

France has solar-strip paving ambitions for long stretch of roads

3 February 2016, by Nancy Owano



France has ambitious plans to pave its roads using solar strips. How ambitious? The plan involves a 621-mile stretch of roads with the panels over the next five years, say reports.

The project is called "Positive Energy." Alexandru Micu of *ZME Science* said this would not be the first move to pave [roads](#) with solar panels, as an idea of [photovoltaic solar panels](#) for [paving](#) was put in practice in the Netherlands.

In this instance, attention is being focused on the French plan's solar panels and their materials. These are Wattway panels, using a photovoltaic technology from French civil engineering firm Colas. It was developed by Colas in partnership with the French National Solar Energy Institute.

Composites Manufacturing, the publication of the American Composites Manufacturers Association, described these energy-harvesters: The photovoltaic cells are coated in a multilayer substrate composed of various resins and polymers. "The substrate is translucent enough to

allow sunlight to pass through, but also resistant enough to withstand truck [traffic](#)."

They are considered as solid enough to withstand all types of traffic. "Colas tested them under the weight of a 6-axle truck and they worked just fine," said Micu. The material can adapt to thermal expansion in road surfaces.

What kinds of tests did the solar strips undergo? They were tested on a cycle of 1 million vehicles, or 20 years of normal traffic, "and the surface does not move," said Colas CEO Hervé Le Bouc, in *ZME Science*.

The panels can be glued directly on top of the existing pavement. This "solarizing" of [roads](#) involves gluing the 7mm-thick strips to the surface of the carriageway, said David Rogers in *Global Construction Review*. That brings benefits in that there is no need to rip out the existing structure.

ZME Science said that tenders for the "Positive Energy" initiative have been issued. Tests on the [solar panels](#) start this spring. Locations of the new roads are not yet known.

Overall, the goal is to provide clean energy for 5 million people, about 8 percent of the current French population, said *ZME Science*.

Interestingly, readers' comments in *Global Construction Review* highlighted the idea as truly great—versus those who said it was truly impractical.

Among those favoring the project and its goals was a reader who suggested spinoffs. An example, he said, was to tap off some of the energy created, at source, for re-charging electric cars. He said buyers would see [electric cars](#) attractive. "Or at the very least, plug in points at frequent positions along the solar paneled roads at which to stop and re-charge the batteries of hybrid cars."

Those against the idea said it was impractical and inefficient. Namely, the readers argued that the panels would not hold up to traffic and would lose efficiency.

"This idea is terrible," said one of the readers against the concept: "you put solar on stuff, not stuff on solar." Other comments worried about efficiency vis a vis poor light harvest and ROI.

More information: www.wattwaybycolas.com/en/

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