TMC Outlines Eco-car Plans, Battery Research Progress

November 17, 2010

Tokyo, Japan, November 18, 2010—Toyota Motor Corporation (TMC) announces details of its plans for "eco-car" development and launches and of progress in next-generation secondary-battery research—both part of environmental technology efforts aimed at limiting oil consumption and reducing carbon dioxide emissions through the use of electricity and other alternative energies.

Details

1. Hybrid Vehicles
TMC plans to introduce 11 models by the end of 2012, consisting of all-new models and redesigned models. Of the planned new models, one is a compact with fuel efficiency in excess of 40 km/L under the 10-15 Japanese test cycle.

2. Plug-in Hybrid Vehicles
By early 2012, TMC plans to begin sales of a "Prius"-based PHV, mainly in Japan, the United States and Europe. Sales are targeted at more than 50,000 units annually, and the price for Japan is expected to be in the 3-million-yen range.

3. Electric Vehicles
In 2012, in addition to the U.S. market, an iQ-based EV will also be introduced in Japan and Europe.

- Launch preparations call for road trials in Japan, U.S., and Europe starting in 2011.
- Launch in China is also being considered, with road trials planned for 2011.

Separately, the "RAV4 EV" concept, which was developed jointly with Tesla Motors, will be on display until November 28 at the Los Angeles Auto Show in Los Angeles, United States.

4. Fuel Cell Vehicles
TMC is continuing development of a sedan-type fuel-cell hybrid vehicle (FCHV), with sales aimed to start in around 2015 in Japan, the U.S. and Europe—markets in which hydrogen supply infrastructure is expected to develop. Although currently a price under 10 million yen seems attainable, TMC aims to further reduce costs to bring the vehicle to market at a more-affordable price.

5. Next-generation Secondary Batteries
TMC is researching development of next-generation secondary batteries with performance that greatly exceeds that of lithium-ion batteries. Such research is aimed to help bring about the revolutionary advances in battery performance that will be necessary for the broad adoption of electric-motor-propelled eco-cars.

- Solid-state batteries: TMC has successfully reduced what is known as particle resistance and has made progress toward creating full solid-state batteries in a promising compact package.
- Metal-air batteries: TMC has determined the reaction mechanism of lithium-air batteries and has clarified its research policy regarding the batteries as rechargeable secondary batteries.

In January 2010, TMC established a division charged with studying production of next-generation batteries. The division, with a staff of approximately 100 researchers, is accelerating its research.

TMC believes that eco-cars can have a positive impact on the environment only if they are widely used. TMC will continue to improve the fuel efficiency of its conventional combustion-engine cars, which account for the majority of its sales, while raising performance, reducing costs and expanding the company's product lineup. Within these efforts, hybrid technologies—consisting of the basic technologies necessary for development of various eco-cars—are positioned as key technologies to achieve both high fuel efficiency and driving performance, and to facilitate the use of various fuels with the aim of creating a low-carbon society through response to the need to diversify energy sources.