

THE FIRST SOLAR ROADWAY OPENED IN AMSTERDAM

By Ivan Lawrence White

On November 12th 2014, the first solar roadway opened in Amsterdam – a 70 meter stretch of bike path that connects the Amsterdam suburbs of Krommenie and Wormerveer and which generates solar power from rugged, textured glass-covered photovoltaic cells.

This project, built by [SolaRoad](#) is at an initial proof-of-concept demonstration that solar energy can be applied as solution for future roads connecting to it all electric systems and services to ensure night and day mobility as well as other grid services. In particular the energy produced from the road can be hooked up to the grid and will be used to power streetlights, stoplights, businesses and homes.

The road, which is named by the [Netherlands Organization for Applied Scientific Research](#) (TNO) as SolaRoad, is made up of rows of crystalline silicon solar cells, which were embedded into the concrete of the path and covered with a translucent layer of tempered glass. Each SolaRoad panel is comprised of a 1.4 to 2.3 meter layer cake composed of a layer of concrete, a layer of a centimetre of silicon solar cells and then a final layer of strengthened glass. It is estimated that the potential of electricity generation is of 54 kWh per square yard.

The new solar road, which costs three thousand € meter, was created as the first step in a project that the local government hopes will see the path being extended to 100 metres by 2016.

Actually, SolaRoad is not the first project aimed at turning roads and pathways into energy-harvesting surfaces. The US Solar Roadways is another major project developing solar powered road panels to form a smart highway. Their technology combines a transparent driving surface with underlying solar cells, electronics and sensors to act as a solar array with programmable capability. But the difference between the two projects is that Solar Roadways are working to integrate programmable LEDs in order to achieve custom road signs, heating components to drive away ice and snow, and specific kind of corridors to store fiber optic and TV cables.

This step may not yet be an applicable solution to all countries due to its high costs, however there's no doubt that solar panel highways are a unique and groundbreaking idea. It's the kind of innovations needed to run on a more eco-friendly power source.

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[TNO Innovation for life](#)

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