Aim to establish a future society in harmony with automobiles and nature ~Toyota Environmental Challenge 2050~

Toyota has promoted a wide range of initiatives to address the serious global environmental issues, such as extreme weather phenomena caused by greenhouse gases, biodiversity depletion and water shortages. The Toyota Environmental Challenge 2050, as a means of contributing to the realization of a sustainable society, reaffirms our commitment to reducing the environmental load of automobiles to as close to zero as possible (Challenge of Achieving Zero CO2 Emissions), while developing measures to achieve a net positive impact (Net Positive Impact Challenge) on the Earth and its societies.

New Vehicle Zero CO2 Emissions Challenge

Eco-friendly vehicles contribute to the environment only when they come into widespread use

Toyota strives to reduce average CO2 emissions per vehicle during driving by 90 percent compared to 2010 levels by 2050. We aim to achieve this mainly by advancing the technology and its widespread adoption of electrified vehicles (HEVs, PHEVs, BEVs and FCEVs). We consider FCEVs powered by hydrogen, as future ultimate eco-friendly vehicles, and will promote their widespread use.

Hydrogen, a clean, effective and sustainable fuel for the future

Currently, CO2 is emitted in the hydrogen production process. The utilization of renewable electricity such as solar power and wind power will lead to significant reduction of CO2 emissions in the future. Furthermore, hydrogen can be also produced from various substances including biomass and swage sludge. Also, the availability of natural energy depends on the weather, but by storing it in the form of hydrogen, the energy can be utilized regardless of place and time, and is expected to be used in a time of disaster, transportation to isolated islands and other events. For the Earth, a planet of water, hydrogen is an endless energy gift from nature.

Life Cycle Zero CO2 Emissions Challenge

Toyota integrates designs that reduce CO2 emissions throughout the entire vehicle life cycle including design, manufacturing, disposal and recycling.

Toyota has undertaken the initiatives to reduce CO2 emissions throughout the entire vehicle life cycle, from the increase of migratory dragonfly species from 6 to 38. We consider FCEVs powered by hydrogen, as future ultimate eco-friendly vehicles, and will promote their widespread use.

Plant Zero CO2 Emissions Challenge

Toyota is making efforts for not only eco-friendly vehicles but also eco-friendly plants.

Toyota introduced 100 percent renewable electricity on the MIRAI production lines for vehicle and electrification parts (high-pressure hydrogen tanks and fuel cell (FC) stacks). As a result, CO2 emissions during production have been drastically reduced. Through the initiatives to achieve zero CO2 emissions in the vehicle manufacturing process, we are striving to manufacture vehicles that does not impose environmental load.