Solar Panel Installers at Lumina Solar Detail the Installation Process

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Virginia property owners weighing a switch to solar often do not know what the installation actually involves. Rising energy costs are pushing many to look closely at rooftop systems, and Lumina Solar, a solar power company operating from Fairfax, has outlined the steps its solar panel installers follow from first assessment through system activation for residential and commercial properties across the state. Solar sits within the broader category of renewable energy and alternative energy systems, and understanding the process helps residents plan realistically.

The U.S. Department of Energy advises property owners to begin with a site assessment before any solar panel installation proceeds. That assessment reviews roof condition, orientation, shading from nearby obstructions that block sunlight, and electrical panel capacity, and it determines whether the roof suits solar panels and how large a solar system the site can support. Lumina Solar carries out this evaluation, along with obtaining an estimate of expected output, before any design work begins, which is also when a property owner can weigh whether to add battery backup or energy storage.

Assessment findings drive the solar system design, which sets panel layout, array size, inverter selection,

and electrical integration. The design then moves to permitting, typically after structural and electrical engineering review and submission to the local permitting authority. The National Renewable Energy Laboratory tracks median permitting, inspection, and interconnection cycle times across more than 1,500 jurisdictions through its SolarTRACE tool, and its data show that permitting and utility approval frequently take longer than the physical construction phase. NREL also reports that automated permitting platforms have reduced review times where jurisdictions have adopted them, with projects completed roughly 12 days faster than those routed through traditional review.

Once a permit is issued, the physical installation proceeds. A crew mounts the racking, sets the solar panels, and wires the arrays to the inverter and the building's electrical panel. Local inspection follows, and then the utility grants interconnection approval before the photovoltaic system is switched on and begins converting sunlight into electricity. Lumina Solar's licensed installers and electricians perform this construction with in-house crews rather than subcontractors, and the company holds the licenses required for the electrical work involved. Certified solar panel installers generally complete formal training and periodic recertification to maintain their standing.

Lumina Solar was founded in 2018 and has completed more than 6,000 installations across Maryland, Pennsylvania, Virginia, Delaware, and Washington, D.C. The company employs more than 150 staff, including NABCEP-certified installers and licensed electricians, and runs its Virginia operations from Fairfax. Its project scope covers system design, site assessment, permitting, battery backup and energy storage installation, and system monitoring. Equipment typically carries manufacturer warranties separate from the workmanship warranty a company offers, and those warranty terms are among the details property owners are advised to review before signing.

Demand for solar power has tracked steady clean energy additions to the grid. The Solar Energy Industries Association reported in March 2026 that Virginia holds 7.5 gigawatts of installed solar capacity, ranking the state ninth nationally, and that solar supplied the largest share of new U.S. generating capacity in 2025 for the fifth consecutive year, ahead of other renewables. The Bureau of Labor Statistics projects employment of solar photovoltaic installers to rise 42% between 2024 and 2034, a distribution its Occupational Employment and Wage Statistics program records by state and metropolitan area. As the field of solar panel installers widens, following the installation process step by step gives property owners a clearer basis for comparing companies and their solar energy proposals.

Additional information about the residential and commercial solar panel installation process, battery backup, and system monitoring is available through the Lumina Solar website.

About Lumina Solar

Lumina Solar is a solar panel installation company founded in 2018 and serving Maryland, Pennsylvania, Virginia, Delaware, and Washington, D.C. The company provides residential and commercial photovoltaic installation, including system design, site assessment, permitting, battery backup, energy storage, and system monitoring. Lumina Solar operates its Virginia office in Fairfax and employs more than 150 staff, including NABCEP-certified installers and licensed electricians.

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Lumina Solar

Cut your electric bill with solar from Lumina Solar. We design and install high-efficiency residential and commercial solar systems across the Mid-Atlantic, guiding you through incentives, tax credits, permitting, and install.

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