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Green cars on the rise in Asia

How Asia is positioning itself in the race
to be the 21st century's eco-car
production hub

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Just as the early 20th century saw the rise of vehicles running on internal combustion engines, the 21st century will undoubtedly be the era of the eco-car. By the year 2014, it is forecast that 60% of garages in the United States will house at least one ecologically-friendly car. Asian governments are determined not to be left behind in the race to design, build and acquire eco-cars, driven by the pursuit of economic benefits but with an increasing eye on the need to reduce emissions and improve domestic air quality. Already a giant among Asian automotive exporting countries, Thailand is at the fore-front of this effort. The Thai Board of Investment aims to position Thailand as a manufacturing center for eco-cars by offering tax breaks to manufacturers. Will it succeed?

Governments show leadership on eco-cars

The eco car¹ is a notion that came into its own in 2007. Eco-cars can claim to reduce energy consumption, environmental damage and dependence on imported oil all at the same time. Most utilize alternative forms of energy. Some use hybrid engines that run on electricity as well as conventional fuel, such as the Toyota Prius. Some eco-cars run on conventional fuel as well as bio-fuel, such as Ford's Escape Hybrid whose fuel tank accepts a mix of gasoline and ethanol. Others, such as Honda's FCX Clarity Fuel Cell Electric Vehicle, are hydrogen-powered.

Given the prospects for this fast-growing product category as well as the obvious benefits of reducing carbon emissions from land transportation, it is no surprise that governments around the world have been promoting eco-cars:

- 🌐 **Japan's** Ministry of the Economy, Trade and Industry (METI) began encouraging the adoption of eco-cars as far back as 2007 through measures such as tax breaks on fuel-efficient cars. "Current tax breaks for fuel-efficient cars have been effective in boosting sales and we have urged the new government to maintain them until March 2012 as previously planned," commented Satoshi Aoki,

¹ Eco-car is defined as follows: Energy Consumption of Gasoline/Diesel <= 5L per 100 km; CO2 <= 120g per 100 km; Euro 4 and higher Safety Standard; UNECE 94 & 95 safety standard

chairman of Japan's key automaker group, the Japan Automobile Manufacturers Association (JAMA)². Partly due to governmental support, the Green car market in Japan has been booming. For a third consecutive month, the Toyota Prius was the most popular car in the country, selling 31,758 units in September 2009 and 116,298 units in the first half of the year³.

- The Obama administration in the **United States** has made a strong public commitment to promote eco-cars on the grounds of reducing emissions as well as dependence on imported oil. This commitment was most strikingly seen in the recent announcement from the White House that it was directing the Environmental Protection Agency (EPA) to classify carbon dioxide as a toxic gas, thereby allowing the EPA⁴ to use its existing powers under the Clean Air act to crack down on greenhouse gas emissions. It is also seen in industrial policy actions, such as for example the “Eco-Cars” exhibition organized by the U.S. Consulate General in Thessaloniki, Greece⁵. It is predicted that by the year 2014 at least 60% of the garages in the United States will house at least one of these cars⁶.

Thailand's aspirations

Thailand has achieved great success in nurturing a cluster of automotive assembly and parts production firms that export a large proportion of their total output, particularly for one ton pickup trucks. As a result, Thailand is the world's 14th largest automotive exporter.

Thailand's automotive industry produced 1.4 million vehicles in 2008.⁷ Japanese auto-makers in particular have developed competitive and successful manufacturing operations in Thailand, which in turn has attracted a plethora of Japanese parts manufacturer to locate production in Thailand (while at the same time nurturing a large

² China View, Tokyo Motor Show pushes environmental envelope, 30 October 2009

³ China View, Green cars continue to rise in the Japanese auto market, 6 Oct 2009

⁴ USA TODAY, EPA ruling allows greenhouse gas emissions to be regulated, 7 Dec 2009

⁵ Consulate General of the United States, U.S. Promotes Eco-friendly Auto – Technology, 20 Sept 2008

⁶ BionomicFuel, 60% of American Families Will Have an Eco Car in Their Garage By 2014, 17 Aug 2009

⁷ BOI, Thailand

population of Japanese expatriates in the kingdom). The Thai government developed the port of Laem Chabang with a special focus on the logistics needs of the automotive sector.

In 2007, Thailand announced a goal of becoming a manufacturing center for eco-cars. In that year, the Board of Investment began offering tax breaks to companies producing such vehicles in Thailand⁸. The Thai government offered, and still offers, preferential excise tax rates of 17 percent in the domestic market, compared with the 30 percent rate applied to conventional cars. Duty-free machinery imports and a five year tax holiday are also on offer. In return, manufacturers must achieve minimum output volumes of 100,000 vehicles per year within five years of production. To attract these benefits, vehicles need to generate less than 120g of carbon emissions per kilometer while consuming less than 5 litres of petrol per 100 kilometers.

In July 2009 the Thai BOI went one step further and slashed import duties on parts for the manufacture of eco-cars and fuel-efficient cars by 90%, reducing production costs by an estimated US\$ 3,000 per vehicle.⁹

Since 2007, Honda, Mitsubishi, Nissan, Suzuki, Toyota and most recently Tata Motors located production-related activities for eco-cars in Thailand. The investment pledged to date exceeds US\$ 1.2 billion. Nissan plans to move production of the fuel-efficient Micra subcompact car from Japan to Thailand in 2010, targeting an eventual output of 120,000 of these vehicles in Thailand.

The case of Tata is instructive. Tata Motors, India's top vehicle manufacturer, launched an initiative with the Thai Government to produce cars which are fuel efficient as well as economical. Tata will manufacture a low-cost hybrid vehicle in Thailand - perhaps pioneering a new hybrid car platform similar to the Indica platform it developed in India which led to the Indigo series of models.

⁸ Associated Press, Thailand to give tax incentives for eco-car projects, 7 Dec 2007

⁹ BusinessGreen Hong Kong, Thailand slashes import tax for Green auto parts, 22 July 2009

Eco-cars in a post-Copenhagen world

The recent Copenhagen conference was an inflexion point in the global policy response to climate change. In spite of the much-criticised absence of legally binding commitments arising from Copenhagen, it seems clear that massive governmental support will inevitably be delivered to the Green technology sector, to accelerate the process of reaching commercially viable scale.

The automotive industry is well-known to make a substantial contribution to global economic activity, due to the large base of supporting industries required for vehicle assembly, as well as the effect of vehicle penetration in increasing economic productivity in general. The advent of eco-cars would mark a tipping point in the “mainstreaming” of Green technology.

It remains to be seen if Asian governments such as Thailand's will invest as much in promoting domestic acceptance of eco-cars as they are in attracting eco-car manufacturing FDI. But demand from the G3 economies, which will need to meet more stringent emissions targets once a post-Kyoto legally binding accord is in place, will keep the global eco-car industry humming along for quite some time to come. In particular, it can be expected that many Japanese car-makers will relocate some of their Japan market vehicle assembly or part production activities to Thailand.

Having gained an early mover advantage in the eco-car game, the Thai government is confident it can meet its target of boosting production to 2 million vehicles, with 50-60 per cent of that destined for exports. It is difficult to resist the conclusion that Japan and other developed nations will increasingly look to countries like Thailand to assemble the more expensive Green cars that international treaties, and a large slice of public opinion, demand.