

What Is The Point Of A Solar Road?

Posted on October 30, 2019

Solar Roads and Renewable Energy

Road solar panels have started being a thing of recent society with the sole aim of saving energy. Some might view the idea as archaic, but it's worth the effort that's being made, and they will mean a lot in the near future with the current campaign aimed towards reducing global warming. The idea of solar roads has been developing in the past and culminating in the present, and it's becoming fashionable in all aspects (SPIE, 2017).

Construction and Operation of Solar Roads

Solar roads are made from glass-tempered solar panels and are laid on bike tracks and light roads. These roads then create energy, and it's stored in the sub-grids located within the locality either for use when the sun goes down or as a backup in times of need. In the past solar on the roads was meant to be used by traffic signs or any directions on the road by night; their use mainly helped in conserving energy. With time, the idea was expanded, and the building of "smart highways" began. Now, it was for these solar to be laid down on the roads. A US company, Solar Roadways, has now set its eyes on replacing the whole asphalt roads and parking with these solar-saving panels.

International Projects and Energy Output

In China, they have already built one road with that, and it's already producing 1gigawatt of energy per day. This is a milestone, considering their capability. In a nutshell, they are the next big thing. When we talk of green movements solar is the way to go, these solar can do what fossil energy can do which pollutes the environment. In following the footsteps of Green Earth, these countries, including the Netherlands and France, have already built 1-2km of solar roads for energy consumption.

Decentralisation of the Electricity Grid

To support the idea of solar roads, I would like to argue on the point of Decentralization of the Grid; decentralizing the grid serves much better in that when power outages occur on the national energy grid still, the states could run their businesses with the energy saved from the solar roads and relayed to their power savers through the power cables on the sides to the localized grip. This process also supports the idea of electric cars, which, when driven on these roads, can be charged as their

owners relax for the journey or any short break. This is because for green earth, fossil energy must be done away with at all costs, and electric cars must be brought to market; the cars will be efficient as these solar roads will have charging posts at reasonable intervals.

Snow Melting and Road Maintenance

These solar roads also will replace the idea of scrapping snow, this is because, with the heat stored beneath them, they can actually melt away snow and make the road clear for driving. According to Roadways, the panels will have solar-powered LEDs, which will replace the normal road signs and revolutionize the idea of night traveling; this is because the signs will lead the drivers, and also, the glowing solar panels will actually act as a lead to show the road boundaries. According to SolaRoad (Netherlands) spokesperson, the roads will save more in energy transportation poles than expected. They have better traction; this calms the fears of those who express fear that the solar roads will be slippery and cause many accidents. In France, primarily solar roads were meant for cycling paths, but with the inventions and improvements, they will now be fully fledged for the highways.

Load Capacity and Structural Strength

These solar panels used on highways currently can support trucks that weigh up to 12 tonnes, and with advancements, they will support more weight and reduce the risk of breakage. The way these panels are connected makes their energy supply consistent; this is in line with breakage or one of them being covered with dirt. In case one breaks, it does not affect the operability of other panels as it will be the only one disconnected, and immediately, a signal is sent through the microprocessors beneath them to the monitoring station for repairs and regular checkups.

Durability Economic Value and Lifespan

On the hand of durability with special coatings, these roads can last up to 20 years, and within twenty years, they could have done much to the environment and to the economy. This is because most roads do require regular maintenance, and these solar roads, with their toughness (hard glass), which has three layers, work way better. Though people might ask what of the obstruction caused by trees and buildings which will prevent them from generating energy, this is not a problem as these panels will be located on the road and the building can't cover all the surfaces except pavement panels which have to be put at an angle for maximum sunlight collection and energy production.

Environmental Benefits and Future Adoption

By the time these solar roads are fully accepted, the green gases will be cut greatly, and the ozone layer will be saved a lot as fossil fuels will be in minimal use, which can greatly help in environmental

conservation (GILPIN, 2014).

References

GILPIN, L. (2014, JUNE 5TH). *How 'Solar Roadways' plans to create smart roads to produce clean energy and save lives and money*. Retrieved APRIL 19TH, 2018, from [www.techrepublic.com: www.techrepublic.com/article/how-solar-roadways-plans-to-create-smart-roads-to-produce-clean-energy-and-save-lives-and-money/](http://www.techrepublic.com/article/how-solar-roadways-plans-to-create-smart-roads-to-produce-clean-energy-and-save-lives-and-money/)

SPIE. (2017). Smart roads going solar. *SPIE Newsroom*.