CalSEED Awardee Portfolio Overview
The California Sustainable Energy Entrepreneur Development initiative grants up to $600,000 to early stage clean energy concepts and provides professional development resources.

**Concept Award**
- $150,000
- Concept Development & Assistance
- Mentorship from entrepreneurial experts and industry leaders
- Introduction to resources to advance the concept

**Prototype Award**
- $450,000
- Successful Concept Awardees prepare for Commercialization
- Business Plan Competition to push awardees to think in a commercialization area
CalSEED 2017 Awardees

- Saratoga Energy
- BK LITEC
- Opcondys
- SUNVAPOR
- POWERFLEX SYSTEMS
- MOET
- LiLac solutions
- CORRELATE
- lucent optics
- Arctica Solar
- Sustainable Economies Law Center
- MORE
- parc
- South 8 Technologies
- SEPION TECHNOLOGIES
- ENERDAPT
- codecycle
- GENERAL ENGINEERING AND RESEARCH
- SUNSWARM
- NATIVUS
- opus 12
CalSEED

Core Areas of Focus

- Storage Solutions
- Energy Efficiency
- Lighting
- Power Plant Improvements
- System and/or Home Modeling Tools
- Heating/Cooling Energy Efficiency
- Smart Grid components
- Renewable Generation

Portfolio Breakdown

(California-Wide Technology Descriptions)

- Electric Vehicle & Mobility: 3.6%
- Batteries & Energy Storage: 25.0%
- Grid & IT: 17.9%
- Intelligent Manufacturing: 17.9%
- Renewable Energy: 32.1%
- Water-Energy Nexus: 3.6%
- Energy Efficiency: 17.9%
## CalSEED Awardee Companies 2017

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<tr>
<th>Company</th>
<th>Technology Vertical</th>
<th>Idea</th>
<th>Location</th>
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<td>BK Litec</td>
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<td>CodeCycle</td>
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<td>San Francisco</td>
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<td>Batteries &amp; Energy Storage</td>
<td>Better Batteries with Next Gen Electrolytes</td>
<td>Mountain View</td>
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<tr>
<td>EnerDapt</td>
<td>IT</td>
<td>HVAC Optimization &amp; Proactive Maintenance Software</td>
<td>Roseville</td>
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<tr>
<td>General Engineering &amp; Research</td>
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<td>High Efficiency Magnetic Refrigeration</td>
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<tr>
<td>Glint Photonics</td>
<td>Energy Efficiency</td>
<td>Low Cost Energy-Saving Configurable Lighting</td>
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<td>Halo Industries</td>
<td>Renewable Energy</td>
<td>Advanced Wafering for Drastic Solar Cost Reduction</td>
<td>San Mateo</td>
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<td>InterTie</td>
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<td>San Francisco</td>
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<td>Lilac Solutions</td>
<td>Batteries &amp; Energy Storage</td>
<td>Lithium Extraction with Materials</td>
<td>Oakland</td>
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<td>Lucent Optics</td>
<td>Energy Efficiency</td>
<td>Daylight Harvesting Window Film</td>
<td>Sacramento</td>
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<tr>
<td>Maxout Renewables</td>
<td>Renewable Energy</td>
<td>Maxout Polyverter</td>
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<td>Electric Vehicle</td>
<td>Adaptive Charging Network for EV and Renewables</td>
<td>Los Altos</td>
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<td>Saratoga Energy Research Partners</td>
<td>Batteries &amp; Energy Storage</td>
<td>High-Power Long-Life Batteries for Grid Storage</td>
<td>Berkeley</td>
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<td>Sepion Technologies</td>
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<td>EV Boost Technology</td>
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<td>Lithium Metal Battery</td>
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<td>Sunswarm Community Solar Software</td>
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<td>Sunvapor</td>
<td>Renewable Energy</td>
<td>Industrial Solar Steam for Central Valley</td>
<td>Livermore</td>
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<td>Sustainable Economies Law Center</td>
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<td>Permanent Community Energy Cooperative</td>
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Portfolio Company Descriptions

Arctica Solar
Arctica Solar is working to drastically reduce the price and increase the performance of existing commercial solar air heater options.
http://www.arcticasolar.com/

BK Litec
Accelerating LED adoption in lighting through high power omnidirectional, screw-in LED innovations.
http://www.bklitec.com/

CodeCycle
Software Platform to Improve Compliance with Building Energy Standards: CodeCycle has designed an inspection application to streamline the compliance process for building officials, contractors, and engineers. Inputs and inspection processes will be organized atop building plans increasing transparency and time measured with the greatest energy impact.
https://www.codecycle.com/

Correlate
Virtual Energy Manager Platform: Correlate provides energy programs for building portfolios that require no-upfront-capital. Its programs use software workflows, analytics and services to efficiently execute tasks, enabling energy consumers and industry to deliver more projects.
https://www.correlateinc.com/

Cuberg
Building better batteries with next-generation electrolytes
http://www.cuberg.net/
Portfolio Company Descriptions

EnerDapt
A virtual building engineer platform designed to support providers, reduce tenant complaints and cut operating costs.
https://enerdapt.com/

General Engineering & Research
General Engineering & Research is creating a novel refrigeration technology using magnets and advanced materials for safer and more efficient low temperature applications such as hydrogen storage.
https://www.geandr.com/

Glint Photonics
Glint Photonics is developing a new customizable lighting technology providing a low-cost mechanism to optimize the light output pattern from any luminaire—saving energy and money by placing light precisely where it is needed.
http://www.glint photonics.com/

Halo Industries
Technology to increase the energy output of a solar thermal system while reducing the total cost of the system.
http://halo-industries.com/

Individual - Super Long Life, Ultra-High-Power Hybrid Battery
Developing novel batteries for energy storage. By using a hybrid architecture, this new battery combines supercapacitor and Li-ion battery into one pack with super-long-life and ultra-high-power.
Intertie
Intertie’s modular smart grid solution, the EV ChargePod™, advances California’s ‘Grid of the Future’ by simultaneously delivering fast EV charging, intelligent storage, solar integration and electric services, while improving grid reliability, raising utilization and allowing others to realize greater value from their clean energy investments.
https://www.intertie.com/

Lilac Solutions
Lithium Extraction with Ion Exchange Materials: Lilac Solutions is developing a more efficient lithium extraction and manufacturing process that will lower the costs of battery production.
http://www.lilac solutions.com/

Lucent Optics
Lucent Optics’ daylight harvesting window film captures and redirects sunlight deep into building interior to improve natural illumination, improve occupants’ comfort and save up to 60% of energy used for lighting.
http://www.lucentoptics.com/

Maxout Renewables
Advancing the Polyverter, a new class of string inverter from early proof of concept to alpha testing.
http://www.maxoutrenewables.com/
Portfolio Company Descriptions

**MMCI Solar**
MMCI Solar’s technology centers on a solar thermal collector design which utilizes air to transport heat. This eliminates the use of copper in the construction of the panel, and stainless steel piping to transport heat. Solar thermal systems based on this technology can be simply and easily retrofitted to existing water or process heating infrastructure.
https://www.mmcisolar.com/

**MOEV**
MOEV created a system that integrates vehicle to grid, stationary storage, distributed energy resources, and grid conditions while monitoring and predicting the changes to the availability of each component.
http://www.moevinc.com/

**Nativus**
Hyper-Efficient Heating and Cooling Technology: Nativus technology offers heating and cooling of clean, filtered air at substantially lower operating cost to residential and commercial ratepayers, with meaningful reduction on power demand burden to the utility’s grid.
https://www.nativuspower.com/

**Opcondys**
Opcondys is demonstrating an optical switching device for high-efficiency power grid control and better fault detection and recovery.
http://opcondys.com/
Portfolio Company Descriptions

Opus 12
Opus 12’s technology converts CO2, water, and electricity into valuable products such as fuel, methane, chemicals, or plastics.
https://www.opus-12.com/

PARC- Energy Storage and Electrochemical Desalination
This desalination battery is a low capital cost approach to grid arbitrage with round-trip efficiency >80% and modular storage capacity that produces desalinated water during battery discharge.
http://www.parc.com/

PARC- Membrane-based Electrochemical CO2 Removal System
This system presents an energy-efficient approach to improving indoor air quality by ensuring selective removal of carbon dioxide, resulting in substantial HVAC energy savings.
http://www.parc.com/

Powerflex Systems
Powerflex Systems will develop control software to optimize EV charging in real time, facilitate renewable integration, and respond to grid conditions, demand response (DR) signals or electricity prices.
http://powerflex.com/
Portfolio Company Descriptions

**Saratoga Energy**
Saratoga Energy is developing an inexpensive production process to synthesize graphite from CO2. Saratoga’s technology electrochemically separates CO2 into oxygen and graphitic carbon, an essential material in lithium-ion batteries. Graphite produced by the Saratoga process is well suited for fast-charging electric vehicles, grid storage, and a broad spectrum of other energy and industrial applications.
http://www.saratoga-energy.com/

**Sepion Technologies**
Development of advanced battery membranes that are the key to powering electric vehicles beyond 400 miles on a single charge. Thin-film solid electrolyte is designed for compatibility with existing Li-ion battery manufacturing techniques.
http://www.sepiontechnologies.com

**South 8 Technologies**
South 8 Technologies is commercializing a breakthrough battery electrolyte showing significant improvements in safety and energy density, especially in cold environments.
http://www.south8technologies.com/

**Sunswarm**
Sunswarm will use technology to develop methodologies, business process and relevant metrics that can be applied to community engagement and education campaigns to accelerate the adoption and acceleration of community solar campaigns.
https://www.sunwarmsolar.com/
Portfolio Company Descriptions

**Sunvapor**
Sunvapor’s patent-pending solar collector will reduce the cost of solar steam. Their redesigned parabolic trough collector reduces cost by 75 percent.
http://www.sunvapor.net/

**Sustainable Economies Law Center**
SELC helps overcome barriers to community-owned and financed solar energy, testing a cooperative ownership and financing model that will allow everyone, not just homeowners and the wealthy, an opportunity to drive renewable energy development, share in its benefits, and speed the transition to renewables.
http://www.theselc.org/
Optimizing the energy transition

100%+ clean energy economy for the 100%