CEA
Clean Energy Associates

Investment Confidence

STATEMENT OF QUALIFICATIONS



Clean Energy Associates

Statement of Qualifications

Date: April,2021

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1. ABOUT THE COMPANY

1.1. Company Overview

Clean Energy Associates (CEA), a **solar and storage technical advisory firm**, provides quality assurance, supply chain management, independent engineering solutions and market intelligence/benchmarking worldwide. We serve financial institutions, project developers, EPCs, IPPs, and power plant owners. From our base in Asia, CEA's quality control engineers travel worldwide to conduct upstream in-factory technical evaluations, including factory audits, production monitoring and pre-shipment product inspections. Our US-based product management and engineering (IE/OE) teams provide support throughout the project life cycle, from upstream supply chain management and supplier benchmarking, to downstream system design, construction, commissioning, performance assessment, re-power and optimization as well as warranty support.

CEA has served the solar industry since its founding in 2008 through expertise in PV modules, racking/trackers and inverters and later expanded into energy storage systems based on Lithium-ion battery products. CEA recently leveraged its expertise in transformers, PCS and other power electronics to also serve clients in the wind energy and EV sectors. CEA has reduced buyers' risks and improved returns on investments via quality assurance, technical and financial due diligence and engineering services covering more than 85 GW of products in over 60 countries.

CEA's global engineering team is dedicated to ensuring comprehensive quality assurance (QA) solutions by providing 24/7 factory monitoring oversight and system level engineering support services that are objective and truly supplier independent. CEA's PV QA engineers have completed over 350 factory audits in Asia, EMEA, and North America. Over the past 13 years, our projects have encompassed a broad range of products from crystalline and thin film modules as well as inverters, racking and other BOS components. In many of these cases, CEA has also supported its clients in the definition of a supply chain strategy, supplier identification, commercial negotiation, and ongoing execution of procurement contracts and vendor relationships. CEA's commercial and manufacturing expertise enables successful procurement engagements which often involve C-level executives at headquarters, as well as interaction with regional decision makers within various suppliers.

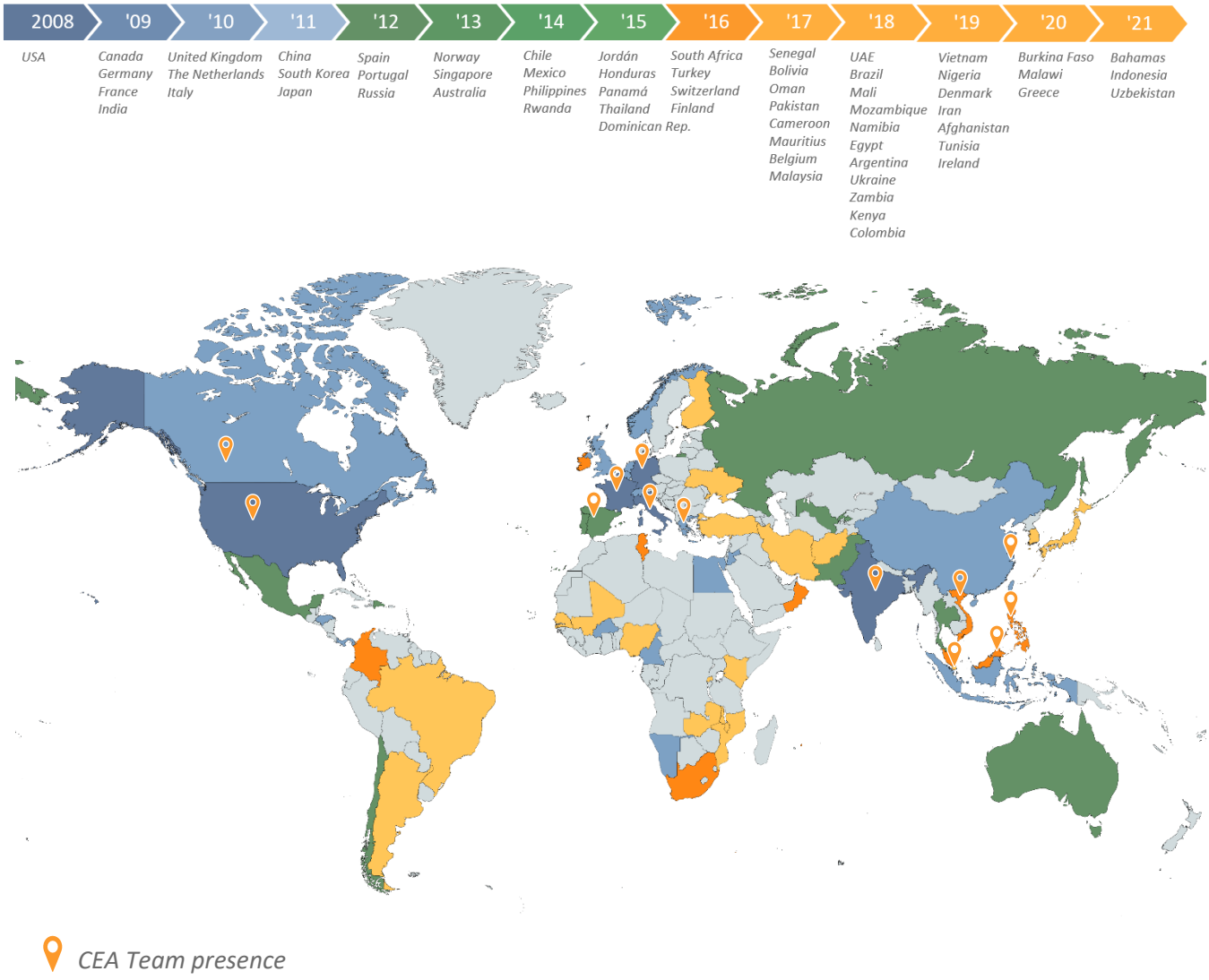




1.2. Global Strategy with Local Execution

CEA works with a diversified group of clients worldwide, ranging from large Fortune 500 companies and publicly traded conglomerates, to smaller developers, IPPs, EPC's and utilities who have successfully improved the value of their projects and reduced risk in an increasingly competitive environment. From upstream product procurement, through downstream design optimization and asset management, CEA provides a direct benefit to long term asset owners while still reducing risk for other stakeholders such as lending institutions, insurance companies or others participating in such transactions. With a multicultural team based in 13 countries and a strong track record since 2008, CEA is committed to supporting clients' needs locally to ensure timely project execution of quality assurance, supply chain management, and engineering needs globally with both integrity and professionalism.

CEA has provided technical advisory services for clients in more than 60 countries to develop and build solar and energy storage projects with a capital cost in excess of $2.8 trillion.



1.3. Executive Leadership Team



Andy Klump
CEO and Founder

- 20+ years of solar, storage and technology experience with 15 years operating in China
- VP of Business Development for Trina Solar and helped raise $500M during their IPO
- Management roles in sales in China for Dell and Intel
- BA Economics, Northwestern University and MBA Harvard Business School
- Fluent in Mandarin



Paul Wormser
VP, Technology

- 40+ years of solar industry experience across engineering, sales, technology and product development
- Recognized solar technical expert in modules, materials, tracking systems and performance
- Senior executive roles at SunEdison, SHARP, and First Solar
- BSME George Washington University and MBA Northeastern Graduate School



Vinayak Gupta
VP, Operations

- 25+ years scaling renewable and technology operations globally
- Senior executive positions at Zero Mass Water, SolarCity, and SunEdison
- 17 years semiconductor operations experience at Cypress, AMD and RMI
- BSEE, MS Computer Engineering and MBA Santa Clara University



Darryl Parker
VP, Sales & Marketing

- 35+ years managing international sales teams with 13+ years in renewable energy and power electronics.
- VP, senior management, and engineering roles at Ampt, Satcon, NCR Corp, Sun Microsystems, and IBM
- Licensed electrician
- BS Electrical Engineering, Howard University and MBA University of Phoenix



Max Elghandour
VP, Finance & Administration

- 35+ years in operational and financial services, auditing and risk management
- International experience across oil & gas, energy and professional services
- Executive positions at Bristol Myers, PepsiCo, Deloitte and Total
- BA Accounting, St. Francis College and Certified Public Accountant
- Fluent in French and Arabic

1.4. Why Choose CEA ?

1. Unlike many firms which specialize in one or two aspects of the renewable energy sector, only Clean Energy Associates provides a comprehensive, end-to-end suite of services at competitive prices including:

    a) Quality Assurance Protection across solar and Li-ion battery storage products produced in China, Southeast Asia, India, North America and Europe with its own team of 115 trained engineers
    b) Supply Chain Management expertise developed over 13 years of negotiating supply contracts across the globe
    c) Market Intelligence across the global supply chain for solar and storage from its in-house technical experts and an extensive database of Supplier Benchmarking data (available by subscription service) gathered from over 350 factory audits and QA engagements
    d) In-house engineering team that provides IE/OE reports, technical and financial due diligence, energy yield assessments and field service inspection and testing

2. All CEA team members (100%) complete annual FCPA (Foreign Corrupt Practices Act) training and certification. **Professional ethics and anti-bribery training are ingrained in CEA's culture**.

3. Exceptional Domain Expertise - CEA brings more than 1,000 years total industry experience with experts on-staff across the gamut of solar and storage technologies including advanced leading-edge technologies and is often called upon to provide expert-witness and speak on quality and technology forums and panels globally.

4. Boots on the ground - CEA has experts and engineers deployed globally in more than 13 countries to quickly and efficiently execute work in those regions with minimal travel required.

2. CEA SERVICES AND QUALIFICATIONS

CEA supports the solar and energy storage sectors by providing comprehensive technical advisory services across 4-pillars:

Quality Assurance



- More than 45 GW PV & 4GWh BESS experience
- Quality Assurance Program and standards implementation
- Bill of Materials analysis and validation
- 24/7 inline production quality control
- Container loading oversight
- Comprehensive factory audit

Supply Chain Management



- More than 30 GW experience
- Manufacturer due diligence
- Global supplier market research
- Supply chain sourcing optimization
- Supplier management and benchmarking
- Tactical and operational procurement

Engineering Services



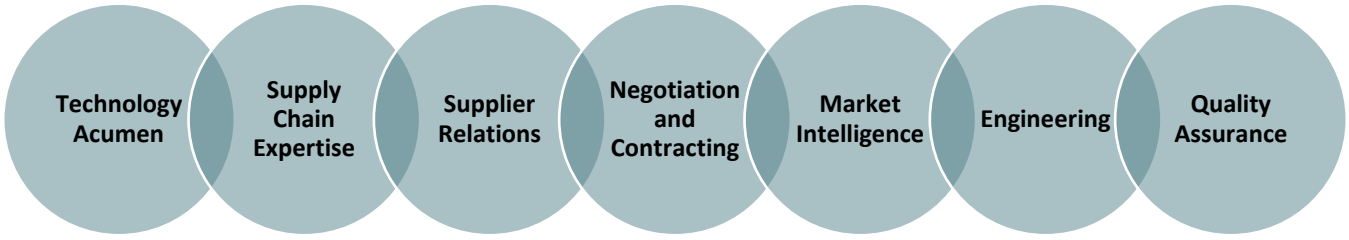
- More than 7 GW experience
- Technical due diligence
- Owner's engineering support
- Onsite quality control inspections
- Performance analysis and optimization
- Energy yield assessments

Market Intelligence



- Supplier benchmarking program
- Supplier market intelligence program
- Forward Price Trends
- Forward Technology Trends
- Policy Updates
- Special reporting, e.g. COVID-19 impact on PV supply chain and demand

Over the course of the past decade, CEA's investment in developing a complimentary suite of world class capabilities has yielded the ability to design and execute tangible execution strategies for solar and energy storage projects around the globe. These activities are performed in a coordinated manner with the explicit purpose of instilling institutional level knowledge in our clients' firms, providing them long term asymmetrical advantage in the marketplace.



2.1. Quality Assurance



CEA's Quality Assurance services span the entire duration of the manufacturing process, from the arrival of raw materials in the factory to the shipment of modules to the client.

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Pre-Production	Production Monitoring	Pre-Shipment	Container Loading
• Factory's certification (ISO, OHSAS, etc) assessment • Product's certification (IEC, UL, CE, etc). Assessment • Bill of Materials (BOM) review	• Input material monitoring • Production environment monitoring • Production process monitoring • Equipment maintenance and calibration monitoring	• Random sampling • QC Optimized criteria • Visual inspection • EL test • IV test • Independent lab reliability testing	• Proper Packing • Proper loading • Container and seal information • Correct product

2.2. Market Intelligence and Technical Due Diligence



Supporting clients with insightful primary research and due diligence engagements in Asia, CEA offers a number of research services to allow clients greater insight into complex organizations and corporations to protect a downstream client's infrastructure investment.

CEA maintains a comprehensive databank in order to provide additional context to technical due diligence assignments performed for clients. Since 2008, CEA has been performing independent due diligence audits on over 350 manufacturing facilities in China, Southeast Asia and India. Such reports have been developed in order to allow clients to evaluate the technical viability of a supplier as well as Total Quality Management (TQM) techniques and were completed with the full cooperation of the supplier. CEA's team can provide clients with a strong third-party perspective prior to the agreement of any long-term supplier contract.

This data is utilized by clients and financial institutions to provide downstream owners with greater insight into manufacturers and any issues that may arise in the future regarding the manufacturing or factory processes.

Technical Due Diligence Key Points of Evaluation

- Manufacturing and quality team interviews
- Factory inspections
- History of operational improvements
- Upstream supplier primary research
- Environmental Health and Safety (EHS) evaluation
- Product certification and testing validation
- Triple bottom line evaluation



SMIP – Supplier Market Intelligence Program

- CEA in-depth research into leading suppliers capacity, technology roadmap and product characteristics
- Available for PV modules and Li-ion batteries – updated Quarterly
- Offered via subscription service only

SBP - Supplier Benchmarking Program

- Database of quality ratings of every CEA PV module QA engagement
- Updated continuously as each QA engagement is completed
- Offered via subscription service only

2.3. Supply Chain Management



CEA has worked with numerous investors, developers, EPC's and utilities to define their overall global procurement approach and has developed successful operating strategies and objectives to achieve cost reduction targets. Additionally, CEA has long-standing relationships with many top-tier, bankable suppliers of modules, inverters, batteries and components across the global upstream value chain both at the executives and operating level; however, CEA has maintained supplier independence as one of the primary facets of its business model. By remaining supplier independent, CEA can ensure true objectivity in providing the ideal supply chain, quality assurance, and engineering solutions on behalf of downstream clients across different geographies.



CEA also assists its clients with:

- Relationship management with Asia suppliers and financial services partners
- Investigating construction financing opportunities for qualified buyers
- Strengthening relationships with logistics providers globally
- Increasing credit limits and obtaining advantages payment terms

Sourcing Strategies:

- Industry analysis across various components in the value chain
- Established presence in 13 countries in Europe, North America and South America, including a strong base in Asia Pacific
- Logistics planning and delivering support
- Trade Compliant Supplier benchmarking analysis, to address trade cases in different markets

Tactical & Operational Procurement:

- Supplier database of 200+ profiles across 25+ countries
- Supplier search, analysis and audits (RFP/ RFQ)
- Supplier contract negotiation and management
- Total Cost of Ownership (TCO) models and target pricing
- Optimization of existing supply chains and processes

Supplier Management and Benchmarking:

- Quarterly scorecard assessment
- Supplier integration process
- Lab test management and analysis of product performance
- Contract manufacturer/OEM oversight
- Evaluation of system performance and comparison with third party benchmarks

2.4. Engineering Services



Clean Energy Associates (CEA) provides independent advisory engineering services to the global PV solar and energy storage industries. CEA serves the needs of investors, financial institutions, project developers, IPPs, EPCs, and other downstream partners to help mitigate risk, ensure quality and performance throughout the project lifetime.

The Engineering Services team is an agile group with the support of CEA 's multinational and experienced management team, which houses a combined 1,000+ years of solar PV and storage business experience and is supported by 115+ engineers including experts in system design, construction, operation as well as component manufacturing.

CEA offers a range of services tailored to meet client needs:

Project Development

- Site Selection and Assessment
- Technology Selection
- Solar Resource and Yield Analysis
- Preliminary System Design
- Supplier Evaluation / Financial Due Diligence
- Permitting Support
- IE Review and Technical Due Diligence

Operations & Maintenance (O&M)

- Performance Assessment and Optimization
- O&M Contract Assistance
- End of Warranty Inspection
- Technical Troubleshooting
- Conflict Resolution Support

Engineering & Construction

- Owner's Engineering
- EPC Bid Assistance
- Construction Monitoring
- Project and Construction Management Support
- Third Party Onsite QA/QC
- Independent Engineer Reports
- Conflict Support System
- Commissioning Verification

Project Sale / Acquisition

- Owner's Engineering & TDD
- Energy Production Validation
- Historical Performance Review and Assessment
- Performance Ratio (PR), Capacity and Availability Tests Review
- On-site Inspection
- Financial Model Review

3. CEA CLIENT EXPERIENCE

3.1. PV Modules



CEA started with PV module QA and Supply Chain Management services as its core products and later added specialized Engineering Services around new module products. CEA also provides onsite inspection / testing of operating PV projects in support of asset management entities looking to boost underperforming assets. Since 2008, CEA has performed more than 350 Factory Audits and QA engagements for clients globally, helping to reduce risk and increase investor confidence.

CEA QA engineers have overseen the inspection of more than 27 GW of modules.

Client HQ Location	Client Project Location	Module Suppliers	Factory Location	CEA's Scope of Work
USA, Spain, India, Belgium, Japan, United Kingdom, Norway, Germany, Australia, France, Mexico, Turkey, Egypt, Thailand, Canada	USA, Spain, India, Belgium, Japan, Chile, Egypt, United Kingdom, Ukraine, China, Germany, France, Australia, Malaysia, Argentina, Mexico, Brazil, Turkey, Mozambique, Netherlands, Canada	LONGi, Risen, CSI, Talesun, Trina, CSUN, JA Solar, Jinko, Jinergy, Znshine, Vikram, GCL, First Solar, Astronergy, Suntech, Schutten, BYD, Hareon, Yingli, Hanwha, Boviet, Vina, Haitai	China, Vietnam, Malaysia, Thailand, South Korea, USA, Cambodia	1. **QA**: Factory Audit (FA), In-Line Production Monitoring (IPM), Pre-Shipment Inspection (PSI), Testing Certification, Electroluminescence (EL) Imaging 2. **SCM** 3. **ES:** Technical due diligence, PVsyst energy assessment, Safe Harbor inspection

3.2. Inverters



The build quality and field performance of inverters and PCS used in renewable energy projects play a vital role in the performance, reliability and O&M costs throughout the life of the project. With today's typical project life of 25+ years, investment confidence is critical to obtaining competitive financing and ensuring project returns are achieved.
CEA has been engaged to examine and review central, string and micro-inverters for clients across the solar development spectrum.

CEA engineers have completed more than 8 GW of inverter oversight around the globe.

Client HQ Location	Client Project Location	Inverter Suppliers	Inverter Factory Location	CEA's Scope of Work
USA, India, United Kingdom, Norway, Australia, China, South Africa, Germany	USA, India, United Kingdom, Australia, Pakistan, Afghanistan	SMA, SolaX, SunGrow, Ingeteam, Power Electronics, Sineng, Huawei, Ginlong, TMEIC, TBEA	USA, China, Spain, India	1. **QA**: Factory Audit (FA), In-Line Production Monitoring (IPM), Pre-Shipment Inspection (PSI), Testing Certification, Factory Acceptance Testing (FAT) Oversight, BOM review 2. **SCM** 3. **ES**: system design / optimization, platform selection, reliability / failure analysis

3.3. PV Racking / Single-Axis Trackers



Steel fixed-tilt racking and single-axis trackers are the foundation for today's large ground-mounted PV systems. CEA engineers are in the manufacturing facilities of all the major tracker and racking companies, with many producing components in China. QA activities touch all the product components including piles, torque tubes, motors and drives to ensure the highest quality. CEA also provides Engineering Services to review designs, perform technical due diligence on tracking algorithms, and act as the owners Engineer (OE) to ensure best practices.

CEA engineers have completed more than 6 GW of tracker/racking oversight around the globe.

Client HQ Location	Client Project Location	Racking/Tracker Supplier	Factory Location	CEA's Scope of Work
USA, India, United Kingdom, Norway, Australia, Spain, Germany, Mexico	USA, India, United Kingdom, Brazil, Germany, Mexico, Australia	NEXTracker, Versol, Arctech, Gestamp, Soltec, Greencell, ATI, Sunlink, Gamechange, Solar Flexrack, Ideematec, Exosun, Schletter, Panel Claw,	USA, China, Mexico, Malaysia, Switzerland	1. **QA**: Factory Audit (FA), In-Line Production Monitoring (IPM), Pre-Shipment Inspection (PSI), Testing Oversight 2. **SCM** 3. **ES:** technical document audit, root cause failure analysis, Safe Harbor inspection

3.4. Transformers



As one of the most crucial and costly single components of any renewable energy project, the main power transformer (MPT) is critical to plant reliability and predictable long term energy delivery to the grid. If these highly engineered, long lead-time pieces of equipment fail in-service, the project will be out-of-service for months and the lost revenues and damages will quickly build into the $ millions. As such, ensuring the highest quality manufacturing and testing to tight specifications are critical.

CEA engineers have completed more than 4 GW of transformer oversight around the globe, including a significant amount of Safe Harbor inspection / validation during Q4 2019 to allow developers to comply with US ITC requirements.

Client HQ Location	Client Project Location	Transformer Supplier	Factory Location	CEA's Scope of Work
USA, India, Norway	USA, India, Ukraine, Argentina	ABB, GE, WEG, Huawei, Shenda Electric, Sungrow, HICO, JSHP, Siemens,	USA, China, Mexico, South Korea,	1. **QA**: Factory Audit (FA), In-Line Production Monitoring (IPM), Pre-Shipment Inspection (PSI), Factory Acceptance Testing (FAT) oversight 2. **SCM** 3. **ES:** Safe Harbor inspection

3.5. Energy Storage (Lithium-ion battery based)



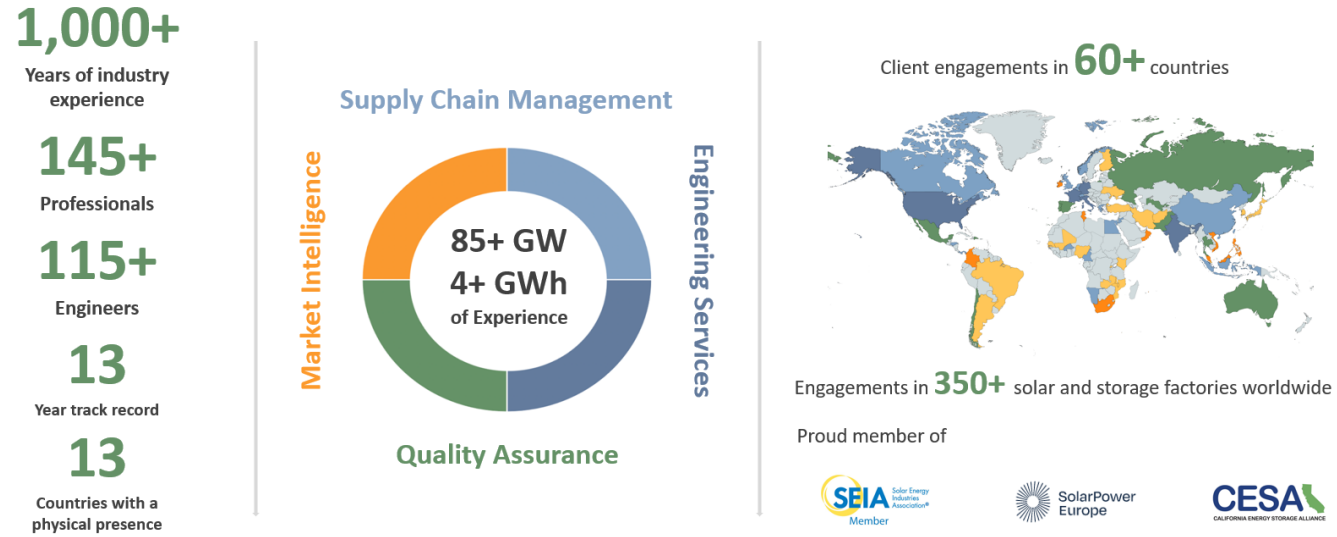
CEA started to expand its internal technical staff in 2015 as Lithium-ion batteries started to decrease significantly in cost due to the proliferation of EV's globally. For the first time, Li-ion batteries became economically viable for stationary storage applications when paired with solar and wind, as well as in stand-alone projects. CEA staff come from a variety of Li-ion and flow battery manufacturers and system integrators and offer one of the deeper technical teams in the industry. CEA provides a full suite of services to support BESS project development, due diligence, system sizing and performance modeling and QA of these products.

As the LFP (Lithium Iron Phosphate) chemistry starts to gain traction against the NMC (Nickel Manganese Cobalt) batteries, CEA's base of operations in Shanghai becomes even more strategic due to the plethora of Chinese LFP manufacturers. CEA engineers have completed 4GWh's energy storage projects.

Client HQ Location	Client Project Location	Battery Supplier	Factory Location	CEA's Scope of Work
USA, Germany, Norway, Australia, Canada	USA, Germany, Australia, Canada	LG Chem, Samsung SDI, Lishen, Gotion, CATL, Tesla, BYD, Narada,	USA, China, South Korea	1. **QA**: Factory Audit (FA) at the cell, module and rack level, containerized factory acceptance test (FAT) oversight , In-Line Production Monitoring (IPM), Pre-Shipment Inspection (PSI), Testing Oversight 2. **SCM** 3. **ES:** Battery RFP, storage 101 workshops, technical due diligence for portfolio acquisition, IE/OE reports

4. SUMMARY OF QUALIFICATIONS

CLEAN ENERGY ASSOCIATES (www.cleanenergyassociates.com) provides technical due diligence and engineering services for solar and storage clients around the globe who are financial institutions, project developers, EPCs, IPPs, and PV power plant owners. From our base in China, our team of engineers travel to factories around the globe to conduct upstream in-factory quality assurance via audits, production monitoring and pre-shipment product inspection. From our USA base, our engineering (IE/OE) team provides system design, energy forecasting, product benchmarking, and supply chain services. Downstream, we audit projects through the full cycle, including design, construction, commissioning, project performance, re-power and upgrade analysis, and warranty support. Our team of 145+ professionals with 1,000+ years of industry experience including 115+ engineers serve the solar and storage industry through our expertise in PV modules, racking, inverters and energy storage systems. Since 2008, CEA has reduced Buyers' risks and improved returns on investments via technical assurance and engineering services covering more than 85 GW in 60+ countries.



Contact Information

For further information please visit our website www.cleanenergyassociates.com or contact us at info@cea3.com.

For immediate response, please contact Morgan Oats, Marketing Manager located in Shanghai, China at moats@cea3.com or +1 (800) 732-9987.

5. APPENDIX

5.1 Senior Team Member Bios

Casey Marshall, Senior Business Development Director

Based in San Diego, Mr. Marshall develops and serves a diverse client base of leading developers, IPP's and financial investors of utility-scale PV and storage assets across North America. He has over 20 years of energy and renewable energy experience.

Before joining Clean Energy Associates, Mr. Marshall co-founded and operated Crider Americas Solar, one of the best-known names in the rapidly growing field of solar carports, where he led business development. He was able to grow the company from virtually zero revenue to a multimillion-dollar business in under three years with zero external investment. Previously, Mr. Marshall served as the Chief Operating Officer and Director of Meridian Solar, a leading photovoltaic EPC firm in Texas.

Mr. Marshall has been an officer in four different cleantech start-ups and has worked for 7 years at two different Fortune 100 professional services firms. Mr. Marshall holds an MBA from Northwestern University's Kellogg Graduate School of Management and a Bachelor's Degree from Duke University in Environmental Science & Policy.

George Touloupas, Director, Technology and Quality

Based in Shanghai, China, Mr. Touloupas leads CEA's Technology & Quality team of talented solar and storage engineers, ensuring that CEA provides high-quality services to its clients, continuously innovating and improving them. Mr. Touloupas also coordinates and supports a multitude of projects, including collection and analysis of quality data to produce supplier benchmarking metrics, development of supplier intelligence services, development of PV and solar cost forecasting services, performing technical due diligence on new technologies, maintenance of applied quality standards in tandem with the latest trends in production, assistance of clients with warranty claims, and development of EL diagnostic methodologies along with lab testing oversight.

Mr. Touloupas joined CEA with an extensive background in PV manufacturing, as well as downstream experience in project development and EPC construction. Prior to CEA, he was the Chief Operating & Technical Officer at Philadelphia Solar in Jordan. He led projects for BOM optimization, product design, and factory ramp up for PV module and mounting structure production. He was also responsible for PV plant EPC work, training, supply chain restructuring and evaluation of a 100 MW cell line project. Before joining Philadelphia Solar, Mr. Touloupas was the Technical Operations Director at Recom, where he was in charge of module production. He led quality assurance, factory audits, logistics operations, BOM optimization and development, certification, as well as project development and EPC.

Previously, Mr. Touloupas had his own EPC company in Greece, active in the residential, commercial and large-scale PV sector. Mr. Touloupas holds a BSc in Physics from the National University of Athens.

Dr. Mohan Narayanan, Director, Customer Experience

Dr. Mohan Narayanan is a solar industry professional with 35 years of experience and over 7 years of in customer quality management. He is highly focused on customer quality engineering service, technical marketing, new product development. Before joining CEA, Dr. Narayanan worked in numerous positions in technology, product development and field quality issues with many PV companies: BP Solar, Trina solar, Hanwha Q cells, JA solar, Adani Solar. He has worked in varied cultural contexts (e.g., USA, India, Australia, China, Korea, EU). He has more than 50 technical publications and 4 patent / patent applications. His demonstrated experience in the PV value stream includes collaborative research, technology development and implementation pilot to GW scale, application and location specific product development, strategic market development, and field customer service.

Dr. Narayanan holds a PhD from UNSW and a Masters in Materials science from Case Western. He resides in Washington DC Metro area.

Michael Ludgate, Business Development Director

Mr. Ludgate is a business professional with 30-years of senior level experience and over 12 years of solar industry acumen. He is highly focused on strategic selling, marketing and business development of solar and storage products and services.

Before joining CEA, Mr. Ludgate worked in numerous, highly technical sales leadership positions with Hewlett Packard, Iomega, Intel and others before moving into solar in 2007 as he correctly identified renewables as an expanding market. In the solar industry, Mr. Ludgate was a Senior Business Developer with Kyocera Solar, driving business in the US, Latin America and Australia.

Mr. Ludgate has since led PV sales and business development efforts for Sharp Electronics, Standard Solar and Sun-Tec Energy deploying products and systems to serve commercial, residential and utility-scale projects. Mr. Ludgate holds a BS in Mathematics and an MBA in Marketing and Finance.

Tony Smith, Business Development Director

Tony started his journey in the renewable industry in 2013 and has worked in a variety of different capacities throughout his tenure in the space. His passion for renewables started at a young age and continued as the concentration of his studies at Cal Poly San Luis Obispo where he was also a student athlete and member of Cal Poly's football team.
His career started with the development and management of residential and small commercial PV projects. With early success he transitioned to a Regional Sales Manager role managing the growth and scale of a sales team within the SunPower dealer network.

With consultative and strategic sales abilities as his strengths, Tony has been a part of the technical and engineering side of PV, energy storage, and microgrid projects for the residential, commercial, and utility scale markets for the past 2.5 years.

Residing in Orange County, California, being outdoors with his family, friends, and dog is where he enjoys spending free time.

Jeremy Ong, Director, APAC

Based in Singapore.Mr. Ong has 13+ years of Solar with 6.5GW+ of PV and 1GWh of energy storage experience. He led regional teams in PV design, EPC project management, electrical solutions development and O&M services for global IPPs for large utility scale and C&I projects.

Led the Solar Advisory services for DNV GL in APAC as OE in design review and construction monitoring for developers and TDD services as lenders advisors for global banks and investors.

Helped Schneider Electric Solar Business in APAC managing and growing the regional design and service teams and managing key global and regional customers.

B.Eng in Civil and Environmental Engineering from University of Edinburgh, Scotland

Martin Deak, Senior Manager, Supply Chain Management

Based in Shanghai, Mr. Deak is primarily responsible for leading CEA's account management team, interacting with downstream developers, EPCs and IPPs on project execution and management. Mr. Deak has participated in quality assurance work across factories in Southeast Asia and China for CEA, including production monitoring and audits of several PV module suppliers. Mr. Deak also works closely with CEA's business development and project execution teams to optimize project management efficiency, define clients' scopes of work, ensure accurate reporting, and deal with ad hoc project quality concerns. Mr. Deak works with a large variety of developers, IPPs and EPCs from North America, Europe, Japan, and other regions across the globe for solar PV related quality assurance engagements.

Prior to joining CEA, Mr. Deak had worked and studied in 10 countries across Europe and Asia, including Germany, UK, Denmark, Hong Kong and China. He completed a traineeship in the European Parliament in Brussels where he focused on energy industry research and worked on public budgeting at a think-tank in Hong Kong. Recently, he has been involved in two early-stage start-ups dealing with sustainability topics for which he won two business awards, in China and Germany.

Mr. Deak has earned a Master's of Public Policy degree focused on technology and sustainability from the Brandt School in Germany, and holds a B.A. in International Relations and Diplomacy from Matej Bel University in his homeland, Slovakia. His master's thesis was titled 'Sustainable Energy Transition in the European Union'. During his studies, he volunteered in China and Georgia, and translated/co-published a socio-economic book. Besides native Slovak, he also speaks fluent English, Czech, and business proficient German.

Brett Kester, Senior Manager, Supply Chain Management

Mr. Kester is part of the Supply Chain Management team at Clean Energy Associates. Prior to his work at CEA, Mr. Kester worked with AES Distributed Energy as Senior Strategic Sourcing Manager, supporting AES' community solar and small utility solar+storage markets, as well as AES' global equipment contracting efforts. Mr. Kester also worked at RES Americas as a Procurement Manager, with responsibilities for construction contracting and equipment purchasing for RES' wind, solar, and storage projects.

In addition to the most recent 7 years of renewables supply chain experience, Mr. Kester has a 20-year background in procurement and sourcing roles with companies including CH2M Hill, Fluor Daniels, and Merrill Lynch.

Chris Grablutz, Business Development Director

10 years of experience in the solar industry with a wide network of great solar professionals and deep roots in northeast solar markets. He has focused his career on commercial, industrial, and utility scale solar with a technical evolution from engineering design to project and construction management, operation & maintenance, and business development.

Before CEA, Chris worked as a Project Engineer at Pfister Energy. Since 2013 he worked at PV Pros as Director of Field Services, leading the development of a commercial PV installation division and growing the team to 30+ staff. In 2017, Chris moved into business development, serving as PV Pro's Director of Business Development in 2017. BS in Physics from Lock Haven University and hold the NABCEP certified Installation Professional.

Marin Rouleau, Business Development Manager, France

Marin Rouleau is a Business Development Manager at CEA, and focuses his efforts on managing commercial development and PV markets in France. Mr. Rouleau received his MBA from National Sun Yat-Sen University in Taiwan, and also possesses a Master's Degree in International Affairs from ESSCA Business School in France. Before joining CEA, Mr. Rouleau worked in Europe and South-America, on a variety of fronts, from management consulting to procurement and logistics, gaining a wealth of valuable experience regarding account management.

Mr. Rouleau has been an invaluable resource for CEA's clients in providing supply chain management support, as well as quality assurance support for both PV modules and inverters because of his unique international background. Mr. Rouleau has participated in the auditing of both Chinese and International PV suppliers, and is well versed in the business and technical aspects of the PV value chain. Mr. Rouleau speaks native French, is fluent in English, Spanish, and Mandarin.

Gaurav Gaba, Business Development Manager, India & Middle East

Mr. Gaurav leads business development efforts in India and Middle East markets. He has extensive experience of more than 6 years in solar industry.

Before joining CEA, Mr. Gaurav worked with SMA India and Arctech Solar. He was leading business development efforts in India and Turkey markets while working in Arctech. He has a background in electronics and communication engineering and also holds an MBA degree in Power Management from University of Petroleum & Energy Studies, Dehradun.

5.2 Execution Team – Engineering Services

Nicholas Hudson, Senior Project Manager/Principal Solar Engineer

Based in Austin, Texas, Mr. Hudson has over 10 years of Professional Engineering Services experience, with more than 4 years in the solar energy industry.

Before joining CEA, Mr. Hudson served as Project Engineer at SunPower Corporation, one of the leading global companies for PV module manufacturing and system installations, where he managed the complete design and permitting processes for a range of solar project sizes from 100kW to 50+ MW. His expertise covers all major PV mounting systems including RMR, rooftop ballasted, GFT, and tracker applications. Mr. Hudson also has experience managing and overseeing all engineering disciplines, including Structural, Electrical, Civil, and SCADA specialties, in addition to handling relationships with major utilities and large permitting jurisdictions in the United States.

Prior to working in the solar industry, Mr. Hudson was a lead Structural Engineer for multiple EPC firms in the Gulf Coast's petrochemical industry, responsible for designing projects involving large reinforced concrete foundations, multi-story steel refinery structures, and other engineering specialties including blast-resistant design in extreme wind zones. He also participated in site planning and layout functions, as well as construction management and field auditing tasks. Mr. Hudson has experience with all ranges of greenfield and site-expansion work, as well as brownfield redevelopment sites, and his engineering background allows him to bring a detailed technical expertise to all phases of his work.

Mr. Hudson possesses a Professional Engineering license from the State of Texas. He holds a B.S. in Civil and Structural Engineering and a B.A. in Economics from Vanderbilt University.

Rogér Balyon, Senior Project Manager/Solar Engineer

Based in the Portland, Oregon area, Mr. Balyon has over 9 years of extensive solar PV experience including solar PV system project management, financial modeling, system design and optimization, performance modeling, sales, and BoS system engineering. Mr. Balyon is responsible for project management and technical support to solar PV projects as well as performing technical due diligence of system design, testing and commissioning procedures, quality assurance, and quality control.

Prior to joining CEA, Mr. Balyon spent 10 years working for solar PV startups. Most recently he worked for an electrical engineering company where he was responsible for the design and electrical engineering packages, as well as technical support for the development and construction of over 400 MW of solar projects. During the planning and construction of these projects, Mr. Balyon was responsible for the coordination of civil, structural, and geotechnical engineering, and the development of full engineering packages for EPCs and project developers. Mr. Balyon has worked for multiple PV manufacturers where he provided balance of system engineering and technical sales support internally and to clients. He has also gained experience and developed relationships with many major PV module, racking, and inverter manufacturers.

Mr. Balyon earned a B.S. in Materials Engineering at the California Polytechnic State University in San Luis Obispo, CA.

Kyle Downes, Senior Project Engineer/Project Manager

Mr. Downes is the senior Project Engineer / Project Manager at CEA. He has more than 7 years of experience in solar PV commercial and utility-scale design, engineering and PV production analysis tools.

Prior to CEA, he worked as Project Engineer with Panasonic Eco Solutions where he was responsible for development support, engineering design, engineering construction support and commissioning. Mr. Downes' expertise lies in fixed tilt, HSAT, rooftop, ballasted, and carport applications and he is based in Los Angeles, California.

Claire Kearns- McCoy, Project Manager/Solar Engineer

Claire has extensive experience in conducting field testing and interpreting test results.She has participated in projects including electroluminescence imaging and analysis for over 55,000 PV modules.
Before joining CEA, Claire has 3 years experience at SunEdison in solar module research and development as well as manufacturing management for solar wafers, cells and modules.

Claire holds a B.S. in Engineering from Massachusetts Institute of Technology (MIT) with a focus in mechanical engineering and energy conversion engineering.

Jigeesha Upadhyaya, Associate Solar PV Engineer

Based in Denver, Colorado, Ms. Upadhyaya has been involved with the solar industry for the past 2 years. She worked on reliability and performance of PV modules and MLPE devices, and as a solar designer, handling permit packages for over 10 states. Previously, she worked as an engineer in the CRM industry as well.

Ms. Upadhyaya holds a Master's degree in solar energy engineering from Arizona State University. She also holds a B.Tech degree in Electronics and Instrumentation from VIT University, India.

Javier Mota, Solar Project Manager

Mr. Mota is a Solar Project Manager with 14-years of high-level experience, at CEA. He has a wide experience in project development and management in electrical infrastructure constructions such as Electrical substations, high voltage overhead lines, solar Plants, Wind Farms, high and low voltage distribution networks, and low voltage electrical facilities.

Before joining CEA, Mr. Mota oversaw numerous engagements in the areas of quality assurance, owner's engineering, and technical due diligence, both at the system and factory level.

Mr. Mota was responsible for the execution of quality control for PV modules, inverters and electrical substations in several PV plants in Spain.

Mr. Mota holds a Bachelor's degree in Electrical Engineering from the Polytechnical University of Valencia (UPV). He is located in Valencia, Spain.

Javier Villalobos, Project Manager/Solar Engineer

A unique skillset combining both upstream and downstream quality control expertise in electrical engineering business, with a focus on PV module laboratory testing.

Involved in auditing a large number of PV module factories around the world and performing technical due diligence on numerous PV production lines internationally and supporting field testing and audit services for a variety of clients in Spain, France, Germany, the UK, etc.

Degree in Physics, and a Technical Diploma in Occupational Risk prevention.

Lazarus Ortiz, Project Manager

Mr. Ortiz is a Project Manager and Solar Engineer at CEA, leading the execution of Engineering Services projects as well as Quality Assurance projects for clients in the EMEA region. He has managed and executed significant racking, module and inverter Quality Assurance projects for over 2GW of solar engagements. Mr. Ortiz has also acted as the execution leader for large onsite EL testing, flash testing and visual inspection engagements. He has completed over 100 MW EL onsite testing with field testing services such as IV curves, IR images and EL images. In addition to this he works closely with Business Development Managers on project bidding focusing, drafting technical proposals and providing clients with relevant consulting.

Previous to his current position, Mr. Ortiz was a Quality Control Engineer at CEA for two years, executing over 200 MW of solar module's Quality Assurance projects in China, Malaysia, Germany, England and Korea, for assignments that included production monitoring, factory audits, pre-shipment inspections as well as solar farm on-site module quality inspections. He has also conducted PV racking production monitoring and pre-shipment inspections in China and Europe.

Mr. Ortiz has a Bachelor's degree in Mechanical Engineering from Kunshan University in Taiwan, and a Master of Engineering in Biomedical Engineering from Southeast University in Nanjing. Apart from his native Spanish, Mr. Ortiz speaks fluent English, and is proficient in Italian and Chinese.

Zoya Khan, Program Manager

Based in the Seattle, Washington area, Ms. Khan joined CEA as a Program Manager in January, 2020. She has over 7 years of extensive Project Management experience inclusive of Change Management, Financial Management, Product Management, Project Lifecycle Planning with Critical Path Analysis, Risk Management, Global Vendor Management and Team Development. She is particularly passionate about evolving system-level processes utilizing her analytical rigor to promote efficiency while balancing quality. Anything that makes life easier and more efficient for her team members makes Ms. Khan a happy Program Manager!

Prior to joining CEA, Ms. Khan spent 4 years in the Semiconductor Industry, 1 year in the Li-ion Battery Industry and 2 years in the Aerospace Industry. Most recently she worked for an Aerospace start-up company where she managed a $10 million dollar Program for NASA with 20+ team members and several intricate projects to deliver a 3D Printing Machine off of a Satellite intended to orbit the ISS . During the planning and execution of these projects, Ms. Khan successfully passed

NASA's PDR and delivered a working prototype in 3 months, by orchestrating the management of several Global vendors, subcontractors and onsite Engineers.

Ms. Khan earned a Bachelors in Psychology and Cognitive Science from the University of California, Los Angeles. She is currently pursuing her PMP.

Ankil Sanghvi, PV Commissioning Engineer

Ankil Sanghvi has over five years of experience in PV Solar industry. As a PV Commissioning Engineer at Clean Energy Associates, he is responsible for quality inspection and testing services, commissioning services, design reviews, and test data analysis. He provides expertise in PV Cell technology and has a broad scientific understanding of solar cell technology and its manufacturing processes.

Before working with Clean energy Associates, Ankil worked with Boston based Acuity Power Group for over 4 years as Testing Quality Manager and PV Consultant. Ankil also worked at TUV Rheinland Photovoltaic Testing Laboratory (now Solar PTL) where he gained experience in reliability and durability testing of PV modules.

Ankil graduated from Arizona State University with Professional Science Masters in Solar Energy Engineering and Commercialization. He participated in research for Reliability and Durability testing of PV modules under the mentorship of Dr.Mani Tamizhmani, a world-renowned scientist, and an expert in photovoltaics. Ankil has also been invited as a guest lecturer for the topic of 'What not to do in solar installations' at Arizona State University, Appalachian State University, and the University of Massachusetts at Lowell.

Jaspreet Singh, Manager, Power Electronics

Jaspreet brings over 12 years of experience working in the solar, energy storage and power industry. Jaspreet had direct engagements with installers, EPC's and developers in residential, commercial, and utility-scale segments globally. Until recently, Jaspreet was managing new product innovation in commercial energy storage for Schneider electric. Previously, he's worked in various product management roles for Schneider Electric, Enphase Energy, and ABB for solar and storage inverter development.

In the early days, Jaspreet worked as a Technical sales engineer in ABB's LV/MV Switchgear divisions designing electrical substations and distribution networks in India. Jaspreet has done extensive research on PV power plants and PV module degradation and has authored multiple IEEE conference papers and webinar presentations. He is an active participant in interconnection/safety standard development committees, industry working groups on SMART inverters, and grid integration of renewable energy.

Jaspreet holds an MSEE from Arizona State University, with a specialization in Alternative Energy Technologies, and a BSEE, specializing in Electrical Power Systems.

Ajinkya Joshi, Analyst, Energy Modelling

Mr. Ajinkya is energy analyst and engineer with 2+ years of experience in renewable energy industry. He is highly skilled in performance analysis, energy modelling and data processing for energy systems.

Before joining CEA, Mr. Ajinkya worked as a design & engineering manager with CleanMax. Mr. Ajinkya has been responsible for design & engineering of utility scale solar PV plants across India. Also, he is experienced in optimisation and simulation of energy systems

Mr. Ajinkya holds a masters degree in energy systems engineering and presently resides in Mumbai, India.

Andreas Savva, Applications Engineer, Energy Storage

Mr. Savva brings over 3 years experience in battery research and development. He is experienced with lithium-ion and alkaline zinc battery chemistries.

Mr Savva holds a BS in Chemical Engineering from NJIT and MS in Materials Science and Engineering from Boise State University.Mr Savva is fluent in Greek and German.

Matt Preston, Energy Storage Engineer

Mr. Preston has over 8 years of experience in energy industry with a focus in Power Generation and Distribution. Mr. Preston has a wide experience in energy storage roles for NextEra Energy with more than 3 years as Operations Engineer in Solar and Storage

Mr. Preston holds a BS in Mechanical Engineering with Minor in History from Florida Atlantic University

Dr. Michael Scott, Senior Quality Control Engineer

Dr. Michael Scott has more than 15 years of experience ranging from academic research to high volume manufacturing.

Before joining CEA, Dr. Michael Scott worked in several highly technical engineering and leadership positions at SunPower and SolarWorld. Prior to his work in c-Si manufacturing, Mike studied 3rd generation thin-film PV technologies in graduate school and professional research.

Dr. Michael Scott holds a PhD in Chemistry and his research focused on charge separation and transport in photovoltaic devices.

5.3 Execution Team – Quality Assurance Leadership

Leo Li, Director, Project Operations

Mr. Li is the Director of the Project Operations team at CEA, leading project operations and internal management. He has over 12 years of quality control industrial experience with over 6 years in solar PV at Schüco and Renesola. At Renesola, Mr. Li worked as a Manager for the Overseas OEM Management Division, overseeing nearly 600 MW of module production, and conducting factory audits in different OEM factories located in Poland, India, South Africa, Turkey, South Korea and Malaysia. Through experience managing OEM factories all over the world, he has acquired sophisticated knowledge of production, quality control, and SCM.

Prior to his time at Renesola, Mr. Li worked at Schüco as an OEM Supervisor where he led more than 350MW of module quality control engagements in different factories within China, producing products for Canadian Solar, Hanwha, Chint, Hareon, and Jetion. Mr. Li has completed several factory audits since working for CEA, across Vietnam, Malaysia and China. He has also completed project management oversight for over 8GW of projects in various countries within Asia, as well as training employees for factory audits. Mr. Li received his Bachelor of Science in Polymer Materials & Engineering from Jiangsu Industrial University and is acquiring MBA from Xi'an Jiaotong-liverpool University.

Kevin Sun, Senior Energy Storage Manager

Mr. Sun leads the factory quality audits, design review and testing of battery systems. He brings more than 20 years of experience in the battery industry, including battery development and project management. Mr. Sun has ten years of experience working at Panasonic as a team leader in charge of Cost Control and Battery Pack R&D. During his tenure at Panasonic, Mr. Sun led the team to achieve the production and quality goals for consumer, power and EV batteries. Under Mr. Sun's leadership, Panasonic Energy successfully developed 165 types of Li-ion batteries. Thanks to the optimization of production processes, more than twenty million CNY cost saving was achieved. While at Panasonic, Mr. Sun also worked in the product development and cost optimization of battery packs for passenger cars and buses.

After his career in Panasonic, Mr. Sun joined GCL as the Technology Manager for GCL's energy storage division. He led the team to grow the battery and ESS department, performed cost evaluation, developed system architecture design, and optimized production quality. Previously, Mr. Sun worked as a Team Leader in the field of batteries for Valence Technology and for Sanyo Energy, where he developed new consumer and power product designs and optimized mass production. With his extensive experience, Mr. Sun has an in-depth understanding of the battery production process and he has solid knowledge of production processes, quality control, testing software, design tools, system architectures and platforms. Mr. Sun holds a Bachelor's Degree from Suzhou University in Electromechanical Integration Technology.

Susan Xie, Senior Technology and Quality Manager

Ms. Xie manages the executing of all Technology and Quality department activities, for both solar and storage and also helps support quality assurance project management and OEM factory auditing. With over 10 years of quality control and factory system establishment experience, Ms. Xie has extensive experience with ISO&OHSAS system and various module product certification processes. She has completed project management oversight of 3.6 GW of projects.

Prior to CEA, Ms. Xie served as the Quality Manager for TenkSolar, a US PV manufacturer and PV system integrator. She was responsible for ISO system implementation and maintenance, and third-party audit management. She also took part in new product design, testing, and certification, in addition to overseeing a Thai OEM factory quality control program. As the Quality Supervisor at Suntech, Ms. Xie managed a team of ten engineers. Her team was responsible for production line system optimization and product certification (VDE, CSA, JET) efforts through conducting internal audits according to IEC and UL standards and training engineers. Ms. Xie is a certified ISO Internal Auditor and QSM External Auditor, and she holds a Bachelor of Science degree in Information Systems from Hunan University.

Jerry Wang, Senior Project Manager, Module

Mr. Wang has over 14 years working experience in manufacturing, including over 9 years in the solar PV sector. During his 4 years at CEA, he has completed more than 50 factory audits for North American, European and Indian clients and has operated and managed over 3GW of PV module projects. He is now leading the team for all of the module QA work at CEA and also is the chief auditor for conducting QA work at PV cells and thin film panels.

Prior to joining CEA, Jerry was a Quality Supervisor at ET Solar Group for nearly 5 years, during which time he was leading quality teams to conduct quality inspections, improve the process and resolve customer complaints. He is also familiar with PV IEC61215/61730 and UL standards, with abundant experience in establishing new module production lines. Prior to ET Solar, he worked as a Process Engineer at Trina Solar and he led in-line yield improvement and efficiency enhancement, as well as improved soldering, lamination and assembly process recipe. Mr. Wang has experience in the implementation of ISO9000 systems, and also holds QEO internal auditor and national intermediate quality engineer certifications. Mr. Wang received his Bachelor of Science degree in Electronic Science and Technology from Hohai University.

Daniel Yang, Senior Project Manager, Power Electronics

Mr. Yang leads CEA's specialized inverter QA/QC functions. He has completed transformer projects (FAT and inline process inspections) at ABB and WEG, numerous inverter factory audits, Quality Control engagements, and inverter BOM cost analyses. Prior to CEA, he had 5+ years of experience at Chinese inverter manufacturers including Lincoln, Chint, and Sungrow. Most recently, Mr. Yang worked as a Senior Electrical Engineer at Shanghai Lincoln Electric Company and was responsible for the welding inverter circuit design, test, certification, and project management. Before joining Lincoln, he worked at ZhengTai Electrical Company and was in charge of hardware design of the inverter, improvement, testing, and certification.

Mr. Yang started his career in the inverter industry by serving as the Electronics Development Engineer at Sungrow. Through his 3+ years of experience at Sungrow, Mr. Yang developed abundant knowledge in component selection (such as IGBT MosFET, and capacitors) and the use of some power control chip (UC2844, SG2525) to design the optimal power switch. Additionally, he is familiar with industry production standards including IEC60974, VDE4105, VDE0126-1, DK5940, and G83. In addition, Mr. Yang is well-versed in the design requirements, test process and method, certification and production process for the switch power and inverter, as well as a skilled user of various test equipment, i.e. oscilloscope, signal generator, and power analyzer. Mr. Yang holds a Bachelor of Science in Electrical Engineering and Automation from Hefei University of Technology.

Dutt Du, Senior Project Manager, Mounting Structures

Mr. Du has over 10 years of mechanical manufacturing experience including 6 years in the racking industry, and has been engaged in projects from India, Japan, Philippines, US, and Spain. Prior to his joining in CEA, he worked for ATEC, one of the top 3 racking manufacturers in China. He served as the Production Manager overseeing production of 6+ GW of racking.

At CEA, Mr. Du has managed over 6 GW of tracker and racking quality assurance projects, conducted factory audits in over 10 factories and engaged closely with many top tier Chinese racking suppliers. Mr. Du has worked on projects involving various product applications, including Single-axis Trackers and fixed-tilt systems with manual adjustment, BAPV (Carport, Greenhouse, rooftop), and BAPV for racking. Mr. Du holds a Bachelor of Machine Design and Manufacturing from Huazhong University of Science and Technology.

Huatian Xu, Senior Technology and Quality Manager

Mr. Xu is a Technology and Quality Manager at CEA. During his first 3 years at CEA, Mr. Xu executed numerous QC assignments totaling over 800 MW for various European and American clients. Mr. Xu helped CEA build the earliest team of quality assurance services and kept improving efficiency and service quality. He is also responsible for maintaining and improving CEA's internal technology specs for PV modules, inverters, and racking systems. Mr. Xu is incorporating new inspection technology into CEA's evaluation criteria, tracking the latest technology in the industry to support internal and external needs of technology consulting, as well as providing technology advice on supply strategy and quality control plans.

Mr. Xu has broad knowledge in the PV industry and has conducted company investigations, product analyses, and technical due diligence audits of various suppliers of PV modules, inverters and racking systems such as Trina Solar, JA Solar, Jinko Solar, Sungrow, Huawei, Chint, AKcome, and Versol Solar. Mr. Xu received his Master's Degree in Optics from Shanghai Jiaotong University, where he spent 2.5 years researching silicon solar cells in the University's Physics Department.

Chi Zhang, Technology and Quality Engineer

Mr. Zhang is responsible for providing technical support for CEA's quality assurance services and tracking the latest solar and battery storage technologies to support internal and external needs for technical consulting.

Mr. Zhang has a combined 3-years of experience in the energy and environmental industry. He has proven ability to execute large-scale SCR (selective catalytic reduction) and Zn-Br flow battery storage projects. He is specialized in providing high quality engineering solutions to customers through coordinating different engineering groups and optimizing supply chain management for cost reduction.

Mr. Zhang received his Master's degree in Mechanical Engineering from Cornell University with a focus on renewable energy systems. He received his Bachelor's degree from Purdue University in Mechanical Engineering.

Alisa Xing, Quality Control Engineer

Ms. Xing joined CEA as a Quality Control Engineer in Oct 2019. Before joining CEA, Ms. Xing was working as an electrochemical engineer in the R&D department at Geely. Her main responsibilities are researching battery materials and testing battery performance.

Ms. Xing holds a Master's Degree in Chemical engineering and Technology from Taiyuan University of Technology.

5.4 Project Execution Team – Quality Assurance Engineering

Cara Zhu, Planning & Training Manager

Ms. Zhu is a Team Leader at CEA, where she coordinates quality assurance projects between client and suppliers and analyzes project reports from the operation team to identify potential problems. She also conducts quality assurance and factory audit projects in Korea, leveraging her language skills. Before joining CEA, Ms. Zhu worked for Jinko Solar, a global solar PV company, as a Senior Customer Service Agent responsible for aligning all departments to prepare documents, implement internal audits, and arrange the overall execution of customer and 3rd party factory auditing. Ms. Zhu is experienced in analyzing audit findings and conducting corrective actions in response to customer feedback. Her expertise and professionalism allowed her to maintain reliable relationships with both customers and 3rd party certification/testing bodies.

Ms. Zhu obtained a Bachelor of Science degree in Light Chemical Engineering from Zhejiang Sci-Tech University, and is currently pursuing a part-time Master's Degree in Project Management at Fudan University.

John Jiang, Project Manager (Modules)

Mr. Jiang is a Team Leader at CEA. He has experience in the PV manufacturing industry, beginning in 2008 as a quality control engineer with Trina Solar. At Trina Solar, Mr. Jiang was responsible for tracing defective raw materials through the production process and evaluating the defects which these defective materials caused. Mr. Jiang was later responsible for the evaluation of proposed changes to the module production process, whereby it was his responsibility to evaluate the effects of new production methods and process parameters on final module quality.

Before joining CEA, Mr. Jiang worked at GD Solar as a quality manager. It was his responsibility to coordinate the actions of a team of quality control engineers, which included developing internal training programs, personnel allocation, and the completion of various projects related to improving module quality. Mr. Jiang was also responsible for daily work in the factory's internal testing laboratory, where he would analyze long-term reliability for modules produced in the factory. Mr. Jiang has been deployed to a variety of factories for CEA and has completed QC projects for over 800 MW to date. Mr. Jiang obtained his Bachelor's Degree in Measurement Equipment & Technology from the University of Yangzhou.

Sky Zhou, Project Manager (Modules)

Mr. Zhou joined the CEA team as a Team Leader with over 8 years of experience working in PV solar quality control. He worked as the IQC and OEM supervisor at Renesola for 5 years and spent 3 years working as the OEM supervisor for Canadian Solar. He led more than 400MW of module quality control engagements in different factories within Vinasolar and Flextronics in Malaysia. His projects ranged from OEM factory introductions, audits, daily quality management and production planning, with no customer complaints. He also led Canadian Solar's overseas manufacturing quality management team, producing over 45MW/month. Mr. Zhou holds a Bachelor's Degree in Electronic Information Engineering from Jiang Nan University.

Jerry Huang, Project Manager (Modules)

Mr. Huang joined CEA as a Team Leader and was soon promoted to Project Manager. Before joining CEA, he had nearly 8 years' experience in the PV industry, and has conducted over 2 GW of QC assignments on production monitoring and module inspection and over 800MW of racking quality assurance projects. Prior to joining CEA, he worked as a Quality Engineer in Topsolar Green Energy, where he was in charge of testing incoming raw materials and became very knowledgeable of PV module quantity analysis and quality control. In addition, he had experience in managing factory audits, monitoring and product inspection. Before joining Topsolar, Mr. Huang was an assistant QC in P+M Solar, where he was in charge of production quality control.

Max Li, Project Manager (Modules)

Mr. Li is a project manager at CEA with over nine years of experience in the solar PV industry. Prior to joining CEA, Mr. Li worked as an IPQC engineer at Suntech for 2 years and Quality Engineer at ET Solar for over seven years. During his time at ET, he was in charge of FQC and OQC, and became an expert in PV module quality, quantity analysis and quality control. In addition, he has experience in dealing with clients regarding OEM factory audits, monitoring and product inspection. Mr. Li holds a Bachelor's Degree of Chemical Engineering from Jiangsu Normal University.

Frinch Yu, Project Manager (Transformers)

Mr. Yu is a project manager overseeing transformers at CEA, where he has completed over 600 MW of station transformer project factory acceptance testing (FAT). Prior to CEA, he worked for 8+ years as a Senior Electrical Engineer at Changzhou Toshiba Company and was responsible for the electric design, offer tender and quote as well as project management. Mr. Yu has experience in PCB / motor inspection and while at Toshiba, Mr. Yu developed abundant knowledge in component selection such as bushing design and OLTC. Additionally, he is familiar with industry production standards including IEC60076 and is well-versed in the design requirements, test process, method, certification and production process for large transformers. Mr. Yu holds a Bachelor of Science in Automation from Wuhan University of Science and Technology.

Jackie Liu, Project Manager (Inverters)

Mr. Liu joined the CEA team as Team Leader of inverters with six years' experience in quality management of manufacturing enterprises and four years' experience in quality control and testing of photovoltaic inverters. Prior to CEA, he worked for Sungrow Power Supply where he served as the quality supervisor for inverters and was responsible for the quality and testing of the entire manufacturing process. Mr. Liu has substantial experience in the manufacturing process, testing requirements and industry standards for inverters. He has also been responsible for domestic and international audits and has supervised manufacturing tests. He has led his teams to gain recognition from both clients and company directors for outstanding performance.

Peter Chen, Team Leader (Modules)

Mr. Chen is a Team Leader at CEA. He has executed over 1GW of quality control engagements during his solar career. He has over 10 years working experience in factory audit, inline monitoring and pre-shipment inspection with three western corporations operating in China. Prior to joining CEA, Peter was a quality engineer at Tontech and is well-versed in quality and environmental management systems including ISO9001, ISO14001, IEC61215-2, IEC61730 and UL1703. Prior to his time at Tontech, he worked at Prosperous Technology where he led the establishment of the company's quality department and laboratory as well as training for inspectors.

Peter started his career in solar as quality engineer at Schüco's Solar Division, where he accumulated extensive experience in quality control of module production. Mr. Chen specializes in identifying, analyzing and solving various kinds of quality problems through the entire module producing progress. Mr. Chen holds a Bachelor of Science degree in Applied Physics from East China University of Science and Technology.

Jun Lou, Team Leader (Modules)

Mr. Lou is a team leader in CEA and has conducted over 150MW of QC assignments on production monitoring and module inspection. Prior to his work at CEA, Mr. Lou was an OBA technician at Trina Solar, where he was responsible for the supervision of production chain, test of materials and modules.

In college, Mr. Lou majored in electrical engineering, with an emphasis on solar energy.

Ellis Xu, Team Leader (Modules)

Mr. Xu joined CEA as a Quantity Control Engineer after working nearly 6 years in the PV industry, and conducting over 1.5 GW of QC assignments on production monitoring and module inspection. Prior to joining CEA, he worked as a Quality Engineer in CSUN's Turkey factory, during which period he was in charge of FQC and OQC. He has extensive knowledgeable of PV module quantity analysis and quality control as well. In addition, he has experience managing factory audits, monitoring and product inspection. Mr. Xu has completed quality control engagements at Jinko Solar, BYD, Canadian Solar, Trina Solar, Suntech, Risen, Hanwha, Vina Solar, YINGLI and LONGI. In the past three years, he has visited many factories in Turkey, Thailand, Vietnam, Malaysia, and India. He holds a Bachelor's degree in Information Management from Henan University of Technology.

Lisa Qiu, Team Leader (Modules)

Ms. Qiu joined CEA as a Quality Control Engineer. Before her career at CEA, Ms. Qiu worked as an engineer in the module process department and R&D department at Talesun Solar for four years where she designed new products and solved many kinds of defects. Ms. Qiu is experienced in PV module quality control and understands key points in the production process. Ms. Qiu holds a Bachelor's Degree in Electronic Science and Technology from Changshu Institute of Technology.

Samuel Meng, Team Leader (Modules)

Mr. Meng is a Quality Control Engineer and has inspected 300 MW of module products and 100 MW of inverters for projects in China, Malaysia, India, and Vietnam. In 2017 he was involved in a 500 MW module & cell line construction project in Inner Mongolia. Prior to his work at CEA, Mr. Meng worked as a test engineer at Upsolar for 2 years, during which period he oversaw the testing of new components, as well as modules, in order to validate their quality for the company. Mr. Meng has also been responsible for downstream activities within the company, following up on activities related to PV systems operation and maintenance, as well as preparing initial designs for PV power plants. Mr. Meng has an excellent concept of both

upstream and downstream issues which can occur due to quality issues at the module level. Mr. Meng obtained an Electrical Operation Certificate and holds a Bachelor's in Applied Physics from Xi'an University of Posts & Telecommunications.

Jason Xiong, Team Leader (Modules)

Mr. Xiong is a Quality Control Engineer at CEA where he has been engaged in executing multiple mid-sized QC assignments involving production monitoring and module inspection at several Tier 1 and Tier 2 manufacturers in China and has completed over 1.5GW of general QC work in total. Prior to his career at CEA, he worked at Jinko Solar, where he was trained as a quality inspector in the company's module department. He came to CEA with background knowledge in common PV module defects, as well as an understanding of the general PV module manufacturing process. Mr. Xiong holds a Bachelor of Science degree in Materials Science and Engineering with a concentration on Solar Photovoltaic.

Barrett Zhou, Team Leader (Inverters)

Mr. Zhou joined the CEA team as a quality control engineer in a specialized inverter QC function. He previously worked at TBEA and was responsible for inverter debugging. He has five years of working experience in the PV industry. Mr. Zhou is familiar with the whole production, assembly and debugging process and the product process quality control of the inverter. He led the team to complete the debugging of their centralized inverter group series, completing more than 1 GW of product and was responsible for the pre-sales/after-sales technical support of several large centralized PV power stations.

Allen Xu, Quality Control Engineer

Mr. Xu is a Quality Control Engineer at CEA. He has over seven years of experience in solar the PV industry. Prior to joining CEA, Mr. Xu worked as an Assistant Quality Engineer at Canadian Solar for over five years, during which period he was assisting quality managers in their daily work including incoming materials checks, client complaint investigation, internal audit, OEM factory management, as well as new employee onboarding and training. He has completed QC projects for over 600 MW to date. Mr. Xu holds an Associate Degree in Financial Accounting from Jiangsu Broadcast and Television University.

Jesse Zhu, Quality Control Engineer

Mr. Zhu joined CEA as a Quantity Control Engineer with nearly 7 years of experience in the PV industry. He has conducted over 800MW of QC assignments on production monitoring and module inspection. Prior to joining CEA, he was a Senior OEM Engineer at ET Solar for nearly 6 years, during which period he was assisting the quality manager in daily work including incoming materials check, client complaint investigation, internal audits, and OEM factory management. Mr. Zhu graduated from Jiangsu Normal University with a Bachelor's Degree in Electrical Engineering and Automation.

Chad Wu, Quality Control Engineer

Mr. Wu joined CEA as a Quantity Control Engineer with 4 years of working experience in the PV industry. Previously, Mr. Wu worked at Sunrise, where he started at the basic quality staff level and worked his way up to Team Leader. His expertise covers quality control of the entire module production line. In college, Mr. Wu focused on light energy and electricity.

Jane Luo, Quality Control Engineer

Ms. Luo joined CEA as a quality control engineer and has more than six years of experience in the solar PV industry. Prior to joining CEA, Ms. Luo worked as a third-party quality engineer responsible for quality supervision and inspection. She also worked as a quality technician in Trina, responsible for the supervision of the production line, CI improvement projects, and the introduction of new products, materials and processes.

Kevin Zou, Quality Control Engineer

Mr. Zou joined CEA as a quality control engineer and has more than 7 years of working experience in the solar PV industry. Before joining CEA, Zou was a quality control engineer. He worked at Trina Solar as a Quality Senior Technician. Mr. Zou was responsible for major abnormal analyses, processing production workshops, and improving product yield to complete the project orders at the factory. Mr. Zou ensured the product production process and product quality.

Jaqen Chang, Quality Control Engineer

Mr. Chang joined the CEA team as a Quantity Control Engineer with more than 9 years' working experience in the PV industry. Prior to joining CEA, he worked as a Quality Control Engineer in ET Solar for 6 years, including 4 years in OQC and 2 years in the OEM department. During this period, he accumulated a great deal of experience in quality control. After that, he worked as a PE engineer at Jolywood, where he was worked on the team focused on developing and manufacturing BIPV. Mr. Chang holds a Bachelor's Degree in Atmospheric Physics from Nanjing University of Information Science and Technology.

5.5 CEA Support Team

There are additional members of the CEA team who provide support in the completion of various primary and secondary research, accounting, finance, administrative, HR, IT and reporting deliverables. These services are provided from various locations globally including China, the Philippines, North America and Europe.