

**Stepping into the Future of Renewable Energy…..Literally**

“That's one small step for man**,** one giant leap for mankind.” Neil Armstrong probably wasn’t referring to foot traffic being used to generate renewable energy when he spoke those words back in 1969. Fast forward to 2016 when a London based company, Pavegen, developed floor tiles capable of harvesting energy from people’s footsteps to generate electricity. That technology to date has been deployed at locations around the world ranging from Heathrow Airport in London, to retailers such as Samsung South Africa, Harrods London, Google, and Coca-Cola.

How it works. The weight from pedestrian footsteps compresses electromagnetic generators below, producing off-grid electrical energy per step from the downward force of a footstep to produce approximately 5 watts of energy continuously. The average person walks about 150 million steps in their lifetime, so only enough to power the average family home for 3 weeks. But if you combine all the steps of all the people around the world, that could be a substantial contribution to sustainable energy. For example, ten people can generate 50W of energy continuously which is enough to illuminate paths as pedestrians walk upon the tiles; when combined with battery storage can continue providing lighting during periods of low foot traffic. The more footsteps, the more energy. Imagine how much energy can be produced in a well-trafficked environment like Walt Disney World where the average person walks approximately 10-15 miles per day.

Value Add. Much of Pavegen’s commercial value comes from how people are interacting with the walkways and the collection of high-value (permission-based) consumer data. This data could show business owners how many people walk through a certain area and what times of day or season are most heavily trafficked. In addition, consumers could monitor themselves with an app-based technology like Fitbit to increase energy awareness, weight loss or combat health issues. It is possible the technology could affect human behavior like choosing to shop at a mall/store that offsets its carbon emissions through the use of Pavegen over one

that does not. Also, retailers could rewards consumers with digital currency/coupons/discounts based on the amount the user travelled that day.

Next Steps. Founder and CEO of Pavegen, Laurence Kemball-Cook, said: “Our technology enables people to directly engage with clean energy, to increase their understanding of sustainability issues, and to generate useful off-grid energy.” [[1]](#footnote-1) Pavegen recently announced a new partnership with Siemens that Kemball-Cook says will take its technology across a number of smart city developments and is weighing up how it could harvest energy from bike lanes, roads, and architecture.

Please visit [OCC’s website](http://www.ct.gov/occ/site/default.asp).

1. *The Architect’s Newspaper April 12, 2018*

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