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China's First Aviation Biofuel Test

Reuters

An Air China Boeing 747-400 passenger jet, which is filled with mixture of biofuel and aviation kerosene, takes off on an inauguration test flight at Beijing Captital International Airport in Beijing, October 28, 2011.

An hour-long flight around Beijing late last month by an aging jumbo-jet signaled the Chinese aviation industry's hitch aboard a growing worldwide trend: fueling aircraft with plant oil.

The 20-year-old Air China 747-400 was powered in part by a biofuel produced from a shrub called jatropha. The flight was deemed a success by Chinese aviation regulators, who represent an important global constituency that coordinates 15,000 commercial flights per day and one of the fastest-growing markets. Particularly important, industry officials said, was that the entire project was conducted in China, starting with the planting of jatropha shrubs in the mountains of Yunnan province.

“This is China making sure it is comfortable with it,” Marc Allen, president of Boeing Co.’s China division, said in an interview Tuesday. “It’s proving out commercial viability.”

Since an inaugural 2008 Air New Zealand flight powered by biofuel, carriers around the world have tested jatropha-based fuel as a cleaner alternative to traditional kerosene jet fuel.

Jatropha is hailed by supporters as something of a wonder-plant for the oil that can be extracted from its seeds. Supporters emphasize it grows where other plants don’t and isn’t edible, therefore doesn’t leave anyone hungry the way biofuels from crops like corn might do. A drawback: The cost is twice that of traditional fuel.

In recent months, jatropha blends, now governed by a global standard, have fueled jet flights over the Atlantic and even powered fighter planes. For selected European carriers, biofuel is becoming part of the everyday operation, in particular at KLM Royal Dutch Airlines and Deutsche Lufthansa AG.

China’s one-hour flight on Oct. 28 in the airspace above Beijing was run in coordination with a number of companies, plus the General Aviation Administration of China.

The plane was operated by Air China and powered by United Technologies Corp. Pratt & Whitney engines – though only one of four was running the biofuel blend.

Honeywell International Inc. and PetroChina Co. cooperated on the fuel production.

Boeing’s Mr. Allen cheered the flight as an “A-Z biofuels test,” from “growth and harvest up through take off and landing.” He quipped, “This is about biofuels with Chinese characteristics.”

While Beijing hasn’t fixed plans for widespread adoption of aviation biofuels – and it faces logistical challenges in doing so – the test bodes well for relatively quick rollout of the program if the government chooses to do so.

Spurring the efforts were presidential-level Sino-U.S. agreements dating to 2009 to cooperate on biofuels, as well as private-public partnerships.

The rush into biofuels by the global aviation industry reflects a firestorm of protest from environmentalist groups that charge the carbon footprint associated with high-speed flight remains too high. Some scoff at biofuel-powered flight, saying it often amounts to PR gimmickry by carriers. Others suggest it is a temporary response to high crude oil prices.

Some critics worry arable land for growing food will be threatened and argue that biofuel production isn’t necessarily as clean as proponents contend.

But the trend is taking hold, according to Honeywell’s chairman and chief executive officer, Dave Cote, who recently told investors he had expected the “brilliant idea” to be hamstrung by infrastructure challenges. “It’s accelerating a lot faster than I expected largely because of pull from the aviation industry as they start worrying about carbon footprint and how do they reduce emissions and all that kind of thing,” Mr. Cote said.

The use of jatropha-based fuel could have particular appeal in China, which has plentiful swathes of dry and barren land to devote to growing the plant. PetroChina has planted nearly 200,000 hectares worth of jatropha in various locations around the country, a company executive told the state-run Global Times last week, adding that China boasted more than 58 million hectares of barren mountain land suitable for the plant, also known as the tung tree.

While the test underscores how China is warming to biofuels and eager to clear its own skies, it is pushing back aggressively on Europe's strategy to tax the carbon emission of air carriers, as are regulators and carriers in many other countries.

Aviation enthusiasts usually clamor for seats on inaugural flights but China's biofuel test plane carried only three: the pilots. Flight Captain Zheng Weimin, according to the China Daily, said everything went fine. "I detected no obvious difference in engines powered by the biofuel blend and conventional jet fuel," he said.

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