

The Impact of Carbon Neutrality on the Automotive Industry, and the Actions on the Material

Chika Kako

Toyota Motor Corporation

These days, the carbon-neutral (CN) movement has been getting popular worldwide. Zero CO₂, which automotive generate during the entire life cycle, is necessary to make, transport, use and waste of vehicles. Furthermore, to realize carbon neutrality, industrial leadership, based on the energy policies of each country, is inevitable and necessary to keep them harmonized.

We believe that environmental vehicles are meaningful only when it is accepted by the customer because they contribute to CO₂ reduction only when they become widespread. To that end, we are practicing the idea of contributing to CO₂ reduction by preparing various options for the customer such as Hybrid Vehicle (HEV), Plug-in HEV, Battery Electric Vehicle (EV) and Fuel Cell EV without ending with one technology. Depending on the circumstances of areas on availability of renewable energy, customers choose mobility that is easy to use and want to ride. Toyota has developed and manufactured a full lineup of electric vehicles based on this idea.

Carbon neutrality, it is necessary to have industrial policies.

During that time, the performance of environmental vehicles has improved significantly, and the evolution of materials has contributed dramatically to this. Motors, inverters, and batteries are parts used in all environmental vehicles, and material development such as magnets, power semiconductors, and electrolytes are key to improving their performance. Furthermore, reducing the number of natural resources such as rare earth and rare metals in those materials is indispensable.

There is an idea that "only 30 years are left" to take CN measures by 2050, but it is also possible to think that "there are still 30 years". We believe that it is our mission to promote technological innovation and social implementation at a higher speed than ever by making good use of digital transformation as a means and collaborating with various industries.