

fab2farm™

BRINGING BILLIONS BACK TO YOUR LOCAL ECONOMY:

A Unique Energy Solution Powered by the Sun

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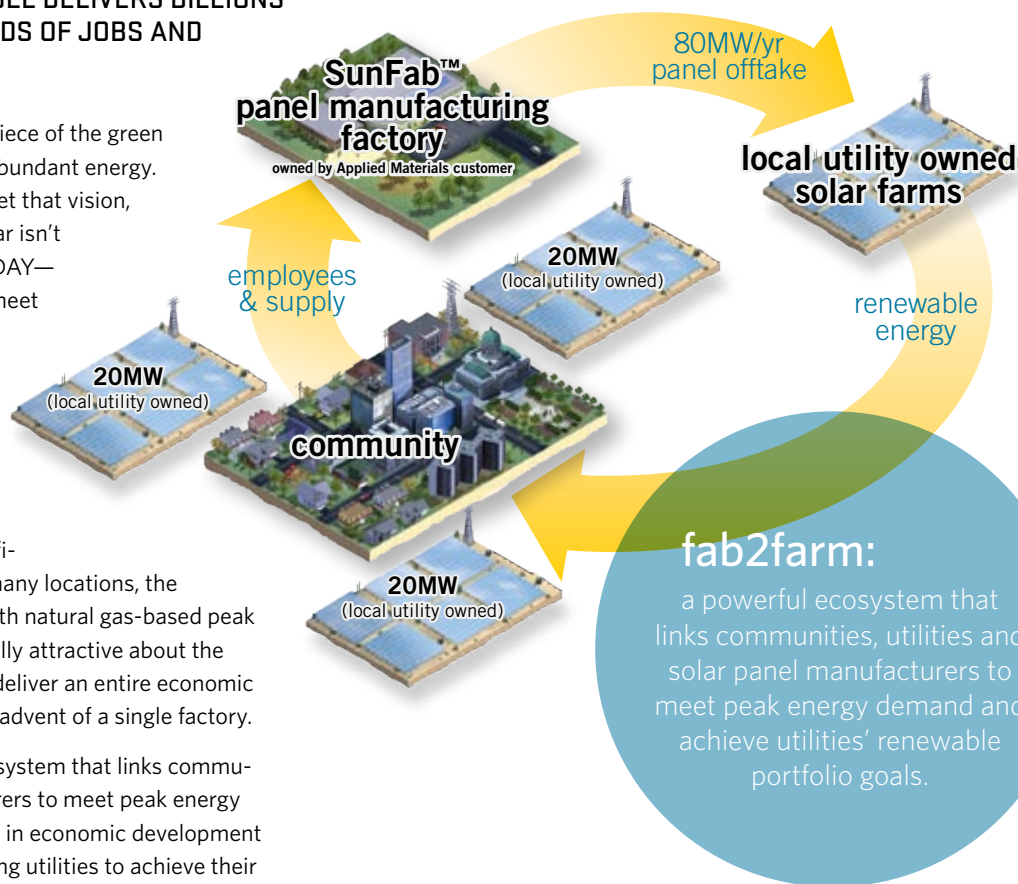
UNIQUE SOLAR DEPLOYMENT MODEL DELIVERS BILLIONS IN ECONOMIC ACTIVITY, THOUSANDS OF JOBS AND LOWEST COST SOLAR ENERGY

Solar has long been heralded as a centerpiece of the green revolution—an idealistic vision of clean, abundant energy. And while solar power has yet to fully meet that vision, what most people don't realize is that solar isn't a pipedream. It's in fact a solution for TODAY—and better than other current options to meet renewable portfolio goals.

It all boils down to a single notion: solar PV is a manufactured energy—a technology that is proven to become cheaper and more efficient as the installed base increases over time. In the past 30 years, solar has enjoyed significant and predictable cost reductions. In many locations, the cost of solar energy is already at parity with natural gas-based peak electricity generation. And what's especially attractive about the promise of manufacturing is its ability to deliver an entire economic ecosystem to local communities with the advent of a single factory.

Enter fab2farm: a powerful economic ecosystem that links communities, utilities and solar panel manufacturers to meet peak energy demand—generating more than \$2 billion in economic development and creating over 2,500 jobs while enabling utilities to achieve their renewable portfolio goals.

At the heart of this new ecosystem is Applied Materials' revolutionary SunFab™ thin film panel factory. The SunFab line, owned and operated by an Applied Materials customer, is capable of producing 80MW of panels a year, enough to provide clean energy for 35,000 homes during peak hours. Abundant raw materials, like glass and silane gas, are fed into the front-end of the manufacturing line and later that day, the most powerful, cost-effective solar panel in the world emerges: a module that is 5.7m² (61 square feet) or approximately eight times the size of conventional solar panels. Why is this important? Consider a 20MW solar farm installed near a utility substation. Using full-size panels from a SunFab, that 20MW farm would require 35,000 panels to be installed. Compare that to the 230,000 panels required with conventional-sized panels. Fewer panels, less materials, less labor, faster installation.



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As a result of the SunFab factory solution and unique 5.7m² panel design, Applied has optimized a product for utility scale, driving down the two primary components of solar energy cost—panel cost and balance of systems cost—to enable a fully installed price of <\$3.50/watt.

To fully realize the fab2farm benefits, communities across the U.S. can work with Applied Materials and a SunFab customer to 1) locally site a manufacturing facility and 2) establish a long-term factory off-take agreement with a local utility. Since the manufacturing and electricity generation are tightly linked, the economics are unlocked, and energy dollars are re-invested locally.

KEY BENEFITS OF A FAB2FARM ECOSYSTEM INCLUDE:

- **Utility owned solar farms:** producing free energy past 2030, avoid up to 170,000 metric tons of CO₂ per year, and a significant step to achieve renewable portfolio goals.
- **SunFab factory:** 850 construction jobs, 500 permanent jobs, 1.2GW of clean energy over 15 years.
- **Community:** positive contribution to climate change, 100% of the energy dollars spent circulate back into the local economy and establish a permanent ecosystem around clean, renewable energy.
- **Government:** incremental tax base, avoided services such as unemployment, and green collar job training programs at local community colleges.



Harnessing its manufacturing expertise and experience in commercializing technologies, Applied Materials is now focused on bringing scale to solar PV, making it an economically viable energy generation source, ready to deploy at true utility scale. As the #1 global supplier of solar panel manufacturing equipment, process technology, and integrated factories, Applied is in a unique position to make fab2farm a reality in any community in the country.

Ultimately, with Applied Materials fab2farm solar deployment model, everyone wins. A factory based on Applied Materials' SunFab solution produces large-scale, low-cost panels, local utilities get affordable, reliable, scalable solar energy, and local communities get a green economic corridor and clean electricity. Meanwhile, local energy dollars are fed back into the community, creating jobs in its own backyard.

For more information please visit www.fab2farm.com or contact us at fab_2_farm@amat.com.

*Representative numbers calculated from IHS CERA (IHS Cambridge Energy Research Associates) modeling and Applied Materials estimates.

In a fab2farm ecosystem, a SunFab factory produces large-scale, low-cost panels, local utilities get affordable, reliable, scalable solar energy, and local communities get a green economic corridor and clean electricity.



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