



Business Opportunities

Solar Power

Executive Overview:

The rising total cost of energy is fueling new markets for solar power. As solar moves beyond traditional niche markets and into multi-billion-dollar mainstream markets, advanced technologies will separate the winners from the losers. While the short-term market driver remains focused on production cost of photovoltaic solar cells, the rapid pace of materials science and nanotechnology innovation is expected to enable radical and disruptive new solar product architectures over the next decade.

Los Alamos National Laboratory (LANL) is now offering its extensive portfolio of solar power technology for licensing and collaboration. The LANL solar power portfolio includes breakthrough technologies for reducing photovoltaic solar cell manufacturing costs, reducing capital expenditures, reducing the dependence on surplus silicon, and enabling new product architectures.

By working with LANL, companies gain access to highly innovative solar power technology while minimizing R&D risks and expenditures. Our partners gain access to leading nanotechnology and solar power research teams, as well as LANL's extensive solar power intellectual property (IP) portfolio. We invite you to explore solar power business opportunities available with LANL today.

Select LANL Solar Power IP:

- Polymer-Assisted Aqueous Deposition of Metal Oxide Films (US Patent 6,589,457)
- Polymer-Assisted Deposition of Films ("PAD," patent pending)
- Biaxially-Oriented Silicon Film on Conducting Layer on Metal Tape (patent pending)
- Biaxially-Oriented Oxide Film on Polyimide (patent pending)
- Biaxially-Oriented Silicon Film on Polycrystalline/Amorphous Template (patent pending)
- Quantum Dot Composite Materials (patent pending)
- A Highly Efficient Nano-Wire Solar Cell (patent pending)
- Carrier Multiplication in Quantum-confined Semiconductor Materials (patent pending)

Partnership Mechanisms:

Licensing Agreements
 Non-Federal Work-for-Others Agreements (WFO)
 Cooperative Research and Development Agreements (CRADA)



LANL's solar power portfolio includes a deposition process known as PAD. PAD eliminates the need for vacuum-based thin film equipment. In the photo, a researcher applies a PAD solution to a silicon wafer prior to spin coating.

Partner Benefits:

First-mover advantage
 Reduced cost of R&D
 Reduced risk of R&D
 Reduced development cycle
 Design freedom (IP)

Advanced Technologies:

Quantum dot thin films
 Carrier multiplication
 Nano-wire solar cell
 Polymer-assisted deposition
 Biaxially-oriented films

Capabilities:

Semiconductor nanocrystal synthesis
 Quantum dot thin film development
 Semiconductor device design
 Deposition process engineering

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