


# TCFD Climate Scenario Analysis

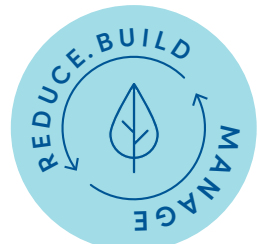
# Evaluating risks and opportunities


The aim of the Task Force on Climate-related Financial Disclosures (TCFD) is to improve transparency of the organization’s climate-related risks and opportunities. A key audience for this information is our investors. With the TCFD as our framework, we continuously evaluate potential transitional and physical risks as well as opportunities related to climate change.

We are committed to continuing to increase our transparency and alignment with reporting through independent agencies such as the Carbon Disclosure Project (CDP), a leading nonprofit for stakeholders. Eastman continues to align and map our responses to the CDP Climate Change assessment against the TCFD (see TCFD index).

Our strategy is guided by [Eastman’s climate policy](#) that includes three key commitments:

 We are committed to developing material solutions to address society’s climate-related challenges.

 We are committed to reducing our carbon footprint, building resiliency measures, and managing climate-related risks and opportunities.

 We are committed to pursuing strategic partnerships and initiatives to advance the understanding of climate-change to bring forward innovative solutions.

## CORE ELEMENTS OF THE TCFD FRAMEWORK



Governance around climate-related risks, including board oversight and management’s role

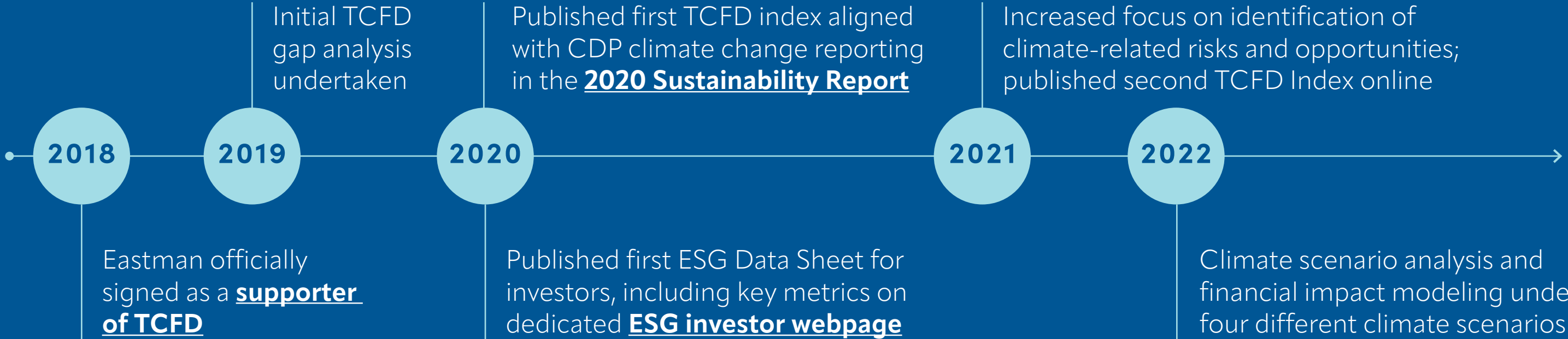
Impact of actual and potential climate-related risks and opportunities on the company’s business, strategy and financial planning and strategy resilience in line with different climate scenarios

Process for identifying, assessing and managing climate-related risks and opportunities

Metrics and targets used to assess and manage climate-related risks and opportunities

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## EASTMAN’S VOLUNTARY TCFD REPORTING JOURNEY



TCFD

# Scenarios that drove our analysis

The TCFD recommends that organizations describe the resilience of their strategy and take into consideration different climate-related scenarios, including a 2°C or lower scenario.

In 2021, Eastman commissioned a high-level scenario analysis with a leading sustainability consulting group assessing the company's climate strategy resilience and the impact and likelihood of our climate-related risks and opportunities in four different climate scenarios.

**Scenario analysis is a process for identifying and assessing the potential implications of a range of plausible future states under conditions of uncertainty. Scenarios are hypothetical constructs and not designed to deliver precise outcomes or forecasts. Instead, scenarios provide a way for organizations to consider how the future might look if certain trends continue or certain conditions are met.**

	Net-zero emissions scenario	Sustainable development scenario	Announced pledges scenario	State policies scenario
Scenario description	<ul style="list-style-type: none"> <li>All countries cooperate with just transition and assertive efforts to reduce inequalities.</li> <li>Improvements are seen in the environment due to the uptake of available technologies and emissions reduction options.</li> <li>Consumption behavior is oriented to low materials and resources.</li> <li>The chemical industry testifies an increase in consumption but a very strong reduction in GHG emissions (more than 90%).</li> </ul>	<ul style="list-style-type: none"> <li>There is a surge in clean energy policies and investment, ensuring universal access to affordable and sustainable energy.</li> <li>Actions to combat climate change (not limited to energy) result in a significant reduction of pollution</li> <li>Net-zero is achieved for all countries no later than 2070. The emphasis on economic growth shifts to an emphasis on human well-being.</li> <li>Inequality is reduced both across and within countries. The chemical industry sees an increase in consumption but a strong reduction in GHG emissions (more than 60%).</li> </ul>	<ul style="list-style-type: none"> <li>The energy sector reduces its emissions but also offsets the remaining by forestry or land use.</li> <li>Governments keep their commitments with NDCs and net-zero targets, but there is a major focus on domestic issues</li> <li>Inequality is reduced both across and within countries, taking longer in developing ones. Mitigation efforts, supported by investments in environmental and energy technology lead to improvements in renewables and efficiency.</li> <li>The chemical industry sees an increase in consumption but with a considerable reduction in GHG emissions (more than 30%).</li> </ul>	<ul style="list-style-type: none"> <li>The world's sustainable trends do not change considerably from historical patterns.</li> <li>Both achievements and limitations from energy and climate policies are considered.</li> <li>With fewer government actions, sectors become more protagonists (with efficiency standards and electrification).</li> <li>Income inequality persists or improves slowly.</li> <li>There are some environmental improvements and technological development proceeds but without fundamental breakthroughs.</li> <li>The chemical industry sees an increase in consumption as well as in GHG emissions (more than 20%).</li> </ul>
Regulatory environment	<p>Ambitious regulatory environment especially focused on electrification of operations, critical minerals, phase-out of emissions-intensive assets and net-zero carbon building standards with the expectation to reach nearest term milestones by 2025 and 2030</p>	<p>Highly regulated marketplaces, especially in developed economies, focused on the phase-out of fossil fuel subsidies, minimum energy performance standards; phase-out of inefficient appliances and net-zero carbon building standards may raise capital expenses and operating costs to support a growing compliance program</p>	<p>Moderate regulatory exposure, especially focused on phase-outs aligned with NDCs, expectation of generation resulting from renewables and materials efficiency standards</p>	<p>Relatively lower regulatory exposure focused on incremental energy efficiency improvements and building of low-carbon energy capacity</p>
	<ul style="list-style-type: none"> <li>Limiting global warming to 1.5°C in 2100</li> <li>Global net zero by 2050</li> </ul>	<ul style="list-style-type: none"> <li>Limiting global warming to 1.65°C in 2100</li> <li>Advanced economies net zero by 2050</li> <li>China net zero 2060</li> </ul>	<ul style="list-style-type: none"> <li>Limiting global warming to 2.1°C in 2100</li> <li>Unstabilized temperature trend</li> </ul>	<ul style="list-style-type: none"> <li>Limiting global warming to 2.6°C in 2100</li> <li>Temperature continues to climb after</li> </ul>

# Results of scenario-based impacts

Climate scenario analysis is a first step to further enhance our climate commitments — to be a part of the solution to the climate crisis. Our Sustainability Council and climate-related working teams will integrate the scenario analysis findings into our strategies to mitigate climate risks and realize business opportunities.

Climate-change impact		Exposure to climate-related risks				
		Net-zero emissions scenario	Sustainable development scenario	Announced pledges scenario	Stated policies scenario	Adaptations
<b>Regulatory risk</b>	Emerging carbon pricing mechanisms, enhanced emissions-reporting obligations, and new standards that govern electrification of operations, critical minerals, phase-out of emissions-intensive assets, and net-zero carbon standards may become more frequent in the transition to a lower-carbon economy.	●●●● Indirect costs S M L	●●●○ Indirect costs S M L	●●○○ Indirect costs M L	●○○○ Indirect costs L	<ul style="list-style-type: none"> <li>Legislative monitoring</li> <li>Efficiency investment and upgrades</li> <li>Low-carbon energy sourcing</li> </ul>
<b>Technology risk</b>	The commercialization of new, lower-carbon technologies may pose challenges to identify, source from, invest in and design lower-carbon energy generation and process-driven technologies that aid Eastman's deep decarbonization transition to clean, electrified operations and low-carbon products in a timely manner.	●●●○ Indirect costs S M	●●●○ Indirect costs S M	●●○○ Indirect costs M L	●○○○ Indirect costs L	<ul style="list-style-type: none"> <li>R&amp;D investment</li> <li>Efficiency investment and upgrades</li> <li>Low-carbon energy sourcing</li> <li>Legislative monitoring</li> </ul>
<b>Market risk</b>	Changing customer behaviors and increasing raw material costs associated with sourcing adequate and redundant supply from more sustainable sources may raise Eastman's input costs.	●●●● Indirect costs S M L	●●●○ Indirect costs S M L	●●○○ Indirect costs M L	●●●○ Indirect costs M L	<ul style="list-style-type: none"> <li>R&amp;D investment</li> <li>Customer and supplier engagement</li> </ul>
<b>Reputational risk</b>	Greater stigmatization of the chemicals sector or certain materials (i.e., plastics) that are associated with the petrochemical industry is likely. There will be an expectation from consumers and stakeholders to expedite the rate of innovation.	●●●● Indirect costs M L	●●●○ Indirect costs M L	●●○○ Indirect costs M L	●●●○ Indirect costs L	<ul style="list-style-type: none"> <li>Industry and investor advocacy</li> <li>Customer and supplier engagement</li> </ul>
<b>Physical risk</b>	Acute and chronic physical hazards may directly impact Eastman's operations, infrastructure and fixed assets as well as indirectly disrupt Eastman's business, value chain and logistics.	●●○○ Indirect costs M L	●●○○ Indirect costs S M L	●●●○ Indirect costs S M L	●●●● Indirect costs S M L	<ul style="list-style-type: none"> <li>Weather mapping/facility risk screening</li> <li>Customer and supplier engagement</li> </ul>
<b>Resource efficiency opportunities</b>	More efficient production and distribution processes, reduced water usage and consumption, and continued use of recycling and inclusion of recycled materials in products and services will also contribute to increasing revenues and reduced costs.	●●●● Indirect costs S M	●●●● Indirect costs S M	●●●○ Indirect costs S M L	●●○○ Indirect costs S M L	<ul style="list-style-type: none"> <li>R&amp;D investment</li> <li>Efficiency investment and upgrades</li> </ul>
<b>Energy source opportunities</b>	New technologies in Eastman's operations stand to provide for lower operating costs and returns on investment, which will be critical in Eastman's deep decarbonization pathway toward net zero.	●●●● Indirect costs S M L	●●●● Indirect costs S M L	●●●○ Indirect costs M L	●●○○ Indirect costs M L	<ul style="list-style-type: none"> <li>R&amp;D investment</li> <li>Industry and investor advocacy</li> </ul>
<b>Products and services opportunities</b>	Reliance on the chemicals industry to enable the transition is highly anticipated. Eastman's role in producing innovative and low-emissions materials is instrumental in the global transition but will also position Eastman to capture enhanced market share over expanding and emerging needs that will also enable climate resiliency.	●●●● Indirect costs S M L	●●●● Indirect costs S M L	●●●○ Indirect costs M L	●●○○ Indirect costs S M L	<ul style="list-style-type: none"> <li>R&amp;D investment</li> <li>Industry and investor advocacy</li> <li>Customer and supplier engagement</li> <li>Legislative monitoring</li> </ul>

**Time horizon**

●○○○ Low   ●●○○ Medium   ●●●○ High   ●●●● Very high   S Short term   M Medium term   L Long term

# EASTMAN

**Eastman Corporate Headquarters**

P.O. Box 431  
Kingsport, TN 37662-5280 U.S.A.

U.S.A. and Canada, 800-EASTMAN (800-327-8626)  
Other Locations, +(1) 423-229-2000

**[www.eastman.com/locations](http://www.eastman.com/locations)**

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