

Indian Startup Innovation Brings Affordable, Reliable Solar Power to Rural Tamil Nadu

European, Indian, US & Russian Patented Technology Set to Transform Renewable Energy Storage and Access

CHENNAI, TAMIL NADU, INDIA, October 21, 2024 /EINPresswire.com/ -- Indian startup Fizix Solar Innovations, founded by Singapore-born serial entrepreneur [Kannappan Chettiar](#), has successfully deployed its 6V solar-powered Kinematic Charger KC12V and KC5V in two rural villages in Tamil Nadu on October 1, 2024. Each household

will now benefit from four to eight 10W LED lights and two 36W ceiling fans, powered 90% by solar energy and just 10% by the grid—a powerful reversal of the global trend, where renewables currently account for less than 10% of total world energy consumption.



Kambar Temple (Tomb)

“

Unlike my competitor’s bulky 340W solar panel, our 60W solar panels with 6V 10A are lightweight and easy to install. You can carry one home and set it up yourself without any professional help.”

Kannappan Chettiar

“On October 1, 2023, we began a 12-month field trial of our patented solar technology at Kambar Temple, where the revered remains of Kambar—the legendary poet and author of the Kamba Ramayana—are enshrined as a deity among the 5,000 Nattarasankottai village residents,” explains Chettiar, the inventor of an advanced battery system powered by time-modulated “series-parallel switching circuits”.

“Just as Kambar’s 12th-century epic reshaped Tamil literature, our battery technology is redefining energy with

a series-parallel super-circuit—a feat once believed to be impossible by engineers,” Chettiar adds.

Breaking Boundaries in Energy Storage

Traditional battery systems generate only a single voltage whereas Chettiar’s innovative series-parallel switching circuit achieves twin voltages from a single battery pack, enabling the

compacting of solar panels, from 36V to 6V lightweight panels that can charge 4V batteries, subsequently re-arranging to 36V or any desired voltage to the load using a switching battery series-parallel system.

"I've been awarded patents across Europe, the US, Russia, and India for my invention titled '[Energy Storage System Comprising Series-Parallel Switching Circuit](#),'" says Chettiar. "The patent title affirms the validity of a technology many experts deemed impossible."

Chettiar, who combines expertise in law, finance, economics, and engineering, was honored with the Singapore Indian Entrepreneur of the Year Award in 2006. His journey into engineering began at the age of 56 in 2018, when he pursued a Masters in Law from Berkeley Law School to study Energy & Clean Tech - where after class, he would carry out hands-on experimentation and collaborate alongside a global team of scientists - Dr. Stephen Horowitz (USA), Dr. Ermanno Pinotti (Italy) and Dr Sergio Rivera (Colombia) on a new dynamic battery connection method.



KC12V uses Series-Parallel Switching Circuit



Compact 60W Solar Panels

In 2021, Chettiar published [Switching Battery Dynamic Para-Series Connections](#), available on Amazon, which challenges conventional zero-sum energy concepts. Chettiar's collaboration with Colombian researcher Dr. Rivera earned them Runner-Up honors at the prestigious 2023 IEEE International Smart Grid Competition, recognizing their groundbreaking advancements in smart energy solutions.

The Power of XY Thinking

"Traditional energy systems rely on binary, on-off (0-1 logic), leading to inefficiencies," explains Chettiar. "In contrast, I developed a 'Beyond Binary' or XY Thinking, where X represents parallel circuits and Y represents series circuits. This 'soft switching' method enables the miniaturization

of batteries and solar systems, while optimizing performance."

Affordable Energy for All

Chettiar's solar energy systems, priced between \$200 and \$500, feature compact 6V 5A solar panels that is stackable and easily extended. These plug-and-play systems deliver 12 to 24 hours of uninterrupted electricity each day, providing reliable energy even in remote areas. With minimal maintenance costs—just 10% of the system's price annually—these solutions are designed to be both affordable and sustainable, making them an ideal fit for low-income communities seeking long-term energy independence.

"Unlike my competitor's bulky 340W solar panel, our 60W solar panels with 6V 10A are lightweight, portable, and easy to install. You can carry one home and set it up yourself without any professional help," says Chettiar.

The Kinematic Charger (KC) takes its name from 'kinematics,' the geometry of motion, symbolizing the dynamic modulation of voltage and current flows. Unlike traditional "static" battery systems, KC technology enables real-time switching between parallel and series configurations, unlocking levels of energy efficiency that rival expensive 0-1 Thinking variable frequency drives (VFDs) but nearer the price point of a affordable power banks.

This breakthrough technology was unveiled by Tamil Nadu's Minister for Climate Change, Mr. Siva V. Meyyanathan, on August 9, 2024, with the launch of the KC5V, marking a significant milestone in the journey toward affordable and sustainable energy access. Chettiar credits his team of 20 electronic and mechanical engineers based in Chennai who worked tirelessly to bring this product.

A Vision for Global Impact

"Energy is abundant throughout the universe, except when it comes to finite fossil fuels, whose depletion creates artificial scarcity and drives up energy prices," says Chettiar. Understanding the economics, he believes, will change our behavior towards choosing renewables.

Looking beyond Tamil Nadu, Chettiar aims to expand through open licensing and global partnerships, bringing affordable renewable energy solutions to underserved communities around the world.

"This is just the beginning," says Chettiar. "After 20 years of in-depth research, I've built a team that is ready to compete and collaborate on a global scale in the solar industry. With increased competition, we will see a major shift toward renewable energy—an infinite resource—as opposed to the rapidly depleting fossil fuels we've long relied on."

Fizix Solar Innovations is proving that a world powered by nature is within reach—and affordable for all.

Cenobia Majella Ms.

Fizix Solar Innovations / Switching Battery

+1 408-406-2010

cenobia@switchingbattery.com

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