

Over 90% of Toyota Manufacturing Facilities at High Risk due to Climate Change

Overview

Toyota Motor Corp. is the world's largest automaker and has long lobbied against climate-friendly policies.¹ Yet new Greenpeace East Asia research shows that **93% of Toyota's manufacturing facilities are at high risk from the consequences of climate change.**

This sobering conclusion is based on analysis of data from Moody's ESG Solutions Database on Physical Risks. The Greenpeace analysis finds that 93% of Toyota's manufacturing facilities are considered as 'high risk' or 'red flag' for at least one climate hazard. The top three threats identified are heat, water stress, and hurricanes/typhoons, with 57%, 38%, and 28% of Toyota's facilities listed as 'high risk' or above, respectively, according to the Moody's ESG Solutions database.

Toyota is hardly alone. According to Greenpeace's analysis, almost half of global automakers (44%) face a high level of physical risk from climate change. But the scale of what Moody's ESG Solutions called "operations risk" for Toyota – calculated based on a facility's projected risk to six climate hazards (accounting for 95% of score) and its "socioeconomic risk" (accounting for 5% of score) – was the highest among the world's largest automakers, according to Greenpeace's findings.

Despite the alarming picture, Toyota remains reluctant to disclose climate risks in relation to its facilities. It has shared very little information based on Task Force on Climate-related Financial Disclosures (TCFD) recommendations, which were established by the Financial Stability Board with the explicit goal of encouraging "climate-related disclosures that would be useful to investors, lenders, and insurance underwriters in understanding material risks."² Apart from the topic of water usage, Toyota's TCFD disclosure does not describe any climate risks faced by the company's facilities.³

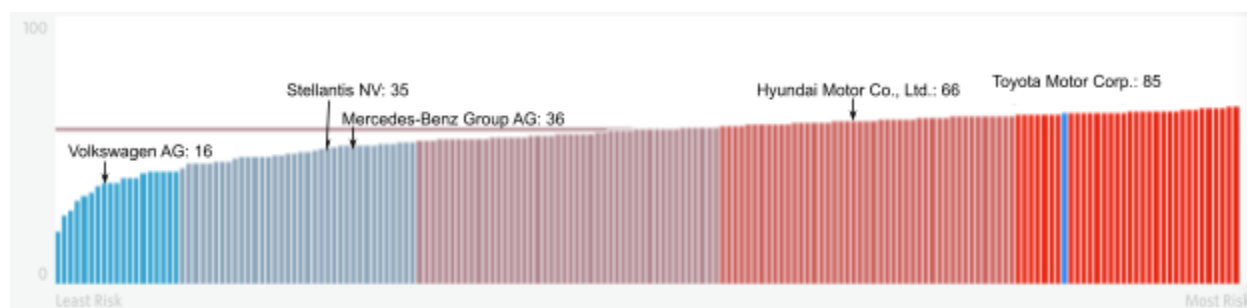


Fig. 1: Comparison of the 'operations risk' score of 179 automobile companies; horizontal line represents the average score; the world's five largest automobile companies are labeled for comparison. Source: Moody's ESG Solutions

¹ LobbyMap: Toyota Motor Company. InfluenceMap. <https://lobbymap.org/company/Toyota-Motor>

² TCFD Recommendations Report. TCFD. <https://www.fsb-tcf.org/recommendations/>

³ Sustainability Data Book. Toyota Motor Corporation. 2022. https://global.toyota/pages/global_toyota/sustainability/report/sdb/sdb21_en.pdf

Company	Operations Risk
Volkswagen AG	16
Renault SA	23
Stellantis NV (Fiat Chrysler)	35
Mercedes-Benz Group AG	36
Ford Motor Co.	55
Hyundai Motor Co., Ltd.	66
General Motors Co.	72
Nissan Motor Co., Ltd.	75
Honda Motor Co., Ltd.	77
Toyota Motor Corp.	85

Source: Moody’s ESG Solutions

Research Methodology

Greenpeace East Asia researchers checked manufacturing companies listed on Toyota’s website (accessed: May 17, 2022)⁴ against facilities in Moody’s ESG Solutions database. Researchers identified facilities in the database for 68 of the 70 manufacturing companies listed on Toyota’s website. Some companies listed on Toyota’s website operate multiple facilities, and a total of 87 manufacturing facilities were identified.

Greenpeace researchers compiled climate risk data for six climate hazards: flooding, heat, hurricanes/typhoons, sea level rise, water stress, and wildfires. Moody’s ESG Solutions uses five tiers to assess physical risks: no risk, low risk, medium risk, high risk, and red flag. Risk levels are determined based on corporate assets, supply chain, operational costs, operation continuity and comprehensive climate data.

According to Moody’s ESG Solutions, a facility is designated as ‘red flag’ if it already has been or will likely soon be exposed to a risk with a high potential for damage. A ‘high risk’ facility means a high level of exposure to damage exists and that the risk level is likely to increase. ‘Medium risk’ indicates that a facility may have been exposed to climate-related damage in the past and may be exposed in the future.

⁴ Toyota Motor Corporation. *Company Profile: Facilities*. <https://global.toyota/en/company/profile/facilities/>

A facility that is not significantly exposed to physical climate risk is categorized as ‘low risk,’ while facilities that face no exposure to physical climate risk are categorized as ‘no risk.’

Lack of Disclosure

Although Toyota faces significant physical risk due to climate change, the company has shared few details about the topic in its TCFD disclosure.

TCFD was established by the Financial Stability Board in 2015 with the aim to “develop voluntary, consistent climate-related financial disclosures that would be useful to investors, lenders, and insurance underwriters in understanding material risks.”⁵ The Task Force recommends that companies publish information related to climate governance, strategy, risk management, and targets. According to TCFD recommendations, climate-related targets should be “specific and complete” and should outline how the organization manages climate-related risks, including quantitative targets.⁶

However, Toyota has shared little information about the climate risks that it faces in its TCFD disclosure. Toyota’s TCFD page links to various sections of the company’s Sustainability Data Book. The Sustainability Data Book (updated in January 2022) contains only a brief acknowledgment of physical risks due to the increased frequency and severity of natural disasters. The only actionable measures Toyota lists in regard to risk management are “continuous improvement of a BCP [business continuity plan] in light of disaster experiences in an effort for adaptation” and “reinforcement of information gathering in collaboration with suppliers to avoid purchasing delays.”⁷ Aside from the topic of water usage, the report does not describe the climate risk faced by Toyota’s facilities and does not mention quantifiable targets.

Geographical Exposure

The majority of Toyota’s manufacturing facilities are located in North America and the Asia Pacific, and physical risk varies by location. The Asia Pacific, North America, and Europe are listed as at highest risk for heat and water stress. In Japan, 100% of Toyota’s facilities are at ‘high risk’ or ‘red flag’ due to the danger from hurricanes/typhoons.

⁵ Task Force on Climate-related Financial Disclosures. (June 2021). *Proposed Guidance on Climate-related Metrics, Targets, and Transition Plans*.

⁶ Task Force on Climate-related Financial Disclosures. (June 2021). *Proposed Guidance on Climate-related Metrics, Targets, and Transition Plans*.

⁷ Toyota Motor Corporation. (January 2022). *Sustainability Data Book*.

Global Distribution of Toyota Motor Corp. Manufacturing Facilities

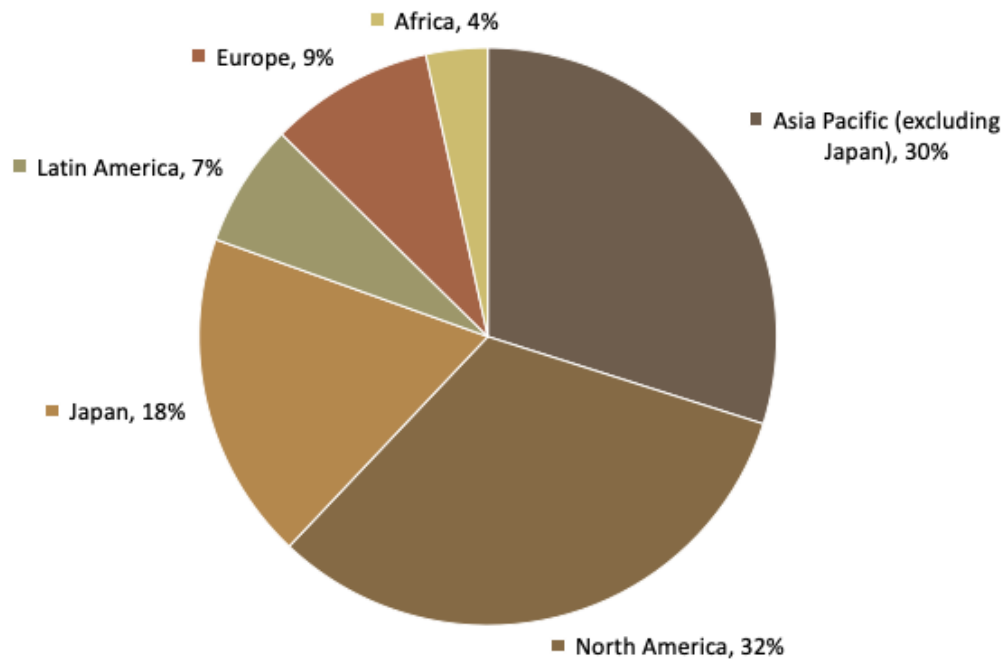


Fig. 2: Global Distribution of Toyota Motor Corp. manufacturing facilities (n=87) analyzed; regions are chosen based on Toyota's own categorization scheme. Source: Greenpeace East Asia

Climate Stress Categories

Heat:

The heat stress category encompasses fluctuations in energy demand due to heat as well as facility shutdowns because of extreme temperatures. High risk for heat stress indicates that a facility is in a region that experiences extreme temperature changes compared to the global average. Based on Greenpeace's analysis, 57% of Toyota's manufacturing facilities are at 'high risk' or 'red flag' due to heat stress.

Water Stress:

Water stress affects water availability, which can halt the automobile manufacturing processes. Based on Greenpeace's analysis, 38% of Toyota's manufacturing facilities are at 'high risk' or 'red flag' for water stress. High risk of water stress means a facility is in an area where the water supply is diminishing, causing high competition for water. In severe cases, access to water supply may become impossible.

Hurricanes/Typhoons:

Hurricanes and typhoons are among the most costly physical risks. The majority of Toyota facilities at 'high risk' or 'red flag' in this category are located in Japan.

Wildfires:

22% of Toyota's manufacturing facilities are at 'high risk' or 'red flag' for wildfires. Access to burnable fuel and/or increasing temperatures paired with lack of rainfall are indicators that a facility is at high risk for experiencing wildfires.

Flooding:

Flooding can be caused by both heavy rainfall and inadequate maintenance of drainage infrastructure. 21% of Toyota Motor Corp. manufacturing facilities are at 'high risk' or 'red flag' for flooding.

Sea Level Rise:

As sea level rise is only a threat in coastal areas, it is projected to impact relatively few Toyota manufacturing facilities. 79% of Toyota facilities are listed as 'no risk' for sea level rise. The 8% of Toyota manufacturing facilities listed at 'red flag' for sea level rise are susceptible to coastal floods by 2040.

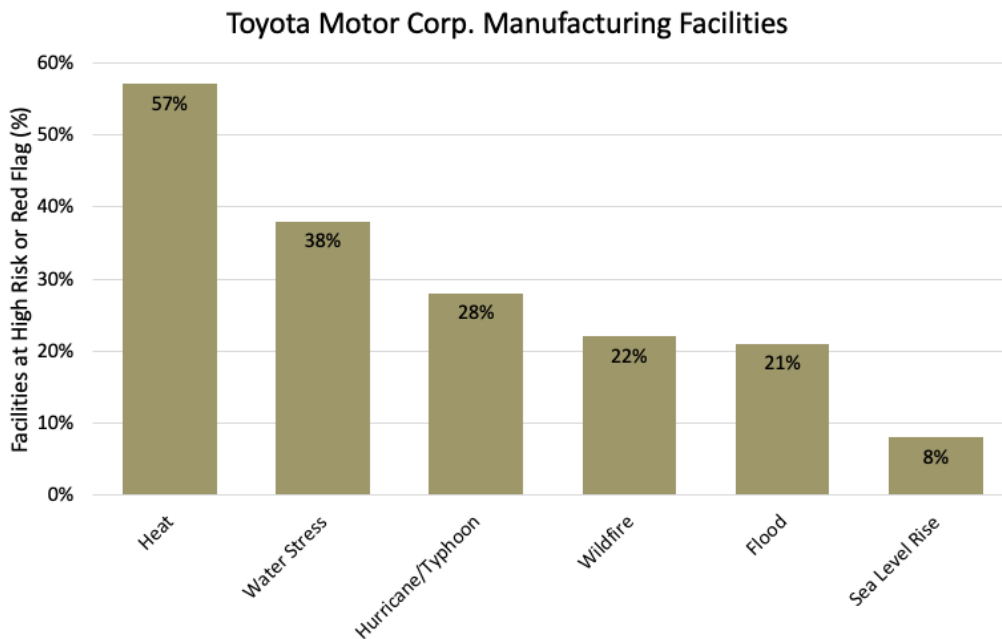


Fig. 3 The percentage of Toyota Motor Corp. manufacturing facilities (n=87) at high risk or red flag for each physical risk; data analyzed from the Moody's database. Source: Greenpeace East Asia

Recommendations

Toyota should follow TCFD recommendations and fully disclose the climate risks that its facilities face.

As the world's largest automaker, Toyota must take more aggressive action to reduce its carbon footprint. Toyota's adoption of battery electric vehicles (BEVs) has been remarkably slow. Instead, the company continues to promote the sale of hybrid vehicles, which rely on internal combustion engines and come with a significant carbon footprint. Due to the company's slow adoption of BEVs, Toyota received the lowest overall score among all carmakers in Greenpeace East Asia's November 2021 auto ranking.⁸ Toyota must recognize that hybrids are no longer a viable low-carbon option for the auto industry and should end the sale of new combustion engine vehicles, including plug-in hybrids, by 2030. A timely transition away from combustion engine vehicles is necessary to protect the planet, Toyota's workers and the company from climate disasters.

⁸ Auto Environmental Guide 2021. Greenpeace East Asia.
https://www.greenpeace.org/static/planet4-eastasia-stateless/2021/11/47de8bb4-gpea_auto_environmental_guide_2021.pdf