

Calculation Methods for FY2024 Updated in January 2025

(Items to Reduce GHGs, Cumulative CO₂ Emissions Reduction Effect from Electrified Vehicles)

Toyota's GHG emissions reduction targets (Scope 1, 2, and 3) have been certified and approved by SBTi as being in alignment with achieving the targets of the Paris Agreement. We report on the progress towards these targets annually. **In addition to these Scope 1, 2, and 3 reduction efforts**, Toyota is developing technologies that help reduce GHG emissions released from the vehicles we sell and is increasing the sales of vehicles equipped with these technologies **in order to enhance our contributions to achieving decarbonization**. Toyota aims to encourage customers to increase the frequency of use and installation rates of these technologies by revealing these GHG reduction impacts. We further accelerate electrification by revealing the GHG reduction impacts contributed by our electrification strategy, which is a pillar of Toyota's multi-pathway approach.

In this part, we explain the calculation methods, underlying assumptions, and comparison conditions used for GHG emission reduction effects to ensure transparency.

Items	Explanation of items	Calculation method	Scope of report
<p>Global Deployment of Off-cycle Technologies</p>	<ul style="list-style-type: none"> • Purpose of disclosure <ul style="list-style-type: none"> • Toyota is promoting the development of off-cycle technologies as part of our multi-pathway approach, with the aim of increasing installation rates by revealing the GHG reduction impact by these technologies • Explanation of items <ul style="list-style-type: none"> • Off-cycle technologies have a limited effect on mode fuel efficiency, but have a substantial impact on actual fuel efficiency • Target technologies that are recognized as having a reduction effect under fuel efficiency regulations in some countries • Limitations of technology and calculations <ul style="list-style-type: none"> • Reduction effects are calculated based on those certified by the authorities in each country. Therefore, if the conditions are not met, the same reduction effect may not be achieved. 	<ul style="list-style-type: none"> • Scope <ul style="list-style-type: none"> • Regions: U.S., Europe, Saudi Arabia, Japan • Target period: <ul style="list-style-type: none"> [U.S.] January 1, 2022 to December 31, 2023 [Europe and Saudi Arabia] January 1, 2023 to December 31, 2023 [Japan] April 1, 2023 to March 31, 2024 • Vehicles: <ul style="list-style-type: none"> [U.S.] Manufactured vehicles (2023 model year vehicles) [Europe] Registered vehicles (the number of units announced by authorities) [Saudi Arabia] Manufactured vehicles (the number of units that obtained type approval) [Japan] Manufactured vehicles (the number of units registered) • Lifecycle scope: <ul style="list-style-type: none"> This applies to the reduction effect during product use. Calculated on a WtW basis, including emissions during the fuel and electricity production stage (WtT) as well as emissions during driving (TtW).^{*1} <p>^{*1} Emission intensity: Emission factor of each powertrain calculated in Scope 3 Category 11</p> • Primary calculation formula: (1) × (2) × (3) × (4) × (5) <ul style="list-style-type: none"> (1) GHG reduction effect (improved fuel efficiency) certified under different country systems (kg-CO₂e/unit/km) (2) Annual driving distance (km/year)^{*2} (3) Vehicle lifespan (years) (4) Number of units: Refer to the target number of units and period for each country (unit) (5) Correction coefficient according to usage conditions in each country^{*3} <p>^{*2} The SBTi guidance was used for annual driving distance ^{*3} Use only when calculate Japanese emissions</p> • Comparison conditions <ul style="list-style-type: none"> [U.S., Europe, Saudi Arabia] The GHG reduction effect is calculated based on the effects certified by each country's off-cycle system [Japan] Toyota's own calculations are used, which multiply the effects certified by the U.S. authorities by a coefficient corresponding to changes in the environment 	<p>Entire lifetime effect of the vehicle covered in a certain period</p>

Items	Explanation of items	Calculation method	Scope of report
Using Connected Data to Gather Information About GHG Emission Reduction Effects			
<p>Guidance on energy-saving routes</p>	<ul style="list-style-type: none"> • Purpose of disclosure <ul style="list-style-type: none"> • Toyota is promoting the development and expansion of actual fuel efficiency technologies as part of its multi-pathway strategy, with the aim of increasing installation rates and improving customer usage rates by highlighting the GHG emission reduction effects of these technologies • Explanation of items <ul style="list-style-type: none"> • Toyota contributes to the reduction of GHG emission by offering customers “energy-saving routes” that reduces fuel consumption when a destination is set. These energy-saving routes are provided as an alternative to “recommended” routes that aim to achieve a balance between time and cost. • Fuel consumption is calculated for roads using gradients and data on the average speed of other vehicles, and a route that consumes less fuel is suggested as an option to drivers • Limitations of technology and calculations <ul style="list-style-type: none"> • Reduction effects vary depending on a customer’s driving habits and surrounding environment • Due to difficulties in using actual data for a full year, one month of data (March 2024) has been collected and multiplied by 12 to estimate the annual distance used • Fuel consumption reduction rates are calculated by comparing routes with random departure and destination points 	<ul style="list-style-type: none"> • Scope <ul style="list-style-type: none"> • Region: All of Japan • Target period: April 1, 2023 to March 31, 2024 • Vehicles: <ul style="list-style-type: none"> • Vehicles sold under the Toyota Motor Corporation brand that are only engine powered and HEVs • Vehicles equipped with DCMs designed to evaluate this technology • Lifecycle scope: <ul style="list-style-type: none"> • This applies to the reduction effect during product use. Calculated on a WtW basis, including emissions during the fuel and electricity production stage (WtT) as well as emissions during driving (TtW).^{*1} <p>^{*1} Emission intensity: Emission factor of each powertrain calculated in Scope 3 Category 11</p> <ul style="list-style-type: none"> • Primary calculation formula: (1) × (2) × (3) × (4) <ul style="list-style-type: none"> (1) Distance used by powertrain: Powertrain ratio × Annual distance used on energy-saving routes^{*2} (km) (2) Fuel efficiency: Average fuel efficiency by vehicles equipped with powertrains sold in FY2024 (km/L) (3) Energy-saving effect (reduction rate): Fuel reduction rate of energy-saving routes compared to recommended routes (%) (4) GHG emission factor (kg-CO₂e/L) <p>^{*2} The annual distance used for each powertrain is estimated using actual data of March 2024</p> <ul style="list-style-type: none"> • Comparison conditions <ul style="list-style-type: none"> • Fuel consumption for recommended routes^{*3} and energy-saving routes is compared to calculate effects • Recommended routes appear first on the navigation screen. Since the recommended route is selected often, it is used as the basis for comparison <p>^{*3} Recommended routes: Routes shown first by navigation systems that balance costs, time, and driving ease (such as right/left turns, road width)</p> 	<p>Annual effects of owned vehicles</p>

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Using Connected Data to Gather Information About GHG Emission Reduction Effects			
Internal circulation control for air conditioning Eco-SW S-FLOW Predictive SOC control	<ul style="list-style-type: none"> Purpose of disclosure <ul style="list-style-type: none"> Toyota is promoting the development and expansion of actual fuel efficiency technologies as part of its multi-pathway strategy, with the aim of increasing installation rates and improving customer usage rates by highlighting the GHG emission reduction effects of these technologies Limitations of technology and calculations <ul style="list-style-type: none"> Calculations are based on data transmitted by Connected cars. As it reflects the work status of each technology, the effect may not be able to be calculated in the event that data cannot be retrieved. 	<ul style="list-style-type: none"> Scope <ul style="list-style-type: none"> Region: All of Japan Target period: April 1, 2023 to March 31, 2024 Vehicles: <ul style="list-style-type: none"> Vehicles sold under the Toyota brand that are only engine powered and HEVs Vehicles equipped with DCMs designed to evaluate this technology Lifecycle scope: <p>This applies to the reduction effect during product use. Calculated on a WtW basis, including emissions during the fuel and electricity production stage (WtT) as well as emissions during driving (TtW).^{*1}</p> <p>^{*1} Emission intensity: Emission factor of each powertrain calculated in Scope 3 Category 11</p> <ul style="list-style-type: none"> Primary calculation formula^{*2}: (1) × (2) × (3) × (4) <ul style="list-style-type: none"> (1) Difference in GHG emissions per vehicle per distance (when a function is running/not running) calculated using big data on vehicle travel in 2023 (kg-CO₂e/unit/km) (2) Annual driving distance (km/year)^{*3} (3) Vehicle lifespan (years) (4) Number of units sold: Actual sales figures for Japan in FY2024 (unit) <p>^{*2} Effects of S-FLOW and predictive SOC control are calculated based on the difference in reduction observed in internal tests and work frequency of functions retrieved from big data ^{*3} The SBTi guidance was used for annual driving distance</p> <ul style="list-style-type: none"> Comparison conditions <ul style="list-style-type: none"> Using big data: <p>Since the concept is not yet clearly defined, reductions for each item are calculated using big data in vehicle travel. They are currently defined as the difference between the aggregated data from vehicles on the market when their functions are active/inactive.</p> 	Entire lifetime effect of the vehicle covered in a certain period

Items	Explanation of items	Calculation method	Scope of report
<p>Cumulative CO₂ Emissions Reduction Effect from Electrified Vehicles</p>	<ul style="list-style-type: none"> • Purpose of disclosure <ul style="list-style-type: none"> • Toyota accelerates electrification by revealing the CO₂ reduction impacts brought about by our electrification strategy, which is a pillar of Toyota's multi-pathway approach • Limitations of technology and calculations <ul style="list-style-type: none"> • Reduction effects vary depending on a customer's driving habits and conditions 	<ul style="list-style-type: none"> • Scope <ul style="list-style-type: none"> • All electrified vehicles (HEVs, PHEVs, BEVs, FCEVs) sold by Toyota worldwide • Lifecycle scope: <ul style="list-style-type: none"> This applies to the reduction effect during product use. Calculated on a WtW basis, including emissions during the fuel and electricity production stage (WtT) as well as emissions during driving (TtW).^{*1} ^{*1} Emission intensity: Emission factor of each powertrain calculated in Scope 3 Category 11 • Primary calculation formula: (1) × (2) × (3) × (4) <ul style="list-style-type: none"> (1) Difference in energy consumption (L, for example) between specified electrified vehicles and ICE vehicles in the same class (2) Number of owned units (units) (3) Annual driving distance (km/year)^{*2} (4) CO₂ emission factor for energy (kg-CO₂/L, for example) ^{*2} Refer to the industry-wide figures at the time when Toyota began calculating and disclosing • Cited data <ul style="list-style-type: none"> • Fuel/electricity efficiency: Nominal values specified by regulatory agencies in each country • Electricity emission factors: These are calculated by factoring in upstream emissions and transmission losses based on IEA Emission Factors 2023 • Residual rate: Referencing the IEA Mobility Model (used to calculate the number of units owned) • Comparison conditions <ul style="list-style-type: none"> • Assuming that electrified vehicles sold replaced ICE vehicles in the same class, CO₂ reduction effects are confirmed based on differences in CO₂ emissions between these vehicles. However, this effect does not cover cases in which electrified vehicles are replaced with other electrified vehicles. 	<p>Annual effects of owned vehicles and cumulative totals</p>