

# ENGINEERING SERVICES OVERVIEW



## Mitigate Risk and Optimize Your Solar Energy and Storage Investment

### Energy Assessment

CEA offers Energy Assessments to provide accurate and unbiased energy production estimates of projects in development or of operational assets to support our client's project financial decisions.

- Energy modeling
- Performance assessment

### Technical Due Diligence

CEA offers Independent Engineering Services to promote investment confidence by mitigating risk throughout the project lifetime.

- Independent engineering reports
- Technical advisory
- Expert witness

### Field Testing Services

CEA offers field-testing services to identify and prevent causes of under performance using our unique expertise in assessing solar technology.

- PV Module inspections
  - EL testing
  - IR inspections
  - IV curve tracing
- BOS inspection and testing

### Storage Feasibility Studies and Storage Solutions

CEA offers consulting services to evaluate technology and the benefits of using energy storage to enhance project economics.

- Use case assessment and validation
- Performance optimization and validation
- System performance and health

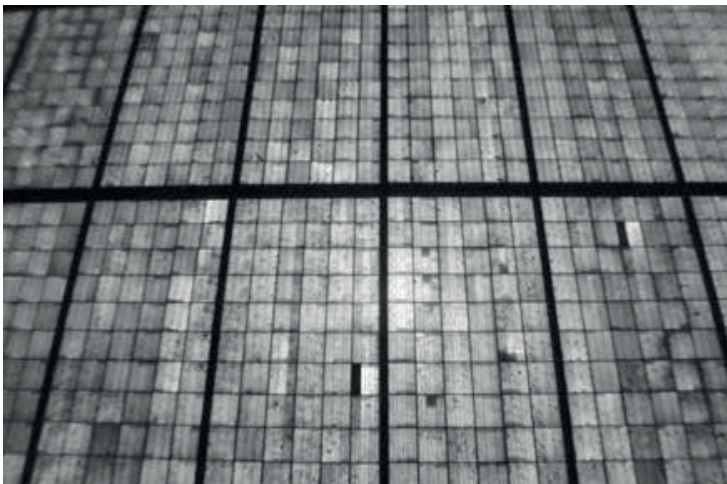


# PROJECTS



<b>Service:</b>	<b>Resource Assessment – Soiling Study</b>
<b>Size:</b>	80 MW and 75 MW
<b>Location:</b>	<b>North Carolina, USA</b>
<b>Type:</b>	Utility
<b>CEA Value Added:</b>	Performed a site review of the meteorological data, the proposed meteorological station operation and maintenance schedule. CEA reviewed local soiling data and created a detailed array soiling prediction. This project employed bi-facial modules and required a nuanced multi-variable analysis showcasing CEA's ability to provide a bankable hourly resource assessment for bi-facial panels. Comparing and Synthesizing data sets from a multitude of sources, CEA provided the Client with a highly tuned resource analyses.

<b>Service:</b>	<b>Field Testing Services - EL Inspection</b>
<b>Size:</b>	56.5 MW (Three sites)
<b>Location:</b>	<b>United Kingdom</b>
<b>Type:</b>	Operational Utility Scale Project
<b>CEA Value Added:</b>	CEA conducted on-site nighttime EL inspection of modules and identified that 5% of modules were defective and eligible for a warranty claim with the module manufacturer. CEA worked with the Client to develop a cost effective and rapidly executed assessment protocol to facilitate successful warranty claim.



<b>Service:</b>	<b>Independent Engineering Review</b>
<b>Size:</b>	55 MW (20+ sites)
<b>Location:</b>	<b>Multiple USA Sites</b>
<b>Type:</b>	Solar
<b>CEA Value Added:</b>	Since 2016, CEA has served as the exclusive independent engineer for a leading financial services firm. Offering wholistic financing support, performing independent engineering desktop review, executing site visits to confirm PV system conditions and ensuring identified issues are re-mediated prior to sites transitioning to full commercial operation

<b>Service:</b>	<b>Owner's Engineering</b>
<b>Size:</b>	S90 MW + 1 MWh
<b>Location:</b>	<b>California, USA</b>
<b>Type:</b>	Solar & Energy Storage
<b>CEA Value Added:</b>	Conducted engineering due diligence for the solar + energy storage project owner. Provided pre-construction design review, technical support and recommendations as needed for issues that arose during construction. CEA conducted monthly site visits to serve as the Client's "eyes and ears" to ensure the project was being built in accordance with designs and quality standards while on time and on budget.

