

# From Banknotes to Renewable Energy: Lumenco Boosts Efficiency of Solar Panels 35% Using Anti-Counterfeiting Science

*Lumenco seeks \$3 million funding to commercialize Cold Fusion™ solar tech, which dramatically boosts panel performance at an est. cost of only \$3.00 per panel*

ENGLEWOOD, COLORADO, UNITED STATES OF AMERICA, August 22, 2022 /EINPresswire.com/ -- Lumenco, LLC (<https://lumencompany.com/>), a global pioneer in light science technologies, announced today the development of its patent-pending Cold Fusion™ nano technology film. Integration of the film into solar panels increases panel efficiencies up to 35% and decreases the temperatures of panels by more than 50° Fahrenheit. The technology costs less than \$0.30 per watt when integrated into new panels and less than \$1.00 per watt when retrofitting existing panels.

Mark Raymond, CEO of Lumenco and primary inventor pointed to the fact that often an invention or discovery in one area leads to something more significant in another unrelated field. The Cold Fusion™ technology has its foundation in \$20 million of research in the banknote anti-counterfeiting space, an industry in which Lumenco is internationally known. "Our core competency is micro-optics and microstructures," Raymond explained, "In this case, we had a particular goal in mind of creating a film that reflected nearly all the unwanted IR or infrared wavelengths while allowing the visible light to be absorbed in the photovoltaic panel. What we have achieved is a safe, highly efficient, low-cost solar energy solution that will allow communities to significantly reduce their reliance on gas and coal."

## How it works

The Cold Fusion™ technology reflects 85-90% of the IR or heat, while allowing over 90% of the



Cold Fusion, Revolutionary Solar Technology from Lumenco

visible light to be “trapped” to create energy and lets the panel operate efficiently at a much lower temperature thereby increasing efficiency. The film has nano holes surrounded by encapsulated aluminum allowing wavelengths of 950 nanometers or smaller to enter the absorber while the longer wavelengths are reflected. Other unique microstructures help trap the visible light using TIR or total internal reflection. The film can be integrated into new panels and can also be designed to retrofit existing panels.

The technology is expected to have verified third-party data results in 2023 and launched into production in late 2023. Lumenco is currently raising \$3 million in a convertible debt private placement to commercialize this and other technologies providing a multibillion-dollar opportunity for potential investors.

For further information, please contact:

Mark Raymond  
CEO  
Lumenco, Inc.  
[mark@lumencompany.com](mailto:mark@lumencompany.com)

About Lumenco:

Lumenco, Inc. was founded in 2012 by Mark Raymond and Hector Porras. Combined, they have been issued over 40 patents for Lumenco in the micro-optic space for currency anti-counterfeiting, brand protection, solar, lighting and EMI shielding. Lumenco and founders have been vetted by the Bureau of Engraving, Federal Reserve and the Secret Service having contracts for the development of micro-optic currency anti-counterfeiting technologies. Lumenco has a joint venture with Koenig and Bauer Banknote Solutions in Switzerland and has operations in Mexico City. Mark Raymond has been a speaker on behalf of the Federal Reserve for the Four Nations Group of Central Banks and his work has been published in peer reviewed journals on several occasions.

Mark Raymond  
Lumenco LLC  
+1 303-761-1575

[email us here](#)

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