

Climate change scenario analysis

Climate resilience and adaptation

TI is building long-term resilience against climate and environmental risks. We've enhanced business continuity plans to ensure uninterrupted production and designed facilities to withstand extreme weather, including heatwaves, storms, and droughts. To conserve resources and improve efficiency, we are upgrading and leveraging new technologies in our factories, installing energy-efficient equipment, and strategically locating distribution centers closer to customers.

We're advancing a low-carbon economy through such innovations as energy-efficient gallium nitride technologies, constructing 300mm manufacturing sites, modernizing facilities, and deploying smart metering and demand-response systems to reduce energy use and costs.

In 2022, we conducted an in-depth climate change scenario analysis, supported by Environmental Resources Management (ERM) and consistent with TCFD recommendations, to assess physical and transition risks across our global operations. This evaluation considered historical and projected GHG emissions from our manufacturing and large non-manufacturing sites; forecasts for temperature, precipitation, sea-level rise, and extreme weather; water and energy availability, reliability, and costs; customer demand for low-carbon products; climate regulations, carbon pricing, and tax incentives; and the resilience of company assets and supplier dependencies. ERM then modeled the following scenarios based on presumed climate conditions in 2030 and 2050:

Risk type	Authority	Scenario	Temperature
Transition risks and opportunities	International Energy Agency (IEA)	Stated policies scenario	2.5° to 3°C warming
		Sustainable development scenario	1.65°C warming
		Net zero scenario	1.5°C warming
Acute and chronic physical risks and opportunities	Intergovernmental Panel on Climate Change (IPCC)	Optimistic scenario (SSP1-RCP2.6)	Below 2°C warming
		Business-as-usual scenario (SSP3-RCP7.0)	4°C warming

Physical risks

Extreme heat, wildfires, and water stress are the greatest risks for business interruptions, while flooding and severe storms pose the highest threat to physical damage at TI facilities under a 4°C warming scenario by 2050. Sites in Texas, Taiwan, and the Philippines are particularly vulnerable due to temperature fluctuations and severe weather risks.

We're strengthening business continuity plans and hardening facilities to mitigate these risks to withstand extreme heat, cold, storms, wildfires, heavy rainfall, and drought. Additionally, we're investing in water reuse systems to enhance resilience in water-scarce areas.

The table describes potential risks and the maximum foreseeable annual loss (MFAL) arising from business interruptions based on 4°C climate conditions in 2050.

	Description	MFAL	Time horizons	Likelihood	Magnitude	Higher-risk areas
Extreme heat	Heat-related power outages may interrupt operations and production.	\$202M	Medium to long-term (5-30 years)	More likely than not	Moderate	Texas, the Philippines and Taiwan
Extreme cold	Cold-related power outages may interrupt operations and production.	\$3M	Long term (10-30 years)	Less likely	Low	Utah and Maine
Flooding	Coastal and river flooding may disrupt on-site work or delay transportation.	\$84M	Medium to long-term (5-30 years)	About as likely as not	Moderate	Japan, Texas, the Philippines, Malaysia and Taiwan
Rainfall	Extreme rainfall may cause flooding, disrupt on-site work, or delay transportation.	\$179M	Medium to long-term (5-30 years)	More likely than not	Moderate	Japan, Texas, the Philippines and Taiwan
Severe storms	High winds and severe storms can damage facilities, disrupt on-site work, or delay transportation.	\$536M	Short-term (0-3 years)	More likely than not	Moderate	Japan, Texas, the Philippines and Taiwan
Landslides	Landslides may damage facilities, disrupt on-site work, or delay transportation.	\$0.1M	Medium to long-term (5-30 years)	More likely than not	Low	The Philippines
Wildfire	Wildfires may damage facilities, disrupt on-site work, or delay transportation.	\$94M	Medium-term (5-10 years)	More likely than not	Moderate	Texas and Utah
Water stress	Increased water stress may delay or lower production.	\$350M	Medium to long-term (5-30 years)	About as likely as not	High	Texas, Utah, Mexico, Japan, Maine, Germany and Malaysia

Transition risks and opportunities

As the world transitions to a low-carbon economy, TI faces risks and opportunities that influence its strategy, operations, and finances.

Transition risks include rising energy and resource costs, evolving climate regulations, and new disclosure requirements. These may increase investments in reporting tools and compliance processes. However, they also present growth opportunities for TI's technologies in emerging markets and among eco-conscious customers. TI is well-positioned to capitalize on this transition in key areas:

- Automotive: Our advanced power management, sensing, and connectivity technologies enable automakers to design more energy-efficient electric vehicles (EVs), improve advanced driver-assistance systems, and enhance in-cabin experiences.
- Solar and energy storage: Our expertise in power management and energy conversion supports the growing demand for inverters, battery systems, and other renewable energy solutions.
- Smart grids: TI's products enable smarter, more efficient energy distribution, meeting the demand for resilient, future-ready smart grid infrastructure.

Details of these risks and opportunities are outlined in the table.

	Description	Impact	Time horizons	Likelihood	Magnitude	High-impact areas
Risk	Comprehensive disclosure regulations	May increase liability concerns and higher costs for reporting and data collection, legal reviews and assurance.	Short to medium term (1-10 years)	More likely than not	Low	European Union (EU), U.S., Taiwan, and Malaysia
Opportunities	Enable energy transition technology	Semiconductors enable energy efficiency, a key driver of the low-carbon energy transition.	Medium to long-term (5-30 years)	More likely than not	Moderate	Worldwide
	Drive automotive and EV market growth	Semiconductors support battery management and charging systems, powertrains, and other functionality essential for decarbonization.	Short to medium term (1-10 years)	More likely than not	Low	China, the EU and the U.S.
	Enhance solar energy system technologies	Solar photovoltaic and energy storage systems are two of the largest investment areas in the low-carbon energy transition.	Short to medium term (1-10 years)	More likely than not	Low	U.S. and Malaysia
	Purchase renewable electricity	Clean energy reduces Scope 2 emissions.	Short to medium term (1-10 years)	More likely than not	Moderate	U.S., Malaysia, and the Philippines
	Build and operate efficiently	Efficient operations lower energy consumption and Scope 1 and 2 emissions.	Short to medium term (1-10 years)	More likely than not	Moderate	Worldwide

TI will follow guidance from the Science Based Targets initiative (SBTi) as science-based goals are set. Read more about how TI manages environmental sustainability risks in the Climate and Energy, Water, and Waste and Materials Management sections of our [2024 Corporate Citizenship Report](#).

Impacts on TI's strategy and decisions

TI factors environmental sustainability and climate-related risks when making capital investments, operational improvements, and long-term strategic planning. These insights have led to investments in climate resilience and a commitment to science-based GHG emissions reduction targets. We will continue launching products that support decarbonization through improved efficiency.

Decision-making

We incorporate environmental sustainability and climate risks into all decision-making, considering factors like:

- Weather patterns and water availability: Ensuring resilience in water-stressed and severe weather areas.
- Skilled workforce: Identifying locations with strong talent pools.
- Tax incentives and regulations: Maximizing sustainable infrastructure investments.
- Geopolitical stability: Mitigating risks to operations, supply chains, and access to critical materials in certain regions.
- Community benefits: Balancing environmental impacts with job creation and economic growth.

Based on current risks and opportunities, we expect no significant changes to our business model or strategies. For financial impacts, see our [Annual Report on Form 10-K](#).

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