

## Japan Launches cellulosic ethanol initiative to power 40,000 vehicles

Whenever we read about ethanol, we immediately think 'corn' or 'sugar cane'. Ethanol made from these easily fermentable feedstocks is a so-called 'first-generation' biofuel. In Japan, however, the plan is to produce 'second-generation' cellulosic ethanol from wood chips, a lignocellulosic feedstock much more abundantly available there. The country's [Environment Ministry said](#) Thursday it will launch a project to mass-produce the environmentally friendly fuel made from woody biomass to power 40,000 cars in metropolitan areas.

The ministry also plans to help build about 100 special gas stations in urban areas in the Kanto and Kansai regions, where people can fill up their cars with the biofuel, which is free of greenhouse-gas emissions, ministry officials said. The biofuel can be used for vehicles that run on regular gasoline. The ministry plans to ask the Finance Ministry to allocate about 10 billion yen (€6million/US\$85million) to finance the project in the budget for fiscal 2007 and to consider tax incentives related to the project, the officials said.

Ethanol can be produced from ligno-cellulosic biomass in different ways, either through enzymatic hydrolysis or through the fermentation of synthesis gas. Hydrolysis breaks down the cellulose chains contained in the wood into sugar molecules that are then fermented and distilled. Gasification transforms the carbon in the raw material into a gaseous carbon monoxide that is then fed to a special kind of fermenter.

In the Japanese project, gasoline containing 3 percent bioethanol made of wood will be produced at Japan's first cellulosic ethanol facility that is being built in Osaka Prefecture. The capacity of the plant will be 47 million liters (12 million gallons) per year. The officials added that Japan lags behind many other countries in promoting biomass energy, which is useful in reducing global warming, and the plan is aimed at raising awareness about the importance of alternative fuels. The ministry plans to assist corporations entering the biofuel business and automakers developing vehicles that can run on E10 fuel, or gasoline containing 10 percent bioethanol, the officials said.

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