It may be true that being in the right place at the right time never hurt anybody, but as Peng Xiaofeng, the chairman and CEO of LDK Solar, might tell you, guessing correctly where the right place will be — and when — is even better. Four years ago, Peng was traveling in Europe, pondering his next career move, having after a decade left a profitable company that he had founded and run, a Suzhou-based maker of work uniforms. He had been struck, he says now, by how much he had heard and read about renewable energy as oil prices surged globally and environmental concerns — in particular, the emission of CO2 gases — mounted. Neither issue was going away anytime soon, Peng figured. Renewable energy had a big future.

Within two years, he had raised $85.5 million in venture capital and founded what is today one of the fastest-growing suppliers of solar-energy wafers in the world. LDK Solar went public on the New York Stock Exchange in June, debuting at $27 per share. The stock dipped initially, but has since surged to $45 per share, partly on news that the company's second-quarter revenue of $99.1 million was more than 700% higher than it was in the same period in 2006.

Peng is the first to admit that his hunch four years ago wasn't a singular stroke of prescience — after all, there are seven Chinese solar-energy companies trading on U.S. exchanges, and numerous others have been started in Taiwan, the U.S. and Europe. "I knew this would be a very competitive business in China in the future, one that would get pretty crowded," he says. China is already the world's third-largest producer of wafers used in solar cells and modules. It could become the largest due to cost advantages. "Being the low-cost producer in the industry is critical to our strategy," says Jack Lai, a veteran of Silicon Valley whom Peng recruited to be LDK's chief financial officer. The solar-cell manufacturing process — in particular, cleaning and sorting polysilicon, a raw material in relatively short supply — is labor intensive, says Lai. Indeed, nearly 3,000 of LDK's 5,000 employees are involved in that process. So far, the strategy is working: "Our cost base is 30% lower than our biggest competitor's," Lai says.

Peng may have guessed right that solar energy would become hot, but it's impossible to predict whether it will stay that way. The sector has seen boomlets before, in the late 1970s and early '80s. Skeptics note that current demand is driven by government subsidies. If the price of energy produced by oil, natural gas or coal should fall precipitously — or if global warming turns out to be just a passing obsession — those demand-spurring subsidies could vanish. CEO Peng says he isn't worried. The cost of silicon wafers is falling rapidly as the industry scales up, making solar power more competitive in its own right. Moreover, he notes that Japan, one of the world's biggest markets for silicon wafers, has now eliminated subsidies completely, and demand is still growing. "Keeping costs down relative to competitors, not overall industry growth, is the main challenge," says CFO Lai. "The growth is not going away."

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