

Solar vehicles in Chile race across world's driest desert

November 17 2012, by Roser Toll



The Chilean team Unab competes in the second stage of the Atacama Solar Challenge near San Pedro de Atacama, some 1,500 km north of Santiago, on November 16. Fifteen solar panel vehicles, some that look like small space ships, raced across Chile's Atacama desert as part of a contest to build low-cost environmentally-friendly cars.

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Teams from countries like Argentina, Chile, India and Venezuela have

crafted aerodynamic racers to speed across 1,300 kilometers (800 miles) of the world's driest desert in the second edition of the Atacama Solar Challenge.

The race, which began Thursday and ends Monday, pits teams from universities that build their cars on a tight budget in the slog across northern Chile.

Some of the vehicles powered exclusively by the sun's rays, while others are solar- and pedal-powered hybrids.

The solar-powered vehicles are mostly flat rectangular contraptions lined with solar panels to absorb solar energy, which is stored in batteries, and with a cubicle to house the driver. The hybrids look like neighborhood go-carts with [solar panels](#) glued on.

The race started Thursday at the Humberstone saltpeter, about 800 kilometers (500 miles) north of Chile's capital, Santiago. The site, a [UNESCO World Heritage Site](#), is a [ghost town](#) that has been abandoned since saltpeter mining was halted there in the mid 20th century.

This year, a team from oil-rich Venezuela made their debut in the competition that celebrates an alternative to fossil fuels.



A member of the Argentinian team "Pampa Solar" competes with a solar car during the first stage of the Atacama Solar Challenge in Calama, some 1,500 km north of Santiago, on November 15. Fifteen solar panel vehicles, some that look like small space ships, raced across Chile's Atacama desert as part of a contest to build low-cost environmentally-friendly cars.

"In a country with a mono-economy based on oil, with an infinite potential of hydraulic energy, and without an energy problem, it is a miracle to build a car like this," said the Venezuelan team captain Carlos Mata.

"The import laws in Venezuela meant we could not get all the necessary materials, so we had to adapt what we had. It was a huge effort," he explained.

But his team persisted, eager to participate in an event organizers say is aimed at encouraging research into alternative sources of energy.

The solar vehicles shared the same northern Chilean highway with trucks, busses and cars, but are a long way from replacing them, said Leonardo Saguas, captain of the Antakar team from Chile's Universidad de La Serena.

Yet Saguas, whose team built last year's winning car, said he can envision a day when Chile is mass producing solar cars.

"We have plenty of resources, we just need to develop them," he said.

Gabriel Martinez, proud team captain from the University of Concepcion, spent a year perfecting his vehicle.

"It has 244 solar cells" which capture the sun's energy and convert it to electricity stored in batteries, he bragged, adding that the vehicle "weighs 300 kilograms and its peak power is 950 watts."

"This race is awesome. It applies all the engineering and technology we learn into a sport. I love it," he gushed.

Luciano Chiang, professor at Chile's Catholic University, supervises the Solar Mecatronica team, one of five competing from Chilean universities.

"The market for (solar) panels belongs 90 percent to China, which no one can compete with on price," Chiang said.

"Yet Chile is the country with the most potential solar energy in the world," he said. "It is the same paradox as with batteries. We buy them from China, but they are made of lithium that surely comes from Chile," the world's leading source of the mineral.

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