

MATERIALS

Toyota Motor North America Position Statement



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“MATERIALS” is one of Toyota’s four environmental focus areas in North America. Materials include everything we use to make a vehicle, from the materials that become vehicles, to the office furniture and cafeteria supplies we rely on every day, to the waste we recycle or dispose. Our materials strategy addresses conserving natural resources, eliminating waste disposal and sharing our know-how with others. Everything we do today to better manage materials builds a cleaner, healthier future.

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TMNA'S MATERIALS POSITION

Ensuring responsible consumption and production patterns is a shared challenge that requires a shared response. By finding more sustainable ways to manufacture, use and manage materials, we can help build a more sustainable future for society, business and the planet.

TMNA Environmental Sustainability's MATERIAL focus area relates to Challenge 5 of Toyota's Environmental Challenge 2050, which directs us to help establish a recycling-based society, one where sustainable materials are used and waste becomes a thing of the past. In support of Challenge 5, TMNA will reduce environmental impacts, help protect the natural world and share its know-how with others, to help create net positive value for the benefit of our company and society. Toyota aims to create net positive value for MATERIALS by engaging in and supporting efforts that reduce greater than 100 percent of the waste we generate across our North American operations. We recognize sustainable materials management is integral to sustainable development and we must be part of the solution. By 2050, we will strive to:

1. Achieve nearly zero waste to landfill, incineration/waste-to-energy, or the environment.
2. Reduce the use of non-renewable or non-recycled raw material use.
3. Partner with third-party waste reduction and recycling experts and achieve high standards for program certification at major facilities.
4. Engage with communities and nonprofit organizations to help them reduce waste and conserve natural resources.
5. Assist our major suppliers and dealers with adopting these same goals.

100% Protection	+	Zero	+	Share Know-	=	Net Positive Value
100% Renewable/ Recycled/ Recyclable Raw Material Use	+	Zero Waste at Our Facilities	+	Partner to Conserve Natural Resources	=	Avoiding more waste than we generate

The table above represents our aspirational goals. TMNA will adopt policies and develop action plans and procedures that aim to achieve these goals in all aspects of our operations. We will incorporate sustainable materials strategies into and establish a recycling rate target for new construction, renovation and expansion projects.

TMNA's Approach to a Recycling-Based Society

We will continue to look for ways to keep materials circulating and out of landfills. TMNA's approach to Challenge 5 involves three action areas:

1. **100 percent protection by conserving natural resources** through increased use of sustainable materials, namely those that are renewable, recycled or recyclable, and extending the life of vehicle parts such as batteries. These practices reduce the environmental footprint of our vehicles and help prevent habitat destruction, biodiversity loss and pollution.
2. **Zero impact by eliminating waste disposal.** To minimize the negative impacts our activities can have on the environment, we will continue our focus on the 3R's: Reducing waste at the source, Reusing and Recycling. By using less and increasing reuse and recycling, we will keep materials circulating, thereby helping to alleviate the demand for natural resources and keeping waste from being disposed in a landfill or by incineration.
3. **Sharing our know-how** and engaging in outreach with stakeholders to scale up progress to the point of creating positive change. We will support efforts that help others reduce more waste than the total amount we generate. Key to our engagement is educating local communities about recycling and the importance of proper waste management practices, and assisting suppliers and dealers with enhancing their sustainable materials programs.

TMNA's Approach to a Recycling-Based Society

Our MATERIALS focus area relates to Challenge 5 of Toyota's Environmental Challenge 2050.

Toyota recognizes the world must transition to a new way of thinking about material flows to avoid exploitation and depletion of natural resources and environmental pollution from unsustainable consumption patterns. We will continue to look for ways to keep materials circulating and out of landfills. In North America, we developed an approach to conquering this challenge that involves three actions:

 <p>TOYOTA ENVIRONMENTAL CHALLENGE 2050</p>	 <p>MATERIALS</p>
<p>CHALLENGE 5</p> <p>Ensure all Toyota facilities and processes support a recycling-based society</p> 	<p>Conserving Natural Resources:</p> <ul style="list-style-type: none">• Increase the use of sustainable materials• Extend the life of vehicle parts <p>Eliminating Waste Disposal:</p> <ul style="list-style-type: none">• Reduce at the source• Reuse• Recycle <p>Sharing Know-How:</p> <p>Help others reduce more waste than we generate by engaging with:</p> <ul style="list-style-type: none">• Local communities• Major suppliers• Dealers

NA Mechanisms to Address Sustainable Materials Management

TMNA will take a systems approach that considers linkages among the four focus areas (Carbon, Water, Materials and Biodiversity). These are intertwined issues and should not be addressed in isolation.

We will consider the following mechanisms to address materials risks and opportunities and help us create net positive value for materials:

Products	Sites and Operations	Stakeholders
<ul style="list-style-type: none"> • Use of recycled content and renewable resources • Remanufactured parts • End-of-life vehicle material recovery strategy • Chemical management 	<ul style="list-style-type: none"> • Waste reductions/efficiency improvements • Returnable packaging • Elimination of single-use plastics • Closed loop systems • Chemical management 	<ul style="list-style-type: none"> • Waste offsets • Supply chain and dealer outreach • Community outreach

GLOBAL SOCIETAL CONTEXT

Failure to find more sustainable ways to extract, use and manage materials, and change the relationship between material consumption and growth, has serious implications for the global economy and society. Globally, the use of raw materials increased at about twice the rate of population growth during the last century. For every 1 percent increase in gross domestic product, raw material use has risen by 0.4 percent, and 50-75 percent of annual resource inputs to industrial economies is returned to the environment as wastes within just one year.¹

Packaging represents about 65 percent of household trash, and about one-third of the average landfill is composed of packaging material. Much of this material is recyclable, but globally, only 14 percent of plastic packaging is collected for recycling. The rest is either disposed in landfills or released to the environment. By 2050, oceans could contain more plastics than fish (by weight).

Global competition for finite resources – and the corresponding generation of waste – will continue to expand as the world’s population is projected to reach nearly 9.8 billion by 2050. This increasing consumption has come at a cost to the environment, including habitat destruction, biodiversity loss, stressed and depleted fisheries, land and water contamination, and desertification. Materials management is also associated with an estimated 42 percent of total U.S. greenhouse gas (GHG) emissions.²

“Sustainable consumption and production” (SCP)³ has been recognized as an integral element of sustainable development and an issue of paramount importance since 1992, when the UN Conference on the Environment and Development recognized SCP as an overarching theme to link environmental and developmental challenges.

¹ According to the Annex to the G7 Leaders’ [June 8, 2015 Declaration](#), which established the G7 Alliance on Resource Efficiency.

² <https://www.epa.gov/smm/sustainable-materials-management-basics>

³ SCP is defined as “the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations.” (Norwegian Ministry of Environment, Oslo Symposium, 1994)

SUSTAINABLE DEVELOPMENT GOALS

In September 2015, the United Nations (UN) announced its 2030 Agenda for Sustainable Development, a plan of action for people, planet and prosperity that establishes 17 [Sustainable Development Goals \(SDGs\)](#) and 169 targets. These goals and targets, agreed to by 193 countries, will stimulate action over the next 15 years in areas of critical importance for humanity and the planet. Businesses are expected to play a significant role in achieving the bold and transformative steps urgently needed to shift the world onto a sustainable and resilient path. SCP is an integral part of the UN's 2030 Agenda for Sustainable Development.

The UN SDGs recognize materials issues as an area of critical importance.



UN Sustainable Development Goal 12: Responsible Consumption and Production

8 targets to ensure sustainable consumption and production (SCP) patterns, including implementing the 10-year Framework of Programs on SCP adopted at Rio +20; achieve environmentally sound management of chemicals and all wastes by 2020; substantially reduce waste generation by 2030; and encourage companies to integrate sustainability information into their reporting cycle

Toyota's 5th Global Challenge aligns with the UN's 12th Sustainable Development Goal.

TOYOTA'S GLOBAL POSITION

Toyota Environmental Challenge 2050: ESTABLISHING A RECYCLING-BASED SOCIETY



Toyota recognizes the world must transition to a circular economy⁴ to avoid large-scale exploitation and depletion of natural resources and environmental pollution from increasing amounts of waste. To improve resource efficiency towards an ideal recycling-based society (circular economy), initiatives are needed in four key areas: (1) use of environmentally preferable materials, (2) making use of parts longer, (3) development of recycling technologies and (4) making vehicles from the materials of end-of-life vehicles. These last two apply to the entire automotive industry.

Through our commitment to respect for the planet, we aim to meet our 2050 goals by engaging the talent and passion of our people, who believe there is always a better way. Toyota will lead the way to the future of mobility and enrich lives around the world by implementing steady initiatives to attain sustainable development. Toyota will go beyond zero environmental impact to help create net positive value for society.

⁴ A circular economy is one that produces no waste or pollution, in which material flows are either biological nutrients designed to reenter the biosphere safely, or technical nutrients designed to circulate at high quality without entering the biosphere.

TMNA CONTEXT

Risks & Opportunities in North America

Toyota recognizes a number of **risks** related to materials that may impact our operations in North America:

- Laws and regulations related to chemicals and waste currently affect our operations. New laws or changes to existing laws may subject Toyota to additional expenses, which may adversely affect Toyota's financial condition.
- Lagging in actions to address materials issues may negatively impact our reputation/brand image, which could impact sales and our ability to hire and retain qualified team members.
- The cost of waste disposal could increase or sites may have to pay more to have certain streams recycled.
- Toyota may face restricted access to rare materials, which could impact our vehicle manufacturing.
- Toyota may face decreasing availability of raw materials due to natural resource depletion, which could impact our vehicle manufacturing.

Opportunities related to sustainable materials management include:

- Enhanced reputation, which can lead to increased market share and better relationships with stakeholders, including NGOs and local communities.
- Enhanced loyalty of team members. Improving Toyota's environmental footprint and engaging more team members directly, especially in waste minimization efforts, generates increased corporate loyalty and encourages team members to be public ambassadors of Toyota's environmental commitment.
- Positive impacts to our ability to hire and retain qualified team members. Proactively addressing materials and other environmental issues may make Toyota a more attractive employment choice.
- The use of new products for vehicle interiors (ECO plastics, kenaf, soy, etc.), which could replace parts that have a larger carbon footprint. (The use of alternative materials including those with recycled content must meet quality, safety and cost goals.)
- Cost savings, for example, from reduced waste disposal costs.

North American Perspective

The following factors place Toyota Motor North America (TMNA) in a key position to lead Toyota to achieve the 5th Global Environmental Challenge 2050:

- North America (U.S., Canada, Mexico) is one of the world's largest auto markets and the second largest auto producing region.
- North America is Toyota's largest sales market by volume and Toyota's second largest production region. Toyota Motor Manufacturing, Kentucky (TMMK) is currently Toyota's largest plant in the world in terms of production.
- The U.S. has one of the most sophisticated solid and hazardous waste regulatory frameworks in the world.
- In North America, landfilling is a cheap and plentiful disposal option, impacting the incentive to reduce, reuse or recycle. Despite this, our waste management strategy in North America has moved beyond zero landfill to more preferable reduce, reuse and recycle.
- TMNA's partnerships with experts in the field of waste reduction, recycling, and sustainable materials development position us as leaders in defining a sustainable materials strategy for the automotive industry.
- The "Materials" focus area encompasses chemical management, raw material sourcing, waste minimization, packaging and end-of-life. Like Carbon, TMNA's approach to Materials considers the full life cycle and includes a wide range of stakeholders. It requires a systemic approach and cooperation among actors operating all along the value chain, from supplier to manufacturer to customer.

U.S. EPA Focus on Sustainable Materials

Toyota partners with the U.S. Environmental Protection Agency (EPA) in a number of voluntary programs, including WasteWise. We take into consideration EPA's thought leadership, including their focus on **Sustainable Materials Management (SMM)**. SMM is a systemic approach to using and reusing materials more productively over their entire life cycles. By examining how materials are used throughout their life cycle, an SMM approach seeks to use materials in the most productive way with an emphasis on using less, reduce toxic chemicals and environmental impacts throughout the material life cycle, and assure we have sufficient resources to meet today's needs and those of the future.

[EPA's Sustainable Materials Management Program \(SMM\) Strategic Plan](#) for fiscal years 2017-2022 represents the collective thinking of EPA staff and management across the country, and includes stakeholder input from states, industry and nongovernmental organizations. The four primary SMM program objectives are to:

1. Decrease the disposal rate, which includes source reduction, reuse, recycling and prevention.
2. Reduce the environmental impacts of materials across their life cycle.
3. Increase socio-economic benefits.
4. Increase the capacity of state and local governments, communities and key stakeholders to adopt and implement SMM policies, practices and incentives.