed that water utility costs and investments in water conservation programs scale with changes in water stress from the baseline.



### Strategy to Mitigate Risk

Intel has a goal to achieve net positive water<sup>8</sup> by 2030 by conserving 60 billion gallons of water and funding water projects that restore more fresh water than we consume to local water sheds.

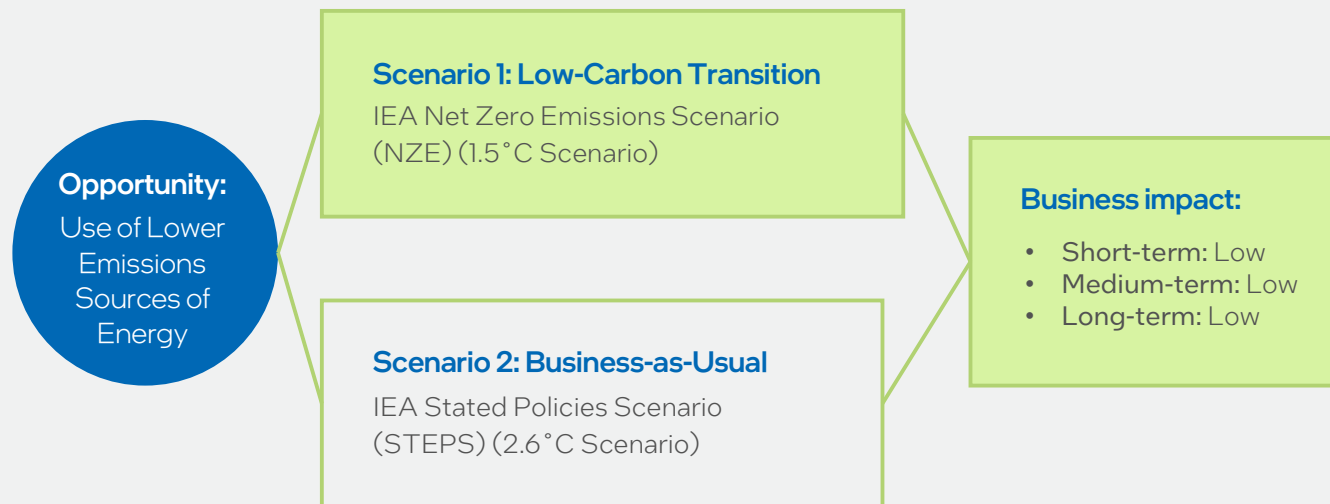
During 2023, we conserved approximately 9.9 billion gallons of water and more than 36 billion gallons cumulatively from the 2020 baseline.

<sup>7</sup> Business impact assessment assumes actual CY2022 conditions and does not consider projected growth in production volume, site expansion, or progress towards sustainability goals.

<sup>8</sup> Net positive water is defined as water returned through water management practices, plus water restored to local watersheds, equivalent to >100% of our fresh water consumption.

## Our Top Identified Opportunity

- **Description of opportunity:** Continuation of our long-standing commitment to green power reduces GHG emissions and would support resilience against potential future emerging carbon pricing or associated utility cost increases.
- **Our approach to assessment:** We evaluated emissions avoided through use of renewable electricity against scenario carbon pricing in 2025, 2030, and 2040 to cover the near, medium, and long-term periods.



### Strategy to Realize Opportunity

Intel has a goal to achieve 100% renewable electricity across our global operations by 2030. Intel achieved 99% renewable electricity globally in 2023, which included 100% renewable electricity in the US, Europe, Israel, Malaysia, China, and Vietnam, and approaching 100% in Costa Rica.

Over the last decade, our alternative energy installations and our installed capacity have grown significantly. We now have more than 110 alternative and renewable electricity installations with capacity of more than 50,000 kW of renewable electricity across 22 Intel campuses.

To reduce our Scope 1 and 2 greenhouse gas emissions, we purchase renewable electricity and operate on-site alternative electricity projects that provide power directly to Intel buildings. This includes our operations in Arizona pictured to the right, where on-site solar generates 7.7 megawatts of electricity every hour.



## Financial Allocation for Climate Change

Intel is committed to achieving our GHG reduction targets and other climate change-related goals as well as increasing our climate change resilience. In order to achieve these objectives, Intel allocates funds to projects such as point-of-use abatement, water conservation, energy efficiency, and renewable electricity purchases, among others. While not a complete list of all climate-related spending, these amounts offer a snapshot of spending related to these projects in 2021 and 2022, as allocated from the [Intel Green Bond issuance](#) and disclosed in the [Green Bond Report](#).

Intel has also invested in programs and consortia focused on engaging with our supply chain and across the value chain to advance

GHG emissions reduction actions, including the CDP Supply Chain Program, founding membership in the Semiconductor Climate Consortium, and founding co-sponsorship of the Catalyze program.

Intel is fully vested in business continuity and resiliency programs, including investments in our internal analytics, systems, and tools to help identify supply chain risks and implement appropriate strategies to address those risks.



### Intel 2021 and 2022 environmental investments by the numbers<sup>9</sup>

**\$ 39 M**

Towards renewable electricity

**\$ 51 M**

Towards electricity efficiency

**\$ 99 M**

Towards water conservation

**\$ 215 M<sup>10</sup>**

Towards pollution prevention equipment

<sup>9</sup> These values are examples of investments, as reported in our [2023 Annual Green Bond Report](#) and do not represent all Intel spending on environmental issues.

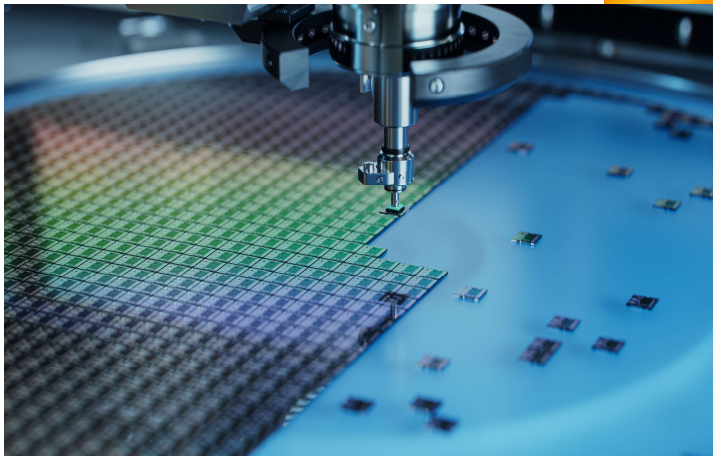
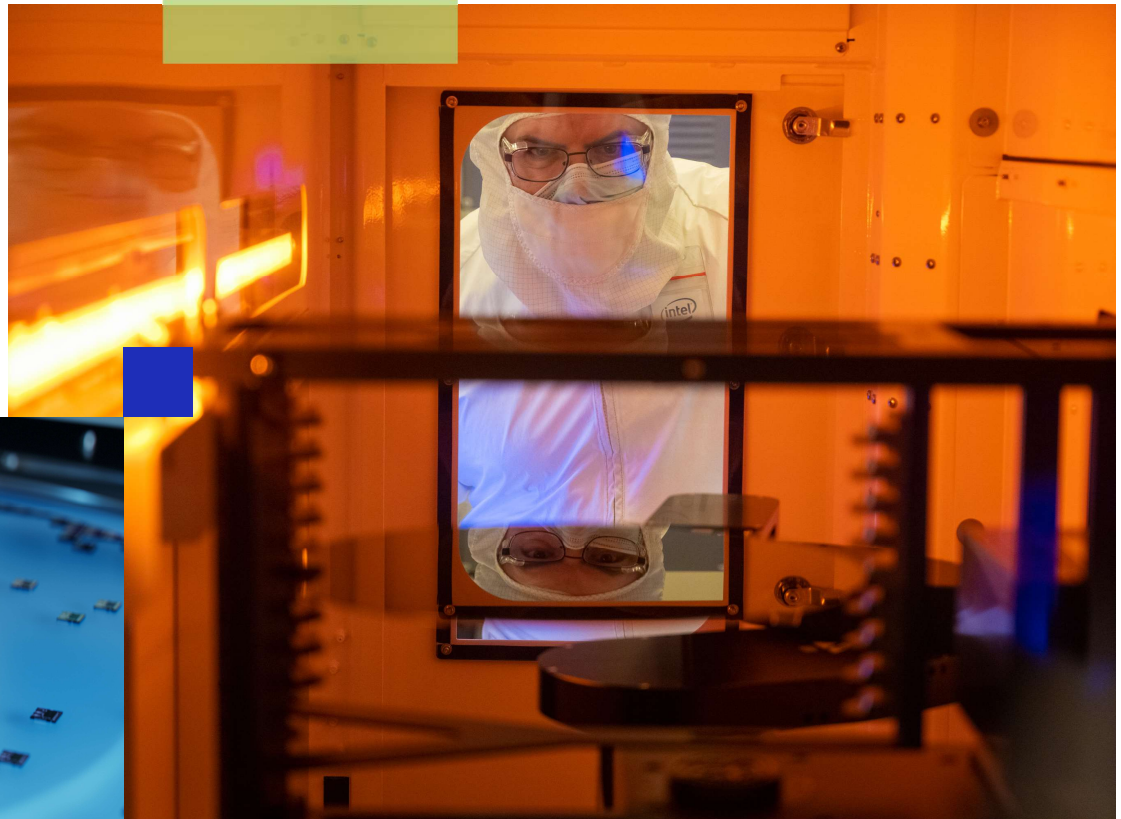
<sup>10</sup> This includes the spending on point-of-use abatement for greenhouse gas emission reductions.



# Future of Climate Action

While significant challenges exist to reduce GHG emissions, there are many opportunities for innovation. Intel is uniquely positioned, as both an Integrated Device Manufacturer (IDM) and a foundry, to collaborate across our entire value chain to achieve our common goals. Throughout our history, Intel has set ambitious environmental goals and has a strong track record of demonstrating progress to and achieving those targets.

Reaching net-zero GHG emissions is one of the most complex challenges that our industry faces. However, our industry is known for tackling and addressing complicated challenges. While the global landscape and our technology will continue to change, Intel will remain committed to the actions required to address climate change and achieve our climate goals. Ultimately, Intel's vision is to see the entire technology industry achieve net-zero GHG emissions.







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Governance	Describe the Board’s oversight of climate related risks and opportunities.	<a href="#">Climate Oversight and Accountability</a>	13
	Describe management’s role in assessing and managing climate related risks and opportunities.	<a href="#">Overall Risk Management</a>	16
Strategy	Describe the climate related risks and opportunities Intel has identified over the short-medium, and long term.	<a href="#">Risks and Opportunities</a>	17-19
	Describe the impact of climate related risks and opportunities on business, strategy, and financial planning.	<a href="#">Risks and Opportunities</a>	17-19
	Describe the resilience of the strategy, taking into consideration different climate related scenarios, including a 2°C or lower scenario.	<a href="#">Scenario Analysis</a>	20-22
Risk Management	Describe the process for identifying and assessing climate related risks.	<a href="#">Overall Risk Management</a>	16
	Describe the process for managing climate related risks.	<a href="#">Risks and Opportunities</a>	17-19
	Describe how processes for identifying, assessing, and managing climate related risks are integrated into overall risk management.	<a href="#">Overall Risk Management</a>	16
Metrics and Targets	Disclose the metrics used to assess climate related risks and opportunities in line with strategy and risk management process.	<a href="#">Overall Risk Management</a>	16
	Disclose Scope 1, Scope 2, and Scope 3 GHG emissions and related risks.	<a href="#">History</a>	5
	Describe the targets used to manage climate related risks and opportunities and performance against targets.	<a href="#">Greenhouse Gas Commitments</a>	7



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For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at [www.intc.com](http://www.intc.com).