

A novel way to thin film solar?

Todd Woody

A Silicon Valley company said on Wednesday it has raised \$10 million to bring to market a novel way of making thin-film solar cells.

Applied Quantum Technology is one of a score of startups trying to develop low-cost solar cells made from copper indium gallium (di)selenide, a compound that can be printed or deposited on glass or flexible materials.

That has proved a tough challenge and startups like MiaSolé, Nanosolar and Solyndra have raised hundreds of millions of dollars to perfect the technology by building propriety solar cell-making machines.

But Michael Bartholomeusz, Applied Quantum Technology's chief executive, claims that by using off-the-shelf machinery from the computer hard drive industry, his company has been able to dramatically cut its capital costs.

"Companies have become equipment manufacturers first and product manufacturers second," said Mr. Bartholomeusz. "Building a manufacturing platform around a nascent process then trying to marry a nascent process with an unproven manufacturing process is a daunting task."

"This is an extremely capital inefficient and a long process," he added. "We come from the hard disk drive and optical storage industry, which are the ultimate commodity industries today."

Hard drives are manufactured using a process called sputtering that deposits materials in layers on a disk. Mr. Bartholomeusz said his company has developed a process that uses "dry sputtering" to make an entire solar cell.

"We've come to the commercializing stage with under \$5 million in funding," he said. STPV Holdings, which Applied Quantum Technology said is an East Coast investment firm, provided the startup with an initial \$4.75 million in funding and participated in the \$10 million round announced Wednesday.

Mr. Bartholomeusz declined to identify the other investors.

The company also announced on Wednesday that it had signed a deal with Intevac, a Silicon Valley equipment maker, to provide machinery for its manufacturing process.

Mr. Bartholomeusz is pursuing a different business model to cut capital costs by making only solar cells and striking partnerships with other companies to assemble them into modules and solar panels.

He said the National Renewable Energy Laboratory had verified that Applied Quantum Technology's solar cells have an efficiency of 11.2 percent, but that recent improvements have raised that efficiency to 12 percent.

By the time the cells hit the commercial market later this year or in early 2011, the company expects efficiencies to be at 14 percent with a finished solar module to be 12 percent efficient.

Fonte: New York Times, New York, Apr. 8th 2010, Energy & Environment, online.