

# **Expos showcase future of renewable energy: Fuel-efficient car, high-tech batteries shine at exhibitions**

February 26 2009, Hiroko Nakata, Japan Times, Tokyo

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One of the few bright spots in the dark days of the global economic downturn is the field of renewable energy.

The industry's strength was in evidence at the 5th International Hydrogen and Fuel Cell Expo, which kicked off Wednesday at Tokyo Big Sight in Koto Ward.

A total of 925 domestic and overseas companies operated booths at this and a concurrent exhibition, the 2nd International Photovoltaic Power Generation Expo, up from 768 companies last year.

"Because of the recession, many companies joined the events to drum up more business opportunities," said Kayo Nomura, who is in charge of overseas public relations for Reed Exhibitions Japan, the organizer of the exhibitions.

A total of 58,000 people are expected to visit the events, exceeding the 51,644 who came last year, according to Reed. Both events run through Friday.

A highlight of the expos is the first showing in Japan of a Swiss-made fuel-cell vehicle that is recognized by Guinness World Records as the world's most fuel-efficient.

The one-seat vehicle, measuring 2.78 meters long and 57 cm wide, dubbed Pac Car II, weighs only 29 kg. In 2005, running on hydrogen equivalent to 1 liter of gasoline, the car covered 5,385 km.

"This is a perfect example of fuel-efficient cars," said Felix Moesner, the science and technology attache at the Swiss Embassy in Tokyo, who was showing off the car.

"This is also a model of how academia, industries and the government can collaborate," he said.

The vehicle was created by the Swiss Federal Institute of Technology of Zurich with support from the Swiss government and the private sector.

However, unlike the fuel-cell vehicles developed by the major automakers, the Pac Car II is not destined for the world's highways, Moesner said.

Sony Corp. impressed with an exhibition for its new "bio battery." First developed by the electronics giant in 2007, the battery generates electricity from carbohydrates or sugar utilizing enzymes as its catalyst, applying principles found in living organisms.

"Actually, sugar is full of energy," said Shogo Kusano, senior manager at Sony's Advanced Materials Laboratories.

"The battery is very safe. Above all, it is ecological," he said.

Kyocera Corp. showed off a new solar cell with the world's highest conversion efficiency rate, of 18.5 percent.

Foreign participants included China-based Suntech Power Holdings Co., the world's biggest photovoltaic module maker. The company's new

nonreflective Pluto cells generate 10 percent more electricity than other cells, Suntech said.

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