



Increasing Popularity of Clean-Energy Vehicles

In FY2002, Toyota sold 15,575 clean-energy vehicles in Japan, which accounted for 0.9% of all Toyota vehicles sold.

The number of hybrid vehicles sold was 15,390 and accounts for approximately 99% of all clean-energy vehicles sold. Since the launch of the Prius overseas in FY2000, a cumulative total of more than 140,000 hybrid vehicles have been sold worldwide.

Number of Toyota's Clean-Energy Vehicles Sold (in Japan) <Unit: Vehicles>

	FY1999	FY2000	FY2001	FY2002
Electric vehicles	46	19	56	23
Hybrid vehicles	14,289	12,263	23,373	15,390
CNG vehicles	178	166	187	162
Total	14,513	12,448	23,616	15,575
Percentage relative to all Toyota vehicles sold	0.9%	0.7%	1.4%	0.9%
Total number of Toyota vehicles sold	1,674,631	1,767,422	1,677,044	1,705,577

Total number of units of the Prius exported in FY2002 reached 21,533 units

Clean-Energy Vehicle Series Sold in FY2002

Electric vehicles	RAV4L EV
Hybrid vehicles	Prius, Estima Hybrid Crown Royal with mild hybrid system Crown Sedan with mild hybrid system Coaster Hybrid
CNG vehicles	Century CNG, Corolla Van CNG Dyna CNG, Toyoace CNG

LCA

Implementation of LCA in the Development Stage of New Technology

As part of its LCA (Life Cycle Assessment), Toyota quantitatively analyzes the emission volume of substances that cause global warming (CO₂) and air pollutants (NO_x, SO_x, PM, and NMHC*), as well as the volume of non-renewable resources used over the total product life (from manufacturing to disposal). Toyota actively carries out LCA in the development stage of new technology. In FY2002, Toyota evaluated bioplastics and fuel cell hybrid vehicles, etc. and utilized the results from these evaluations for verifying environment-enhancing effects, identifying areas requiring improvements, and evaluating technologies for making those improvements.

*NMHC :
Non-Methane Hydrocarbons

LCA of Bioplastics

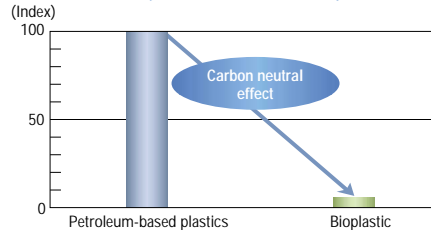
Toyota Eco-Plastic (bioplastic) is a plastic made from renewable plant materials. Because plants absorb CO₂ through photosynthesis during their growth cycles, this plastic is a carbon neutral material, which means it does not alter the CO₂ concentration in the atmosphere even when it emits CO₂ during incineration following disposal.

Toyota carried out LCA on the spare tire

cover for the new Raum, which is made of the new bioplastic. The result showed that the CO₂ emissions volume over the entire life cycle is reduced by as much as 90% over conventional petroleum-based plastics.

See pp. 40 - 41 for details on the new Raum

LCA Results (CO₂ Emissions Volume)



More Complete Life Cycle Environmental Information

In FY2002, Toyota carried out LCA on four mass-produced models (ist, WiLL CYPHA, Caldina and Harrier) and disclosed the results in product catalogs. Furthermore, ahead of the introduction of the new Prius in Japan, which was already unveiled at the New York International Auto Show, Toyota has published the "Prius Green Report," summarizing this model's LCA data in an easy-to-read format, to help as many people as possible understand lifecycle environmental information.



This report can be viewed online at:
http://speed.ideasync.com/tenji/pdf/pgg_e.pdf

Highlight

LCA of New Models and Models Undergoing Complete Redesign

Toyota carried out LCA on new models and models that underwent complete redesign. In the case of the ist, fuel efficiency was improved by adopting VVT-i and a high-efficiency transmission, reducing air resistance, and designing a more energy-efficient air conditioner. Cleaner exhaust emissions were achieved by effectively controlling a catalytic converter

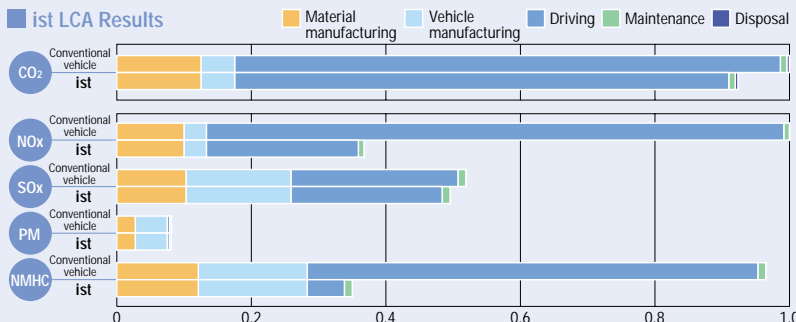
that has superior warm-up characteristics and durability, an air-fuel ratio compensation system, and a fuel evaporation gas suppression system, etc.

As a result, the vehicle produces 8% lower CO₂ emissions, 63% lower NO_x emissions, and 64% lower NMHC emissions than other conventional vehicles in the same class.



ist

ist LCA Results



Specification Comparison between the ist and a Conventional Vehicle

	Vehicle weight	Fuel efficiency	Exhaust emissions
Conventional vehicle	1,000kg	16.3km/L	NO _x /HC:0.25g/km
ist	1,000kg	18.0km/L	NO _x /HC:0.02g/km

*Assumes a lifetime travel distance of 100,000km (10 years) and calculations based on the 10-15 Japanese test cycle

*In the graph to the left, CO₂ value for the conventional vehicle is set at 1, while other values are based on a conventional vehicle NO_x value of 1