Solar Paved Highways

The United States interstate highway system is over 60 years old and has limited functionality. The idea of a solar paved highway challenges that paradigm.

Solar energy generation presents vast opportunities for the transportation industry. In December 2016, The Ray and the Georgia Department of Transportation (Georgia DOT) installed a 50-square meter pilot of Wattway, a solar pavement, in an access lane to the interstate. This demonstration is the only publicly accessible, drivable solar road in the United States and generated nearly 6 MWh of clean, renewable energy in just one year for the Georgia DOT’s operations.

The core purpose of this pilot is demonstrating that the road itself can have a second life. Harder working, multi-tasking transportation assets and infrastructure produce more value and better outcomes for everyone and is key to diversifying state DOT revenue beyond unreliable congressional appropriations, tolling and the gas tax.

What is the Wattway Solar Road?

A novel technology, the Wattway is a system of solar panels, installed on the road's surface, that’s not only safe and durable but generates energy from the sun when not obscured by cars or trucks. The thin, heavy-duty, skid-resistant photovoltaic panels can be applied directly over existing paving, eliminating the need to remodel or build new road infrastructure. The solar energy generated by Wattway roadways can feed into the electric grid to power road signs and signals, electric vehicle charging stations, buildings or homes. In fact, a one-kilometer stretch of Wattway road can power public lighting in a city of 5,000 inhabitants*.

Wattway is a patented French innovation resulting from five years of research by COLAS, a world leader in transport infrastructure, and the INES (French National Institute for Solar Energy).

*based on French data
Where is Wattway on The Ray?
Wattway debuted with a pilot site in France in 2016. A few months later, The Ray unveiled the first Wattway pilot site in the world outside of France at the Georgia Visitor Information Center (Georgia VIC) at mile marker one of The Ray, near the Georgia-Alabama state line. The 50-square meter installation of Wattway solar road provides clean energy to the Georgia VIC. In 2017, The Ray’s Wattway produced 5.8 MWh of clean, renewable energy.

Solar on The Ray
Wattway is one of two first-in-class highway solar projects on The Ray. Working with Georgia DOT, the Georgia Public Service Commission, and Georgia Power Company, The Ray will host a pollinator-friendly highway solar farm capable of generating approximately one megawatt of energy — the first time a state-owned and maintained right-of-way has ever been used to generate renewable energy in the southeast. Other staples of highway infrastructure have electrification potential. In December of 2017, The Ray released groundbreaking global research on solar noise barriers in conjunction with Innovia Technology.

About The Ray
The Ray is the highway of the future — an 18-mile corridor of Interstate 85 in West Georgia. The Ray is named for Ray C. Anderson, the founder of Interface, a carpet manufacturing company. Ray was the pioneer of corporate sustainability. His passion for sustainability led him down a path he never imagined, one that changed the world and ignited a global movement toward sustainable business practice, proving that a better way was possible. Following his death in 2011, the Georgia state legislature name a portion of I-85 between Ray’s hometown and the original headquarters of Interface as a memorial highway in his honor. It wasn’t long before his youngest daughter, Harriet Anderson Langford, realized the terrible irony of her father’s name on a polluting highway. Like Ray, Harriet began asking “What if?” What if a highway could be a zero death, zero waste, and zero carbon corridor? What if there was a better way? It’s an ambitious goal, but it’s one that Harriet, The Ray, and the Georgia DOT are chasing together. Learn more at www.TheRay.org.

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