

# Solar Energy Inventor Stanford R. Ovshinsky Dies at 89

**W**hen we at Built Well Solar learned of the passing of Stanford R. Ovshinsky, we knew the world lost more than one of the greatest inventors of our time. We felt a bit of a personal loss as well because our company president Dan Sabia and a few others at our company had the privilege of briefly meeting the legendary American scientist during a symposium held at New York Institute of Technology in June of 2007. Mr. Ovshinsky was the featured speaker. Although he was 85 at that time, he spoke with great energy and enthusiasm as an advocate of renewable energy, and talked about the importance of using practical applications of science to improve the future.

Born on November 24, 1922, in Akron, Ohio, Mr. Ovshinsky was a largely self-taught physicist and inventor who had been granted some 400 patents over the course of his life, many related to energy, including solar.

In 1960, Mr. Ovshinsky and his second wife, the late Iris Miroy, whom he often credited with much of his success and inspiration, co-founded Energy Conversion Laboratories which later became Energy Conversion Devices, to develop practical products from their discoveries.

Much of his work was centered on the finding that thin films of amorphous materials exposed to a charge can instantly reorganize their structures into semicrystalline forms capable of carrying significant current, a field self-titled "Ovovics."

## Alternative Energy Advocate

Ahead of his time, according to the *New York Times*, "the Ovshinskys were champions of alternative energy and sounded early alarms about the industrial world's insatiable demand for oil, saying it could lead to resource wars and climate change. More than 50 years ago, Mr. Ovshinsky began pro-

moting hydrogen fuel cells as an alternative to the internal combustion engine."

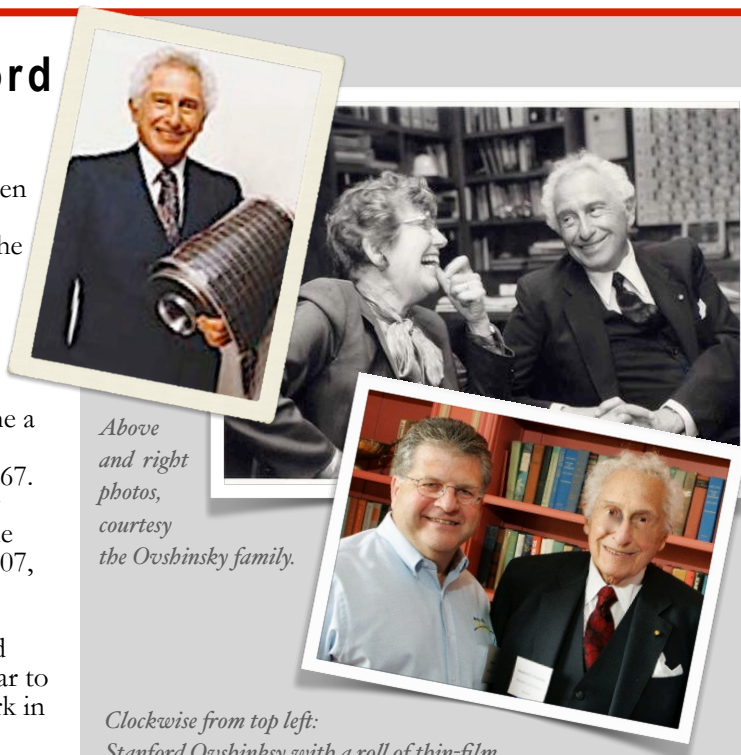
Energy Conversion Devices became a publicly traded company in 1967. Mr. Ovshinsky retired from the company in 2007, and formed Ovshinsky Innovation and Ovshinsky Solar to further his work in energy and information technologies.

Life as we know it today would not be possible if not for many of his inventions. Most of his patents have broad-ranging applications, including in laptop computers, flat screen liquid crystal displays (LCD), rewritable CD and DVD memory, digital cameras, "smart" cell phones, electric cars, and hydrogen fuel cells.

## Father of Modern Solar Energy

To us, of course, his most important invention, which earned him the title "Father of Modern Solar Energy," is

continuous web multi-junction flexible thin-film photovoltaic laminates and panels -- amorphous thin-film solar cells, for short, consisting of many thin, flexible layers in sheets. Thin-film, versus bulk silicon (also called crystalline) panels, which is what most of us have on our rooftops today, have the advantage of being flexible and very low in weight, suitable particularly for building integrated photovoltaic (BIPV) uses. Their disadvantages generally are increased cost and reduced efficiency, although research



*Above and right photos, courtesy the Ovshinsky family.*

*Clockwise from top left: Stanford Ovshinsky with a roll of thin-film photovoltaic cells; Mr. Ovshinsky with his wife and business partner Iris; and Built Well Solar president Dan Sabia with Mr. Ovshinsky taken at NYIT in 2007.*

**Life as we know it today would not be possible if not for many of his inventions.**

and development continue to improve them.

## Electric Car Battery Creator

Another of Mr. Ovshinsky's far-reaching inventions is his environmentally friendly nickel-metal hydride\* battery, which made electric cars possible.

"He invented the NiMH battery for pure EVs," explained self-proclaimed Mr. Energy Czar Howard Marks, such as today's Chevy Volt, "which if the development had continued would be giving over 300 miles of pure electric drive today and still can. He offered GM a 20-mile range battery for EV1 in the year 1994!!"

If the Ovshinsky name sounds familiar, you may know him from the eye-opening documentary "Who Killed the Electric Car?" If not, we recommend viewing the DVD (another invention of his!) or reading more about this remarkable man at [www.forevermissed.com/stanford-r-ovshinsky](http://www.forevermissed.com/stanford-r-ovshinsky). ☀

\*NOTE: hybride is correctly spelled; it is not hybrid. This is Ovshinsky's patented high-capacity, long cycle life, alkaline rechargeable electrochemical cell.

Sources include the *Associated Press*, October 18, 2012; *The New York Times*, October 18, 2012; and [www.forevermissed.com/stanford-r-ovshinsky](http://www.forevermissed.com/stanford-r-ovshinsky).