

China's solar highway ambitions are seen in Jinan stretch

January 4 2018, by Nancy Owano



Where the solar panel meets the road—China is putting a solar highway to the test. *The Hindu* along with a number of other sites carried reports of the photovoltaic road project *The Hindu*, referring to reports from Xinhua, said this trial was "based on home-grown technology."

Jinan, Shandong Province of China, is where the stretch of road is being tested. Solar panels were laid under part of a ring road surrounding the capital. The electricity generated will be connected to China's [national power grid](#), said *The Hindu*. The panels transfer energy to passing electric vehicles. The goal is to achieve a stable source of "green" electricity.

News sites largely referred to reports coming in from CCTV and Xinhua. The latter said the panels cover 5,875 square meters (63,238 square feet).

Most reports said the test highway extended for 1 km (0.6 miles) but some others said for 2 km.

According to the report from *Quartz*, the road cost around 3,000 yuan (\$458) per sq m, higher than regular streets.

Steve Hanley in *CleanTechnica*, meanwhile, provided some details on how the electricity will be used—"to run street lights, billboards, surveillance cameras, and toll collection plazas. It will also be used to heat the road surface to keep it clear of snow. Any excess will be fed back into the local utility [grid](#)."

The highway stretch was designed for both electricity generation and public transport, according to Zhang Hongchao, who was interviewed by CCTV. Hongchao is a project designer and transportation engineering expert at China's Tongji University.

Also, CCTV said the road section features "ports with access to transportation information collecting devices." CCTV called it "a step forward in building big data in transportation."

The Hindu had details on three layers in the design: "At the bottom is an insulator to prevent moisture from getting to the photovoltaic devices in the middle layer, and on top is the layer of transparent concrete."

Xinhua described the road surface material as "transparent" and "weight-bearing" and the material allows the sunlight to penetrate. Hongchao said the expressway could handle 10 times more pressure than the normal asphalt variety.

China is not the first to think in terms of a solar-panel road. *Quartz* reporter Echo Huang had more details on the highway timeline: "In late 2016, a village in France opened what it claimed was the world's first solar-panel [road](#), running for about the same length as China's new stretch though covering about half the area. In 2014, the Netherlands built a bike path embedded with [solar panels](#)."

Meanwhile, *pv magazine* said, "solar roads are a relatively young technology, at least in terms of achieving commercialization."

Sputnik reported on testing feedback: A mini-bus [traveled](#) at the speed of 100 kilometers (62 miles) per hour over the tested [road](#), with the driver praising the braking distance of the new surface as almost identical to that of a traditional asphalt surface, according to CCTV.

The minibus driver said he felt nothing different driving on this particular section. "I'm running at the speed of over 100 kilometers per hour," he said in the CCTV video. "There's nothing different from the ordinary highway. The braking distance is almost the same as well."

All in all, the project signals China's solar-power ambitions, said Huang.

"Last year the country became the world's top solar-energy producer, boosting its photovoltaic capacity to around 78 gigawatts, and it's aiming for 105 by 2020. China's eastern city of Huainan, meanwhile, operates the world's biggest floating solar project, which could eventually power 94,000 homes."

Qilu Transportation Development [Group](#) has invested in the construction of the project, said CCTV. The group is a state-owned transport firm operating in Shandong, said *pv magazine*.

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