RELIABLE GENERATION SECURE STORAGE AFFORDABLE EFFICIENT EXTENSIBLE INDEPENDENT RENEWABLE ADVANCED COMMUNICATION FORECASTING ENERGY SUSTAINABLE DISTRIBUTION



RESPONSE TO REQUEST FOR STATEMENT OF QUALIFICFATIONS 100% Renewable Energy

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RFSQ 1088487-18-A (Original Close 7/12/2017, Revised Close 7/21/2017)

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CLEANSPARK,



1. COVER LETTER

Reference: Response to Request for Statement of Qualifications for 100% Renewable Energy

Solicitation Number: RFSQ 10088487-18-A

Attention:

Maureen Medvedyev, Supervising Procurement Contracting Officer, 1200 Third Avenue, Suite 200 San Diego, California 92101 MMedvedyev@sandiego.gov (619) 236-6154

Dear Ms. Medvedyev,

CleanSpark, a home-grown San Diego technology company and small business, would like to thank the City of San Diego for considering CleanSpark's PowerPlan, Microgrid Development, and Microgrid Management services and products in supporting our city's ambitious goal of 100% renewable energy. CleanSpark's offering is designed to enable the distributed energy future through clean power, resiliency, cyber security and value to the City and its users for many years to come.

CleanSpark's unique platform is well suited to San Diego's 100% Renewable Energy goal as the platform is:

- > Cost effective
- > Technology agnostic
- Able to integrate with any form of legacy asset including diesel generators, grid monitoring devices, and hardware control
- Able to optimize a systems operation in real time through resource, load, and optimization learning proprietary algorithms
- Scalable to infinite level with load growth
- Plug and play to allow for inclusion of new technologies and adaptable over time
- Dispatchable for revenue generating opportunities through grid services via industry standard communication protocols
- > Cyber secure to defense grade

Many of our customers would like to broaden their Distributed Energy Resource (DER) deployments; however, many have a challenging time getting started. As such, CleanSpark is able to tailor solutions through evaluating a number or portfolio properties, prioritize implementation based on savings and income potential, all completed using advanced modeling and optimization software that evaluates each customer's actual load profile and offers system specifications that maximize ROI, minimize payback period. In addition, the



mPulse[™] Energy Operating Platform offers command and control capability to adjust operation over time within a changing utility landscape (utility rates, Distribution Service Operator markets, and ancillary service markets).

CleanSpark's systems are operated with an industry leading comprehensive microgrid performance wrap in addition to all Government required securities including Performance Bonding.

From design development through operation, CleanSpark's team provides flexible and turnkey solutions for our clients that are backed by industry leading performance guarantees. We pride ourselves on customer satisfaction and hope to have the opportunity to exceed expectations.

Thank you for your consideration of our company to support in the 100% Renewable Energy goal.

Sincerely,

Pot

Bryan Huber Chief Operations Officer **CLEAN**SPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 c | 619.204.6877 e | bhuber@cleanspark.com



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RESPONSE TO REQUEST FOR STATEMENT OF QUALIFICATIONS

2. MINIMUM REQUIREMENTS

Overview

CleanSpark is a local technology company that specializes the strategic consulting, system optimization, design, deployment, and operation of Distributed Energy Resources and Microgrids. The company's expertise has focused on renewable energy driven DERs including energy storage and critical power microgrids for the defense community here locally in San Diego. Commiserate with this focus, CleanSpark maintains in good standing both California Professional Electrical Engineering and Construction licenses:

California Professional Electrical Engineer

Jeffrey R. Trueblood, P.E. (Lic. 17153) Principal Engineer and Microgrid Architect CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 e / jtrueblood@cleanspark.com

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This credential can be looked up at: <u>http://www2.dca.ca.gov/pls/wllpub/wllqryna\$lcev2.startup?p_qte_code=ENG&p_qte_pgm_code=7500</u>

California Licensed Electrical Contractor

Anthony Vastola, RME (CSLB#1001675) Vice President, Project Development CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 e | avastola@cleanspark.com



 Information, you should be aware of the following limitations. (I CSLB complaint disclosure is restricted by law (<u>B&P 7124.6</u>) If complaint disclosure will appear below. Click on the link or butto 	hide/show disclaimer) this entity is subject to public complaint disclosure, a link for
 CSLB complaint disclosure is restricted by law (<u>B&P 7124.6</u>) If complaint disclosure will appear below. Click on the link or butto 	this entity is subject to public complaint disclosure, a link for
	on to obtain complaint and/or legal action information.
• Per <u>B&P 7071.17</u> , only construction related civil judgments rep	orted to the CSLB are disclosed.
 Arbitrations are not listed unless the contractor fails to comply whether the contractor fails to contractor fails to comply whether the contractor fails to comply whether the contractor fails to contractor fail	with the terms of the arbitration.
Due to workload, there may be relevant information that has no	t yet been entered onto the Board's license database.
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SAN DIEGO Business Phone Nur	nber:(858) 444-5659
Entity	I td Liability
Issue Date	03/04/2015
Expire Date	03/31/2019

3. RESPONDENT'S QUALIFICATIONS AND EXPERIENCE

a. Describe Respondent's ability to perform the desired services.

Consistency of Personnel and Company Experience with RFSQ Minimum Requirements and Proposed Scope of Services

CleanSpark is uniquely qualified to assist the City of San Diego achieve its 100% CAP goals. Founding Members of the CleanSpark Team have been working side by side with local authorities, communities and military personnel at a very basic level for nearly a decade to assist in building a strong foundation for this transformation to be built upon. Deeper, the company is comprised of San Diego natives who have a deep sense of pride and passion to see this objective be realized in a way that provides true local sustainability, resiliency and eventually regional economic dominance. The CleanSpark team has studied this objective for over a decade and has made connections and bonds to almost every organ that would be required to simultaneously operate to see this vision manifest.

In addition to the minimum licensure requirements from the previous section, the below summary of relevant Personnel and Company qualifications is provided in direct response to the Scope of Services.

Submittals shall clearly identify a detailed description of the demonstrated experience and ability of the respondent (or joint respondents that establish a multi-venture) to help achieve and maintain the City's 100% renewable electricity CAP goal by 2035, including:

1. The ability of the respondent to integrate with existing electrical transmission and distribution infrastructure;

CleanSpark's team is comprised of cross-functional skill-sets within the power industry including that can produce results and has products such as the following, for example:

- PowerPlan CleanSpark's Dynamic Network Analysis (DNA) PowerPlan is your customized guide to maximizing your energy projects ROI. State-of-the-art data analytics account for real costs, precise utility rate models, equipment performance, actual energy consumption and outlines what type of energy resources are to be built, what it will cost, and how it will perform once deployed. A DNA PowerPlan is where engineering/analysis meets detailed economic performance modeling, showing you exactly what to do. The DNA PowerPlan is bankable and actionable
 - o Considerations
 - Power systems engineering and design based on real-world performance of energy systems and components including energy storage
 - Power project business case optimization based on deployment strategy (customer sited, utility sited, shared value)
 - Engineering estimates of deployed system expense and business case proforma modeling of energy related revenue streams, state/local/federal incentives, and state/local/federal tax benefits

CleanSpark can help the City of San Diego with Bankable PowerPlans for its owned assets. In addition, CleanSpark can consult on ways in which to develop and adopt policy that will lead to the widespread demand for such PowerPlanning, the first step in transformation toward the CAP.



Camp Pendleton Fractal Grid

Client: Camp Pendleton Location: San Diego, California Completion: 2013

CleanSpark Microgrid

System Details mPulse Software and Controls

PV System 300 kW

Concentrated PV System 250 kW

Diesel Genset 250 kW

Flywheels (2) 36 kW / 120 kWh

Gel Batteries 25 kW / 30 kWh Ground Source Geothermal Heat Pumps

d Features

Architecture: Critical Power Fractal Grid (CPFD)

With **demand management** enabled by CleanSparks mPulse software this CPFD is able to curtail non-critical energy demand in response to current or predicted conditions of the microgrid or utility grid. In addition the system can **peak shave** by supplying virtually instantaneous energy to cover sudden usage spikes and reduce energy costs. The grid architecture also incorporates **cyber-physical security**, a high value feature sought by the D.O.E.

Additional features include: Renewable Generation, Grid-Connecting/Islanding, Expandable, Flexible

CleanSpark Products

DNA PowerPlan Delivered 2012

Grid Development Constructed 2014

mPulse Grid Managment Ongoing, Active Management

<u>https://www.youtube.com/watch?v=lqUEe8HmK0U</u>

https://www.youtube.com/watch?v=Cjd3bMvxRsw

Rams Hill

Client: Rams Hill Golf Club Location: Borrego Springs, California Completion: 2015

CleanSpark Microgrid

System Details

mPulse Software and Controls

Plug-n-play microgrid ready design

PV System 829 kW

Features

CleanSpark designed a behind-the-meter 12 kV scalable microgrid for customer savings. The infrastructure enables true plug and play capibility for future distributed energy resource deployment. Rams Hill Golf Course is equipped to add load, generation, and storage all the while maintaining and even increasing savings.

CleanSpark Products

DNA PowerPlan Delivered 2015

Grid Development Constructed 2015

mPulse Grid Managment Ongoing, Active Management



City of Colton Wholesale Solar

Client: City of Colton Location: Colton, California Completion: 2014

CleanSpark Microgrid

System Details

mPulse Software and Controls

Ground-Mount Fixed Tilt Solar 3.158 MWdc Single-axis Tracked Solar 1.041 MWdc

Features

Architecture:

Utility scale wholesale solar farm

Colton's Electric Utility is the oldest utility in San Bernardino County. The utility serves 16,000 residential customers and 2,500 commercial and industrial customers and has a peak load of 90 megawatts. CleanSpark was selected to help Colton plan and build a **wholesale solar** farm that makes Coltons electric grid even more **sustainable** and **renewable**.

CleanSpark Products

DNA PowerPlan Delivered 2013

Grid Development Constructed 2014

Project	Features	System Details	DNA PowerPlan	Grid Development	mPulse Grid Mgmt	4
Mountain War- fare Training Center Client U.S. Marine Corp Location: Bridgeport, California Operational: 2013	CleanSpark worked closely with Jacobs Engineer- ing and HDR to plan a high value cyber secure grid for NAVFAC. For its part, CleanSpark developed a phased microgrid implementation strategy. With real-time monitoring capabilities CleanSpark will deliver high resolution, dynamic monitoring and optimization. In addition to recommending renewable generation and energy storage, CleanSpark identified a number of energy efficien- cy measures that will provide short paybacks and additional savings.		DNA PowerPlan analyzed 80 acre complex with a focus on resilien- cy and phased implementation completed in 2016	Dependent upon Congressional Approval	mPulse Mgmt will be deployment post installation @ commercial operation	
P-1132 Client: Camp Pendleton Location: San Diego, California Operational: 2013	P-1132 includes a suite of features like a cy- ber-physically secure energy system, a unique feature that is inherent to every project that CleanSpark deploys. Additionally, resiliency and flexibility will be achieved through coordination of advanced energy storage and distributed renew- able generation.	CleanSpark Controls Solar Carport 110kW Rooftop Solar 42kW Flow Battery 50kW/400kWh	Completed 2016	First Quarter 2018	mPulse Mgmt will be deployment post installation @ commercial operation	
Nano-Grid Client: Residential Location: Poway, California Operational: 2013	This fully off-grid capable nano-grid estate located in San Diego is not only able to island for days but also incorporates water security features, a charac- tistic that makes this nano-grid very unique.	CleanSpark Controls Rooftop Solar 12.2kW Energy Storage 20.4kWh Baseload Genset (2) 11kW natural gas/liquid pro- pane standby gensets.	Delivered 2015	Constructed 2016	Ongoing, active management	

- Private Customer NYSE Listed Real Estate Investment Trust Full Portfolio (UNDERWAY)
- Microgrid Development Our clients rely on our deep knowledge base and insight to deploy impactful, high-value, performance-wrapped, turn-key projects. The DNA PowerPlan provides critical information and is the starting point for our microgrid development services. Each project is carefully considered by our team of industry experts spanning every facet of the power sector, from energy policy, regulations to engineering, design, construction and finance.
 - o Considerations



- Permitting and interconnection procedures and administration
- Rate structure optimization
- Energy system procurement
- Energy system installation and commissioning
- Relevant Experience
 - City of Colton 4MW of Wholesale Distributed Generation solar PV development, finance, deployment, and operation to achieve Renewable Portfolio Standard (RPS) goals
 - United States Marine Corps Camp Pendleton Critical Power FractalGrid
 - Rams Hill Golf Course
 - Various Private Estates
- Grid Management CleanSpark's mPulse software and controls package collects, archives and analyzes data 24/7 providing real-time control and reporting, ensuring that your projects is performing according to the DNA PowerPlan. mPulse is built on a foundation of artificial intelligence that autonomously optimizes your energy system. mPulse is continuously growing, learning and updating to capture changing electric rates, changes in your operations or to manage grid outages.
 - o Considerations
 - Software enabled monitoring and control for continuous performance improvement
 - Increasing functionality with emerging CAISO and utility DER programs for dispatchability
 - Operations and Maintenance support
 - Relevant Expierience
 - United States Marine Corps Camp Pendleton Critical Power FractalGrid
 - Rams Hill Golf Course
 - Various Private Estates

CleanSpark's engineering team brings decades of Professional Engineering experience related to microgrid and macrogrid systems ensuring the implementation of designs consistent with all state, local, and federal guidance including buildings code and utility design criteria.

2. The ability and experience of the respondent to participate in the electricity market through the California Independent System Operator (CAISO);

CleanSpark's mPulse Energy Operating Platform for Grid Operation currently exhibits behind-themeter power flow control for economic optimization of Distributed Energy Resources including Solar PV, wind, energy storage, and distributed natural gas solutions (DNG) including microturbines and fuel cells. CleanSpark has been accepted into the San Diego Renewable Energy Innovation Network (SD-REIN) which is funded through a California Energy Commission (CEC) grant administered by CleanTech San Diego. Specifically, CleanSpark is working with the University of California San Diego (UCSD) for modeling and incorporation of CAISO interoperability through aggregated Remote Intelligence Gateways (RIG) under the Distributed Energy Resource Provider (DERP) program. The



Company expects this functionality to be complete and demonstrated in 2018, in line with the first market developments and offerings with CAISO.

CleanSpark systems will interoperate with the CAISO grid and ancillary services market. In addition, CleanSpark can provide consulting and insight into how such systems can interoperate locally, regionally and at a State level to assist in the development of standards and a smooth implementation of such distributed systems at the scale described within the CAP. Lastly, the system may incorporate other functionality required by an CCA process or DSO market implementation.

3. A detailed description of a strategy or strategies to significantly expand the renewable electricity content for all residents, businesses, and government operations in San Diego;

One of the core challenges facing the broad implementation of renewable electricity content for all residents, businesses, and government operations in San Diego is a collective market through which the energy and associated grid services are offered. Community Choice Aggregation (CCA) has been identified as a priority option for consideration. Many believe a Distribution Service Operator (DSO) market may also help facilitate ease of access, increased competition, a true market, and consumer value.

Currently, private customers are deploying DERs as a means to reduce utility bills and are expecting the ability to participate in ancillary markets as regulation evolves in the coming years. A core barrier to increasing adoption of intelligent DER deployments is customer education and capital outlay required to outline future-proof deployments which make financial sense now yet afford the opportunity to offer additional grid support services in the future.

As such, CleanSpark believes that facilitating behind-the-meter deployments through subsidized PowerPlan or feasibility assessment services would enable private industry to consider value created through DER deployments without prohibitive upfront expense. This, along with mandated deadlines for development of PowerPlans, or plans for individuals/communities/businesses to transition, will ensure everyone is prepared with actionable investment grade information and able to move collectively. Collective movement is key as the technical nature of the grid is such that big unbalanced moves can cause big unbalanced consequences (technically and then economically and then socially).

In addition, feasibility studies of all Government facilities for DER deployment may support creation of a backbone of City support from which private industry support may build. Anchors for organic growth through the provision of distributed hubs. It is suggested that finance opportunities for both City and private projects also be the focus of the feasibility studies.

Finally, upon realization of a Distribution Service Operator (DSO) or CCA market, defined revenue opportunities promulgated by associated CPUC regulation will afford broader implementation enabled by the DER backbone studied and deployed in both City and private industry feasibility studies and follow-on projects.

CleanSpark understands the City's goals with regard to resiliency and security, both physical and cyber. The deployment of such strategies will result in the most rapid, resilient and comprehensive achievement of the CAP goals while simultaneously fortifying local cyber efforts and driving a local economic boom.

4. The ability and experience of the respondent to procure renewable sources of electricity, including identification of local sources and potential of local sources;



The CleanSpark team specializes in the development, design, optimization, integration, and operation of distributed energy resources that are heavily renewable with a particular focus on distributed microgrids. Therefore, at this time we do not procure local sources but rather identify sites, develop, construct and operate local sources. Locating generating sources at the load centers enhances efficiency, creates value, and increases resiliency.

5. A detailed schedule/timeline of implementation of the program demonstrating an increase in renewable electricity over time;

The goal of 100% renewable energy by 2035 is lofty, and achievement of this goal will require extensive public and private participation from various sectors. In addition, navigating the barriers of existing utility regulation will prove to be a hindrance. It is the opinion of this RFQ response that special care must be given to the order in which contributing actions are explored and implemented.

CCA

Strengths

Has proven successful Massachusetts, New York, Ohio, California, New Jersey, Rhode Island, and Illinois despite staunch utility and regulatory challenges and delays.

Because it has been successfully implemented, this piece of the solution offers certainty of roadmap.

Communities have seen increased renewable penetration at costs rivaling or less than traditional central power plant and privately owned utility models.

Risks

Time: Historically, CCAs have taken significant time to implement.

Impact on San Diego Businesses: CCAs are often used as a medium to authorize revenue bonds to finance power service through construction of new renewable operating assets. Historically in California, there is usually a small number of very large businesses whom emerge winners in the deal.

Consider

The shift from single point bulk brown power production to locally distributed renewable resources and energy storage is beginning; however, not surprisingly, policy is slowly developing on who these resources will be valued.

While CCAs give customer's a voice on what type of power they buy, it is one choice, and exclusive of potential participation in the energy market by more community members due to existing restrictive and time consuming state regulation.

Currently, only "behind the meter" resources such as solar and energy storage are given streamlined interconnection processes with limits on how the systems can be sized and operated per California Public Utility Commission rules, and the inability to participate in CAISO wholesale markets.

When completing San Diego's CCA study, the City is encouraged to work with SDG&E, CAISO, and the CPUC as to relax restrictions on Distributed Energy Resources such as those addressed in CAISO Energy Storage and Distributed Energy Resource Stakeholder Initiative Phase 2 ("ESDER 2" 09/19/2016) so business cases independent of the City can drive infrastructure development of



distributed solar that will ultimately be purchased by the CCA on a distributed scale to help meet the 100% renewable goal. Perhaps a pilot could be negotiated with the support of SDG&E. CleanSpark would be happy to drive this pilot, at the City's request. This ensures San Diego residences, businesses, and industries that invest in renewable energy and dispatchable storage systems see better business cases due to wholesale market access, the CCA has local generators providing the power at competitive rates, smaller sized but greater quantity of systems are built giving San Diego clean energy companies increased participation, creating a deep level of resiliency, and the end customer gets cost-effective renewable power.

Due to access to the wholesale CAISO market distributed solar and energy storage infrastructure can be built using private funds in streamlined timeframes while the City completes its study and implementation of the CCA. This will ensure incremental progress during the long CCA process and ensure the CCA has adequate LOCAL resources at its disposal to reduce external power purchases.

In addition, the City may consider in the CCA analysis to evaluate all City owned facilities and land for energy generating and ancillary service (energy storage) potential for a competitive procurement of standard or enhanced use leases to build CCA supporting infrastructure using private funds based on external business cases. Streamlined CAISO wholesale market access will also be required.

Lastly, this approach would prepare San Diego to be a leader in Transactive Energy once regulation allows individual seller to provide power to individual purchasers.

Net-Zero Initiative: Reducing building energy consumption is truly a "low hanging fruit" as it relates to GHG. Net-Zero requirements for new construction are a great step yet most of our buildings are old. As such, the City could subsidize free energy audits by leveraging its resources and those of the SDG&E to ACTIVELY pursue efficiency measures for businesses. All buildings should be constructed in a manner that is ready to accept energy generation and storage through the requirement for such new constructions to include energy management and control systems (EMCS) that are 'energy storage and microgrid ready'. Lastly, Net-Zero must be clearly defined and, if implemented as a code requirement, be prescriptive as to measurement, verification, and reporting. With the commentary above regarding distributed systems, should these Net-Zero facilities equipped with both renewable generation and energy storage have access to the wholesale CAISO markets in a streamlined fashion, the energy system is then an asset that offsets significant operational expense and can in fact generate revenue, which may calm some dissenter's view that the Net-Zero initiative is too costly upfront.

Green Tariff Shared Renewables Program: This is a fantastic program; however, the City should consider taking the position that the cap of 600MW should be raised as this treatment will eventually be exhausted.

Establish policies, programs, and ordinances that facilitate and promote siting of new onsite photovoltaic energy generation and energy storage systems as well as EMCS. The City code requires many facilities, including parking structures, to be "Solar Ready." Previous commentary regarding streamlined access to external markets make building the solar or solar + storage projects unfeasible given current regulations. Should the City be able to relax these restrictions, the systems would get built. It is the recommendation of this response that Net-Zero initiatives should include solar+storage+EMCS for true Net-Zero. The addition of EMCS makes facilities smart and able to participate in the macrogrid and thus a new term, Smart Net Zero, may emerge.

Provide adequate funding and resources to meet increased demand for solar photovoltaic and energy storage permitting.



The CCA will go a long way to providing credible backing of new build distributed projects for CCA offtake; however, given the timelines for implementation, some of the initial challenges rely on state policy driving wholesale market access which could perhaps be loosened for a pilot program in a San Diego neighborhood if supported by SDG&E and the CEC.

Encourage solar photovoltaic installation through implementation of a professional-certification permitting program.

Solar permitting is a smaller "bottle-neck" compared to utility interconnection, and streamlining utility interconnection requirements would prove highly beneficial.

"Solar Ready" and "Solar Hot Water Ready" infrastructure required by code: Agree with this program.

The delivery mechanism that we suggest as a means to achieve the objective would be that of a widespread best-value develop-build-operate model of distributed energy resource (DER) and microgrid systems. These systems would have a built-in transfer option to the local distribution grid operator (SDG&E) or CCA. The mechanism we suggest via a fractal grid topology would allow for maximum renewable energy penetration in the most resilient and rapid manner.

With all of that said, it may be worthwhile for the City to consider leading through the implementation of its own projects at a broad scale with confidence in an accessible market, DSO or CCA, which will certainly bring broad private participation. Thus, CleanSpark would suggest a (3) prong approach:

- 1. Energy MacroPlan
 - a. Coordination of Macro Implementation Strategy Based on Highest Value Locations/Substations within the City that Offer the Greatest Benefity to Existing Infrastructure Resiliency and Deferred Upgrades (Distribution Benefit)
 - b. Quantify GHG Reductions Based on This Strategy
 - c. Coordinate with Local Utility Stakeholders, Local Politicians, and State Regulators
- 2. City Property Power Planning Based on Macro Planning
 - a. Gather City Facilities Data
 - b. Optimized System Designs
 - c. Stack Rank Projects Based on Business Drivers (IRR)
 - d. Permit Ready Documents
 - e. Project Specifications for DER Impementations on City facitlies
 - f. Request for Proposals Support
 - g. Financing Criteria
 - h. Tailored Procurement of Potential for Single Project Awards as well as Multiple Project Awards for Procurement Efficiency
 - i. Requirements for future-proof approach to utility, CCA, or DSO participation
- 3. Private Industry Power Planning Based on Macro Planning
 - a. The City Could Make Available Funding or Incentives to Support PowerPlan Services for Private Industry and Energy Intensive Users within the Target Territory to Fuel Private Adoption and Program Credibity.
 - b. The Steps Above Are Repeated to Drive High Value Projects



Task 1 must be completed first. Task 2 and 3 can be completed in parallel. With 100% commitment from local utility stakeholders, City personnel, and CAISO, this process could be completed and published within 8-12 months.

Task 2 and 3 duration depends on the number of City properties to be studied and the amount of feasibility funding made available to private industry. In addition, with 100% support from the local utility to make customer consumption data available would be required for the project to move quickly. The typical PowerPlan for a single property can be completed in 2 months. 100 properties would take 12-24 months depending on stakeholder willingness to participate and how quickly private industry responds to the incentives and enter the program.

Procurement, logistics and coordination of installation details would be expected to take 8 months to 1 year at this scale.

From completed PowerPlan, assuming action within 3 months of the completed exercise, each project can be implemented within 6 months. Thus, execution timing is 9 months per project's funding or close of financing. Assuming 3-5 projects enter the program per week once the program gains traction and garners significant repeatability, it is reasonable to expect that 12-24 months would be required for the projects to be fully subscribed (sample set of 100) and concluding implementation in under 2 years. Given the City's procurement process, City projects would be expected to take longer to implement. In reviewing local capacity to complete these projects and considering a ramp on adoptions and new entrants to the market, it is expected the full program could conclude in under 5 years.

Over this timeframe, the City and its Energy Intensive Users would lead and prove results. It is expected the program would fuel additional private industry implementations as Energy Intensive Users often follow one another once one has realized value through a certain energy strategy. In addition, a smart and well-coordinated shift in building codes and local regulations will push the rest of the City's residents and businesses to follow suit. If coordinated well, particularly with SDGE and the CPUC, the energy intensive users will follow the City and with little effort will tip the scale in pricing and a cascading effect will follow until the price of such systems is such that it does not make sense not to transition. Smart, focused subsidies can be provided to first movers to take off the 'edge' of the small premium that will be paid to get the larger 'wave' started.



100% R "Backbo	enewable Energy one″ Program	Duration (Months)	Cost Estimat	e Cost Comment	Schedule Comment
Task 1	Energy MacroPlan	12	\$ 928,80	0 Feasibility	Critical Path
Task 2	City Property Power Planning Based on Macro Planning	24	\$ 1,857,60	0 Feasibility Study and Permit Designs	Phased Implementation
Task 3	Private Industry Power Planning Based on Macro Planning	24	\$ 1,857,60	0 Feasibility Study and Permit Designs (Subsidized)	Concurrent with Task 2
Task 4	City Procurement	12	\$ 464,40	0 RFP Documents for City Facilities, Support on Bid Review	
Task 5	Implementation	12	\$250MM-500M	A Private Financing	
Milestone	Operation	60			
Complete	Program Duration	5	\$ 5,108,40	0 City Spend Not Including Internal City Resources	Could be Accelerated

Two things should be noted about the timeline laid out above.

- 1) The planning phase can be cut in half by increasing up front funding. CleanSpark has large and credible engineering partners such as HDR, Inc. who have worked with us to develop a similar strategy for large military installations which look similar to a City or small town. This strategy is infinitely scalable, is proven and is organized such that the risk is low due to the diverse and resilient nature of the roll out. Planning could take 12 months with visible results in only 9 months.
- 2) Planning, procurement and implementation can overlap therefore further shortening the time frame for implementation.

If the funding and desire is there this schedule can be shortened from 60 months to just 36 months providing a powerful example for the rest of the residents and businesses within the City to follow.

Consistent with these timelines, the estimated timeframe for complete implementation could be from 3 to 7 years. The capabilities and technologies are proven and commercially available. A year of planning with signed contracts is all that would be required for the firms located in this region.

The high level definable features of work for this effort are as follows: Year $\ensuremath{\mathbbm 1}$

- Final deployment strategy and program
- Final business case planning
- Final feasibility studies
- Draft solicitations
- Public comment & participation
- Core stakeholder group establishment

Year 2

- First wave of RFPs
- Refine deployment strategy and program
- Refine business case planning
- Refine feasibility studies
- Refine solicitations



- Public comment & participation

Year 3 on, until substantial completion

- Develop, Design & Construction selected projects
- Subsequent waves of RFPs
- Refine deployment strategy and program
- Refine business case planning
- Refine feasibility studies
- Refine solicitations
- Public comment & participation

A core stakeholder group needs to be established that will decide and preside over the effort that has absolute authority, other than Executive Order (Mayoral), to make immediate decisions to aid in the flow of the effort. A network of respondents that represent the communities and businesses within the City and the adjoining areas will need to be established to provide quick feedback to the core stakeholder group. The respondents need to be working with their constituents. All access at all levels shall be available in an organized manner. The core stakeholder group shall include the CEO of SDG&E or their designated Executive Representative, the California Energy Commission, the CPUC and the ISO. This will ensure utility, state level and ISO participation. A representative from the Department of the Navy shall be considered as well.

Lack of communication, getting mired down in administrative processes and inability to make decisions will slow the pace of the program.

Based on the CPUC of RPS contracting activities within the SDGE territory as published by the CPUC's RPS Report to legislature in Q4 of 2016, while making progress, the program is falling behind the 50% Renewables by 2020 targets:





Specifically, SDG&E had 45MW approved.



		PG	E	SC	Е	SDC	θE	Tot	al
		Number of Contracts	MW	Number of Contracts	MW	Number of Contracts	MW	Number of Contracts	MW
	Submitted	2	0	7	546	3	20	12	566
Q1	Pending	1	0	8	1,218	2	20	11	1,238
	Approved	2	0	6	456	2	0	10	456
	Submitted	2	0	1	0	1	0	4	0
Q2	Pending	0	0	3	573	1	0	4	573
	Approved	3	0	6	645	2	20	11	665
	Submitted	0	0	0	0	0	0	0	0
Q3	Pending	0	0	0	0	0	0	0	0
	Approved	0	0	3	573	1	0	4	573
	Submitted	2	29	4	195	1	25	7	249
Q4	Pending	1	0	1	128	0	0	2	128
	Approved	1	29	3	67	1	25	5	121

Table 1: IOU RPS-eligible Power Purchase Agreements submitted and/or approved in 2016 ^{11,12,13}

San Diego Gas and Electric approved 45 MW of RPS eligible renewable energy generation in 2016. Assuming similar performance on a go-forward basis, within a 5 years span, 225 MW will be approved.

The "Backbone" Program assumes the deployment of at least 150-200 MW of firm, energy storage enabled, renewable power to be deployed over the life of the program. This does not include concurrent private adoption. It would be expected that private adoption outside of the program would double the installed capacity under the program, adding another 300-400 MW.

As such, over the 5 year span of the estimated 5 year timeframe of the program, up to 600 MW of firm renewable power could be deployed at load centers, reducing the need for fossil fuel generation outside of San Diego, and the losses with transmission bringing that power to the City, significantly reducing GHG reductions on the grid side and having up to 600MW of emissions free electricity within the City.

This represents a 266% improvement from the status-quo, and would significantly increase GHG reductions, and support the path to meet continuing RPS goals as well as the San Diego's 100% Renewable goal.

Participants include the following:

- Sempra
- San Diego Gas & Electric
- California Independent System Operator (CAISO)
- California Energy Commission (CEC)
- National Institute of Science and Technology (NIST)
- Technology Companies (hardware and software firms)
- OEMs (local manufacturing providers
- California Energy Commission (CEC)
- California Public Utilities Commission (CPUC)
- California Independent System Operator



- The City of San Diego
- Cities immediately adjoin San Diego
- The United States Department of the Navy and Marine Corps
- UCSD and other Universities, Colleges and School Districts
- Cleantech San Diego
- Renewable Energy & DER System
 Developers
- Engineering Industry (IEEE, NEC, AIA, etc.)
- Construction Industry (AGC, ABC, LEED, etc.)

(ISO)

- The State of California
- Local Land Owners (Real Estate Owners & Developers)
- Other local agencies and organizations (energy, food, water, industry)
- The Republic of South Africa

The MacroPlanning program may also identify opportunities for Green Power Purchase as well as the development and construction of new renewable power plants in close proximity to the City's load centers to supplement the distributed deployments.

6. A detailed description of the estimated costs of the proposed program (including administrative, implementation, and etc. costs) expressed in terms of bundled and unbundled retail electric rates (in \$/kWh) for all customer classes benchmarked to the current renewable energy portfolio mix;

With distributed deployments on City and private properties, the true cost of transmission and distribution will be reduced. However, local distribution will be required to deliver power from a variety of sources to a variety of users. As such, the Distribution Owner should be compensated for this use.

As rates vary by type of user and the specific characteristics of how and when they use electricity, it is difficult to offer direct feedback on costs for all customer classes at the time of this RFQ.

That said, considering around 15% of electricity is lost in transmission and distribution, localized production may reduce unbundled rates, and assuming bundled rates reduce by a similar metric, savings to end users could be between 15-30%. In addition, utility rates have historically risen faster than inflation. Taking this into account, and the fact that owned distributed resources will fix a large portion of each user's expense, end customer savings could be even lower.

Lastly, with the emergence of a true market, competition would be expected to reduce rates even further. A number of local technology vendors are in the position such that their proven technologies only require scale to achieve prices that will totally disrupt the marketplace and drive further transformation. Therefore, the City program would be indirectly aimed to allow opportunity such that a number of these vendors can hit scale and simultaneously trigger a rush toward the desired transformation. This is a unique opportunity for San Diego and the region and it should not be overlooked as a vital key to ensuring success in the short and long term (economic development).

Finally, certain customers require additional resiliency for critical power as a function of their business or operation. We believe that each user should determine what is best for them, and leverage private capital to avoid burden to San Diego rate payers and tax payers. Some users will pay more for greater resiliency. Some less. This is based upon user preferences. However, we believe that the first phase of the transition to a sustainable and resilient local grid will yield an 'all-in'



electric rates of anywhere between \$.07/kWh - \$.12kWh, depending of desired levels of resilience. Below is a typical property savings and price graph for the users who participate in such a transition will look similar to the graph below exhibiting post-tax Internal Rates of Return (IRRs) of 12-18%:



With the implementation of this program to build momentum, the commitment of the City to create a market via CCA and DSO, and appropriate supporting policy, it is believed that natural adoption will reach critical mass and the 2035 100% Renewable Energy goal can be achieved.

- 7. An analysis of the greenhouse gas emission reductions that will be achieved as related to the goals of the CAP;
- Clean and Renewable Energy (APPLICABLE TO RFQ)
 - Goal: Achieve 100% renewable energy by 2035
 - Complete a citywide Community Choice Aggregation Feasibility Study, which would include timelines for implementation and analyze potential costs.
 - RFQ: The City might also wish to consider DSO structures.
 - Implement General Plan Policy CE-A.5 to achieve net zero energy consumption by employing sustainable or "green" building techniques for the construction and operations of buildings.
 - RFQ: Distributed generation and microgrids are specifically suited to "green" buildings. As a primary focus of "green" buildings is to be

energy efficient, this is a perfect complement to self-generation. When deploying any DER, maximizing efficiency is paramount, as they the DER system needs to produce less energy, reducing implementation expense, and maximizing savings, all while enhancing resiliency.

- Support the State's implementation of the Green Tariff Shared Renewables Program.
 - RFQ: Consistent with "Backbone" Program
- Establish policies, programs, and ordinances that faciliate and promote siting of new onsite photovoltaic energy generation and energy storage systems.
 - RFQ: Consistent with "Backbone" Program
- Provide adequate funding and resources to meet increased demand for solar photovoltaic and energy storage permitting.
 - RFQ: Consistent with "Backbone" Program
- Encourage solar photovoltaic installation through implementation of a professional-certification permitting program.
 - RFQ: Consistent with "Backbone" Program implementation phase
- NOTE: The City's renewable energy program should include presenting an ordinance to City Council to require new residential and non-residential construction to install conduit for future photovoltaics and electric vehicle (EV) charging stations, and to install plumbing for future solar water heating. Further, should the CCA Program or another program not be implemented, the City will explore the option of utilizing renewable energy credits (RECs) to contribute toward the 100% renewable energy target. Efforts should be local in nature to benefit local renewable energy businesses, create jobs, and increase resiliency for the City.
 - RFQ: Consistent with "Backbone" Program if made a requirement of implemented projects.

As these strategies are deployed in a local, distributed microgrid manner the level of greenhouse gas can drop to near zero for both grid electronics and transportation. Excess energy harvested from clusters of microgrids can be transacted to electric vehicles at a very low rate making the move to electric vehicles more attractive. In addition, concentrations of renewables in places with high sustainable resources can be transacted across the distributed grid (even among CCA's) to provide abundant electricity for electric vehicles at a low cost. Once achieved, that lower cost electricity can be used to generate future fuels for transportation such as hydrogen.

8. Analyses of potential risks and roadblocks and potential solutions or mitigations, including any anticipated regulatory issues or risks;

Incumbent Risk – Sempra/SDGE must have a win and they must be on 'the team' with proper incentives from the beginning.

CPUC – Approval of any planning

CAISO – Willingness to explore DSO solutions

Adaptation Risk – lack of ability to react fast enough to unforeseen conditions



9. Specify additional benefits associated with the proposed program which may include: local job creation, business development, environmental benefits in addition to greenhouse gas reductions, etc.

Company and Personnel Summary Conclusion

The CleanSpark team's services and products are well suited to support in any or all of the discreet scopes of work:

To conclude, CleanSpark has been involved quietly assisting local and federal government entities to ensure this shift toward a resilient and sustainable energy infrastructure occurs for nearly a decade. We have the contacts, expertise and experience to guarantee the desired results and have a unique shared interest as life long community members and local entrepreneurs. San Diego can become 100% sustainable, in the most resilient manner possible while simultaneously creating a home grown industry that will drive economic growth for decades to come. If done properly San Diego can lead the way and show the rest of the country, and world, the benefits of such a monumental shift.

We suggest a consulting arrangement to begin developing the PowerPlan that will be the final transition roadmap. Once the plan is prepared we suggest entering into contracts, either funded or privately financed, that allow us to partner with the City and lead the way. We have done this successfully before in San Diego.

- PowerPlan ROI optimized designs
- Microgrid Development, Deployment, and Finance
- Grid Operation Flexible mPulse™ Energy Operating Platform (Distributed Energy Resource Management System)

b. Describe any special characteristics, limitations, exceptions, or requirements Respondent may have in providing the requested services.

Strategic planning sessions will be required with the multitude of stakeholders to identify responsibilities across all parties as this can significantly affect external cost of implementation.

In addition, these strategic planning sessions will identify mutually agreed timelines for each task/phase and critical milestones delineating time, a key factor regarding personnel cost of professional services.

Lastly, these timelines will also inform expectations on timing of conclusion of the "Backbone" program. Everything being proposed in the "Backbone" program makes business and cost sense right now within existing utility rate structures and current regulation. With changes in regulation, the business case improves and additional adopters will subscribe to participate

c. Describe any attributes that distinguish Respondent from others offering similar

CleanSpark ensures "Certainty of Execution" through it's services and products. PowerPlan[™] ensures the right design for the specific customer providing the best financial dynamics taking into account rates and historical consumption. The company has no special-interest in selling its own equipment, is technology agnostic, thus provides lower cost solutions. An effective and bankable implementation team ensures effective operation and performance wrapped outcomes. Lastly, the mPulse[™] Energy Operating Platform offers flexibility within the changing utility landscape.



d. Describe Respondent's commitment to supporting the achievement of the City's 100% renewable electricity goal.

CleanSpark is 100% committed to supporting this goal. We live and were raised in this community. We see this as our obligation to ensure a resilient and sustainable future for our children that has a strong economic base to provide them with opportunity to thrive and thus bettering the local community, and region, in the future. We feel that this is a critical here in San Diego as well as the state and the nation and that success and failure have drastic and wide ranging repercussions throughout the globe that will be realized in our lifetime and the lifetime of our children.

In essence, we feel that the fate of the future for our children is at stake and that anything other than the desired outcome is not an option.

4. PROVISOS OR CONDITIONS

a. If respondent's statement of qualifications is subject to any provisos, conditions, or consents of other parties or agencies, the statement must clearly identify such conditions and describe how those conditions would be met.

None

5. STAFF QUALIFICATIONS AND EXPERIENCE

a. List by name and title the team that would be involved in the proposed projects supporting the achievement of the City's 100% renewable electricity goal. Provide office location, phone number, and email address for each. Identify the contact person who will have primary responsibility and summarize this person(s) background, expertise, and authority to represent Respondent.

b. Provide a description of the expertise and qualifications of these professionals including brief summaries of experience related to supporting the achievement of the City's 100% renewable electricity goal. Provide as an exhibit to your submission brief resumes of each individual.

Primary (Authority):

Bryan Huber Co-Founder, Chief Operating Officer CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 c | 619.204.6877



e | bhuber@cleanspark.com

Bryan has over 12 years of experience in the design-build construction and energy industry. He has extensive experience and specialization with sustainable energy design and implementation, sustainable building design and construction, energy efficiency program design and development, renewable energy design and integration, project management, quality assurance, and project inspection. In addition, Bryan brings with him a core competency within renewable energy Independent Power Producer deal structuring, design, forecasting, financial modeling, incentive monetization, project financing, and deployment.

Bryan holds a B.S. in Construction Engineering & Management from Purdue University's School of Civil Engineering and is a LEED Accredited Professional through the United States Green Building Council.

Secondary (Authority):

Michael Firenze Co-Founder CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 c | 619.962.6446 e | mfirenze@cleanspark.com

Michael Firenze, LEED AP; MAS AESE; has 12+ yrs. of heavy civil, industrial, and commercial designbuild project management experience, specifically in advanced sustainable systems and infrastructures. As a senior project leader and corporate executive, Mike's responsibilities have varied in a wide range of corporate functions, from corporate finance to program development and execution. A few of the core competencies that Mike has developed through his experience building cutting edge facilities and advanced systems for the Department of Defense include proposal development, cost analysis, budget management, technology development and integration, scheduling, quality control, safety, reporting, and compliance.

Mikes recent experience has been leading a renewable energy design-build general construction firm as Vice President of Project Management & Logistics where helped to establish a winning strategy to contract and manage advanced clean energy projects using traditional engineering and construction methodologies.

Mike has a master's degree in Architecture-based Enterprise Systems Engineering from UCSD, a B.A. in Economics with a Competitive Market Analysis from San Diego State University, and has taken various credentialed programs in Corporate Finance, Land Management, and Commercial Real Estate Development. He is a LEED Accredited Professional through the United States Green Building Council (USGBC), and has been certified through the U.S. Army Corps of Engineers' Certificate Course in Construction Quality Management.

Engineering Lead: Jeffrey Trueblood, P.E. Principal Engineer and Microgrid Architect CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 c | 951.445.1041 e | bhuber@cleanspark.com

Jeff Trueblood is the Principal Electrical Engineer for CleanSpark, responsible for the design and implementation of the electrical systems that make CleanSpark's systems possible. Mr. Trueblood has over 20 years electrical engineering experience specializing in building systems design including mediumvoltage, line-voltage, emergency, stand-by, multiple low-voltage systems including telephone, data, fire alarm, nurse-call, specialty alarm systems and security. Jeff has worked on numerous multi-discipline facility projects including commercial, residential, industrial, OSHPD, LEED and government building standards. Jeff has received lighting awards with the IESNA and taught southern California IES chapters on lighting controls and efficiency.

Analyst Lead: Billy Gamboa Senior Analyst CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 c | 858.213.4955 e | billy@cleanspark.com

As a Senior Analyst at CleanSpark, Billy Gamboa has been responsible for building tools and running simulations to identify project options for potential and current clients. Using MATLAB and other programming tools. Billy has developed a model that takes basic customer electric profile information and identifies the proper mix of renewables and energy storage to provide energy to the customer at an optimal cost. Prior to CleanSpark, Billy is the founder of Verto Inc. a company that specializes in analytical techniques for evaluating energy storage and renewable energy technologies. Included in his areas of expertise are energy storage data analytics, modeling, system sizing, economic modeling, policy and regulation, technical requirements, incentives and tax credits. Billy has developed an advanced application software to confirm an energy storage and renewable systems optimal size and value streams, the backbone of which relies on precise energy rate and tariff modeling, solar forecasting (DER forecasting), energy storage cycling and automated recursive system design. The end result is an application that can accurately project the potential range of revenue generation, net metering benefits, carbon reduction potential, state and federal incentive allocations as well as interaction with ancillary programs with utilities and the utility grid. His expertise in energy rates and tariffs, state incentives, fed tax incentives, net metering modeling has led him to provide key insights for a variety of companies and organization types including Universities, biotech facilities, large industrial power users, commercial and non-profit organizations. He has highly relevant experience in incentive program management and policy. Mr. Gamboa played an integral role in the development and implementation of major changes to California incentive programs and has provided years of management, advisory and technical services to these programs. He also has significant stakeholder engagement and customer interaction experience. Through this he has developed a deep understanding of the techno-economic value of distributed energy resources and energy efficiency, and the concerns of business owners. Mr. Gamboa also has winning track record in grant and proposal writing having won every attempt at receiving grant funds. Billy holds a Bachelor of Science degree in Structural Engineering from University of California San Diego.



Software and Grid Controls/Interaction Lead: Amanda Kabak Chief Software Architect and Solutions Manager CLEANSPARK e | amanda@cleanspark.com

Amanda Kabak is responsible for the design and implementation of the company's enterprise energy management and SCADA systems. Previously at OptiRTC, she was a senior technical architect for the company's critical water infrastructure management system and related applications. She brings her knowledge of the energy utility industry derived from prior experience deploying Combined Heat and Power (CHP) applications. Ms. Kabak also has experience as a development team lead and program manager for large client implementation while consulting for 10th Magnitude and as a software engineer at large companies such as Kirkland and Ellis LLP. Ms. Kabak graduated from Boston University with a Bachelor of Science in Physics and a minor in English.

Implementation and Operation Lead:

Anthony Vastola, RME (CSLB#1001675) Vice President, Project Development CLEANSPARK 6365 Nancy Ridge Drive, 2nd Floor San Diego, CA 92121 e | avastola@cleanspark.com

Mr. Anthony Vastola is responsible for the management of electrical installations and the Field Team as well as project estimation and training support. Prior to CleanSpark, Mr. Vastola was owner of his own electrical subcontracting firm which was responsible for several projects including Chicago Title Building, Montecito Bank and Trust Main Operations Building, UCSB Women's Center, Calleguas Municipal Water District, UCSB Harold Frank Hall, UCSB Davidson Library, County of Santa Barbara Hall of Records, Montecito Bank and Trust Operations Building Expansion, and Naomi Schwartz County Building. Mr. Vastola has a Bachelor of Arts degree in Communications.

6. FINANCIAL CAPACITY

CleanSpark is a public company and could raise capital to fuel implementations upon receiving appropriate contracts. In addition, CleanSpark maintains access to \$50mm/quarter with a private funding partner based on Power Purchase Agreements for distributed assets. CleanSpark has connections to billions of dollars to fuel development from a host of financial partners and institutions. Our view is that private, distributed dollars should be brought in with the same true market approach taken as to ensure a sustainable financial solution and support system as well.



7. OTHER CONSIDERATIONS AND REQUIREMENTS

Respondent shall complete and submit a Contractor Standards Form

City of San Diego CONTRACTOR STANDARDS Pledge of Compliance

The City of San Diego has adopted a Contractor Standards Ordinance (CSO) codified in section 22.3004 of the San Diego Municipal Code (SDMC). The City of San Diego uses the criteria set forth in the CSO to determine whether a bidder or proposer has the capacity to fully perform the contract requirements and the business integrity to justify the award of public funds. This completed Pledge of Compliance signed under penalty of perjury must be submitted with each bid and proposal. If an informal solicitation process is used, the bidder must submit this completed Pledge of Compliance to the City prior to execution of the contract. All responses must be typewritten or printed in ink. If an explanation is requested or additional space is required, Respondents must provide responses on Attachment A to the Pledge of Compliance and sign each page. Failure to submit a signed and completed Pledge of Compliance may render the bid or proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Pledge of Compliance is submitted. A submitted Pledge of Compliance is a public record and information contained within will be available for public review except to the extent that such information is exempt from disclosure pursuant to applicable law.

A. BID/PROPOSAL/SOLICITATION TITLE:

Β.

BIDDER/PROPOSER INFORMATION:				
Legal Name		DBA		
Street Address	City	State	Zip	
Contact Person, Title	Phone	Fax		

C. OWNERSHIP AND NAME CHANGES:

1. In the past five (5) years, has your firm changed its name? Yes No

If Yes, use Attachment "A" to list all prior legal and DBA names, addresses, and dates each firm name was used. Explain the specific reasons for each name change.

2. In the past five (5) years, has a firm owner, partner, or officer operated a similar business? Yes No

If Yes, use Attachment "A" to list names and addresses of all businesses and the person who operated the business. Include information about a similar business only if an owner, partner, or officer of your firm holds or has held a similar position in another firm.

D. BUSINESS ORGANIZATION/STRUCTURE:

Indicate the organizational structure of your firm. Fill in only one section on this page. Use Attachment "A" if more space is required.

Corporation Date incorporated: _	//	_ State of incorporation:	
List corporation's current officers:	President:		
·	Vice Pres:		
	Secretary:		
	Treasurer:		

Is your firm a publicly traded corporation?	Yes	No
is your min a publicity traded corporation?	les	NO

If Yes, name those who own ten percent (10 %) or more of the corporation's stocks:

	Impany Date formed: State of formation:	—
List names of memb	pers who own ten percent (10%) or more of the company:	
Partnership Date fo	ormed: / / State of formation:	
List names of all firm	n partners:	
		_
Sole Proprietorship	p Date started:/	_
List all firms you have in a publicly traded of	ve been an owner, partner or officer with during the past five (5) years. Do not includ company:	le ownership
Joint Venture	Date formed://	
List each firm in the	joint venture and its percentage of ownership:	

E. FINANCIAL RESOURCES AND RESPONSIBILITY:

1. Is your firm preparing to be sold, in the process of being sold, or in negotiations to be sold? Yes No

If Yes, use Attachment "A" to explain the circumstances, including the buyer's name and principal contact information.

2. In the past five (5) years, has your firm been denied bonding? Yes No

Contractor Standards Form Effective: October 13, 2014 Document No. 841283_2 If Yes, use Attachment "A" to explain specific circumstances; include bonding company name.

- 3. In the past five (5) years, has a bonding company made any payments to satisfy claims made against a bond issued on your firm's behalf or a firm where you were the principal?
 - Yes

If Yes, use Attachment "A" to explain specific circumstances.

No

4. In the past five (5) years, has any insurance carrier, for any form of insurance, refused to renew the insurance policy for your firm? No

Yes

If Yes, use Attachment "A" to explain specific circumstances.

- 5. Within the last five years, has your firm filed a voluntary petition in bankruptcy, been adjudicated bankrupt, or made a general assignment for the benefit of creditors? Yes No
- 6. Please provide the name of your principal financial institution for financial reference. By submitting a response to this Solicitation Contractor authorizes a release of credit information for verification of financial responsibility.

Name of Bank:	
Point of Contact:	
Address:	
Phone Number:	

7. By submitting a response to a City solicitation, Contractor certifies that he or she has sufficient operating capital and/or financial reserves to properly fund the requirements identified in the solicitation. At City's request, Contractor will promptly provide to City a copy of Contractor's most recent balance sheet and/or other necessary financial statements to substantiate financial ability to perform.

F. PERFORMANCE HISTORY:

1. In the past five (5) years, has your firm been found civilly liable, either in a court of law or pursuant to the terms of a settlement agreement, for defaulting or breaching a contract with a government agency? Yes No

If Yes, use Attachment "A" to explain specific circumstances.

2. In the past five (5) years, has a public entity terminated your firm's contract for cause prior to contract completion? Yes No

If Yes, use Attachment "A" to explain specific circumstances and provide principal contact information.

3. In the past five (5) years, has your firm entered into any settlement agreement for any lawsuit that alleged contract default, breach of contract, or fraud with or against a public entity? Yes No

If Yes, use Attachment "A" to explain specific circumstances.

4. Is your firm currently involved in any lawsuit with a government agency in which it is alleged that your firm has defaulted on a contract, breached a contract, or committed fraud? Yes No

If Yes, use Attachment "A" to explain specific circumstances.

In the past five (5) years, has your firm, or any firm with which any of your firm's owners, partners, or officers is or was 5. associated, been debarred, disqualified, removed, or otherwise prevented from bidding on or completing any government or public agency contract for any reason? No

Yes

If Yes, use *Pledge of Compliance Attachment "A"* to explain specific circumstances.

6. In the past five (5) years, has your firm received a notice to cure or a notice of default on a contract with any public agency?

Yes No

If Yes, use Attachment "A" to explain specific circumstances and how the matter resolved.

7. Performance References:

Please provide a minimum of three (3) references familiar with work performed by your firm which was of a similar size and nature to the subject solicitation within the last five (5) years.

Company Name:
Contact Name and Phone Number:
Contact Email:
Address:
Contract Date:
Contract Amount:
Requirements of Contract:
Company Name:
Contact Name and Phone Number:
Contact Email:
Address:
Contract Date:
Contract Amount:
Requirements of Contract:

Company Name:

Contact Name and Phone Number:
Contact Email:
Address:
Contract Date:
Contract Amount:
Requirements of Contract:

G. COMPLIANCE:

1. In the past five (5) years, has your firm or any firm owner, partner, officer, executive, or manager been criminally penalized or found civilly liable, either in a court of law or pursuant to the terms of a settlement agreement, for violating any federal, state, or local law in performance of a contract, including but not limited to, laws regarding health and safety, labor and employment, permitting, and licensing laws?

Yes

No

If Yes, use Attachment "A" to explain specific circumstances surrounding each instance. Include the name of the entity involved, the specific infraction(s) or violation(s), dates of instances, and outcome with current status.

2. In the past five (5) years, has your firm been determined to be non-responsible by a public entity? Yes No

If Yes, use Attachment "A" to explain specific circumstances of each instance. Include the name of the entity involved, the specific infraction, dates, and outcome.

H. BUSINESS INTEGRITY:

1. In the past five (5) years, has your firm been convicted of or found liable in a civil suit for making a false claim or material misrepresentation to a private or public entity? Yes No

If Yes, use Attachment "A" to explain specific circumstances of each instance. Include the entity involved, specific violation(s), dates, outcome and current status.

2. In the past five (5) years, has your firm or any of its executives, management personnel, or owners been convicted of a crime, including misdemeanors, or been found liable in a civil suit involving the bidding, awarding, or performance of a government contract? Yes No

If Yes, use Pledge of Compliance Attachment "A" to explain specific circumstances of each instance; include the entity involved, specific infraction(s), dates, outcome and current status.

3. In the past five (5) years, has your firm or any of its executives, management personnel, or owners been convicted of a federal, state, or local crime of fraud, theft, or any other act of dishonesty? Yes No

If Yes, use Pledge of Compliance Attachment "A" to explain specific circumstances of each instance; include the entity involved, specific infraction(s), dates, outcome and current status.

I. WAGE COMPLIANCE:

In the past five (5) years, has your firm been required to pay back wages or penalties for failure to comply with the federal, state or local prevailing, minimum, or living wage laws? Yes No If Yes, use Attachment "A" to explain the specific circumstances of each instance. Include the entity involved, the specific infraction(s), dates, outcome, and current status.

J. STATEMENT OF SUBCONTRACTORS:

Please provide the names and information for all subcontractors used in the performance of the proposed contract, and what portion of work will be assigned to each subcontractor. Subcontractors may not be substituted without the written consent of the City. Use Attachment "A" if additional pages are necessary. If no subcontractors will be used, please write "Not Applicable."

Company Name:
Contact Name and Phone Number:
Contact Email:
Address:
Contract Date
Sub-Contract Dollar Amount:
Requirements of Contract:
What portion of work will be assigned to this subcontractor:
Is the Subcontractor a certified SLBE, ELBE, MBE, DBE, DVBE, or OBE? (Circle One) YES NO
If YES, Contractor must provide valid proof of certification with the response to the bid or proposal.
Company Name:
Contact Name and Phone Number:
Contact Email:
Address:
Contract Date
Sub-Contract Dollar Amount:
Requirements of Contract:
What portion of work will be assigned to this subcontractor:
Is the Subcontractor a certified SLBE, ELBE, MBE, DBE, DVBE, or OBE? (Circle One) YES NO
If YES, Contractor must provide valid proof of certification with the response to the bid or proposal. or Standards Form

K. STATEMENT OF AVAILABLE EQUIPMENT:

List all necessary equipment to complete the work specificied. Use *Pledge of Compliance Attachment "A"* if additional pages are necessary. In instances where the required equipment is not owned by the Contractor, Contractor shall explain how the equipment will be made available before the commencement of work. The City of San Diego reserves the right to reject any response when, in its opinion, the Contractor has not demonstrated he or she will be properly equipped to perform the work in an efficient, effective manner for the duration of the contract period.

If no equipment is necessary to complete the work specified, please write "Not Applicable."

Equipment Description:	
Owned Rented	Other (explain below)
If Owned, Quantity Available:	
Year, Make & Model:	
Explanation:	
Equipment Description:	
Owned Rented	Other (explain below)
If Owned, Quantity Available:	
Year, Make & Model:	
Explanation:	
Equipment Description:	
Owned Rented	Other □ (explain below)
If Owned, Quantity Available:	
Year, Make & Model:	
Explanation:	

L. TYPE OF SUBMISSION: This document is submitted as:

 Initial submission of Contractor Standards Pledge of Compliance.

 Update of prior Contractor Standards Pledge of Compliance dated

Complete all questions and sign below.

Under penalty of perjury under the laws of the State of California, I certify that I have read and understand the questions contained in this Pledge of Compliance, that I am responsible for completeness and accuracy of the responses contained herein, and that all information provided is true to the best of my knowledge and belief. I agree to provide written notice to the Purchasing Agent within five (5) business days if, at any time, I learn that any portion of this Pledge of Compliance is inaccurate. Failure to timely provide the Purchasing Agent with written notice is grounds for Contract termination.

I, on behalf of the firm, further certify that I and my firm will comply with the following provisions of SDMC section 22.3004:

(a) I and my firm will comply with all applicable local, State and Federal laws, including health and safety, labor and employment, and licensing laws that affect the employees, worksite or performance of the contract.

(b) I and my firm will notify the Purchasing Agent in writing within fifteen (15) calendar days of receiving notice that a government agency has begun an investigation of me or my firm that may result in a finding that I or my firm is or was not in compliance with laws stated in paragraph (a).

(c) I and my firm will notify the Purchasing Agent in writing within fifteen (15) calendar days of a finding by a government agency or court of competent jurisdiction of a violation by the Contractor of laws stated in paragraph (a).

(d) I and my firm will notify the Purchasing Agent in writing within fifteen (15) calendar days of becoming aware of an investigation or finding by a government agency or court of competent jurisdiction of a violation by a subcontractor of laws stated in paragraph (a).

(e) I and my firm will cooperate fully with the City during any investigation and to respond to a request for information within ten (10) working days.

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed *Pledge of Compliance* is submitted.

BALL

Name and Title

Signature

Date

City of San Diego CONTRACTOR STANDARDS Pledge of Compliance Attachment "A"

Provide additional information in space below. Use additional Attachment "A" pages as needed. Each page must be signed. Print in ink or type responses and indicate question being answered.

I have read the matters and statements made in this Contractor Standards Pledge of Compliance and attachments thereto and I know the same to be true of my own knowledge, except as to those matters stated upon information or belief and as to such matters, I believe the same to be true. I certify under penalty of perjury that the foregoing is true and correct.

P

Print Name, Title

Signature

Date

CITY OF SAN DIEGO

PURCHASING & CONTRACTING DEPARTMENT 1200 Third Avenue, Suite 200 San Diego, CA 92101-4195 Fax: (619) 236-5904

ADDENDUM A

RFSQ No. 10088487-18-A

Revised RFSQ Closing Date: July 19, 2017

@ 2:00 p.m. PT

RFSQ for furnishing the City of San Diego with 100% Renewable Energy

The following changes are hereby made effective as though they were originally shown and/or written:

- 1. The RFSQ closing date has been changed to July 19, 2017 @ 2:00 p.m.
- <u>Delete</u> the original Request for Statement of Qualifications Signature Page 10 and <u>replace</u> with the attached Addendum A Request for Statement of Qualifications Contract Signature Page 10.
- 3. <u>Delete</u> the original Request for Statement of Qualifications Cover Page and <u>replace</u> with the attached Addendum A Request for Statement of Qualifications Cover Page (Please Note: The City Contact has been updated).

CITY OF SAN DIEGO PURCHASING & CONTRACTING DEPARTMENT

Veronica Ford Associate Procurement Contracting Officer (619) 236-6032

July 5, 2017

VF



Request For Statements of Qualifications (RFSQ) for 100% Renewable Energy ADDENDUM A

RFSQ Number:

10088487-18-A

Closing Date and Time ("Closing Date"):

City Contact:

Submissions:

2:00 p.m., July 19, 2017

Veronica Ford, Associate Procurement Contracting Officer, 1200 Third Avenue, Suite 200 San Diego, California 92101 VMFord@sandiego.gov (619) 236-6032

Proposer is required to provide two (2) originals, four (4) copy, and one (1) electronic copy (e.g. thumb drive or CD) of their proposal, as described herein. Note: The most recent Addendum Signature Page must be signed and submitted.

Emailed submissions will not be accepted.

K. <u>CITY'S UNILATERAL RIGHT</u>

The City reserves the unilateral right to do any of the following if the City determines in its sole discretion that such action is in the City's best interests: Cancel this RFSQ, in whole or in part, or reject all submittals submitted in response to this RFSQ; select a Respondent's submittal in whole or in part; select one or more Respondents; waive or permit cure of minor irregularities; and conduct discussions with Respondents in any manner necessary to serve the City's best interests.

RESPONDENT SIGNATURE IS REQUIRED

Respondent Name:	CleanSpark LLC			
Address:	6365 Nancy Ridge Drive, FL2			
Telephone No. and E-I	Mail Address:619-204-6877, bhuber@cleanspark.com			
Website:www.cleanspark.com				
Authorized Representative Name and Title:COO				
Representative's Original Signature:				
Date Signed:7/21/201	17			

CITY OF SAN DIEGO

PURCHASING & CONTRACTING DEPARTMENT 1200 Third Avenue, Suite 200 San Diego, CA 92101-4195 Fax: (619) 236-5904

ADDENDUM B

RFSQ No. 10088487-18-A

Revised RFSQ Closing Date: July 21, 2017 @ 2:00 p.m. PST

RFSQ for furnishing the City of San Diego with 100% Renewable Energy

The following changes are hereby made effective as though they were originally shown and/or written:

- 1. The RFSQ closing date has been changed from July 19, 2017 @ 2:00 p.m. to July 21, 2017 at 2:00 p.m. PST.
- 2. <u>Delete</u> the Addendum A Request for Statement of Qualifications Cover Sheet and <u>replace</u> with the attached Addendum B Request for Statement of Qualifications Cover Sheet.
- 3. <u>Delete</u> the Addendum A Request for Statement of Qualifications Contract Signature Page 10 and <u>replace</u> with the attached Addendum B Request for Statement of Qualifications Contract Signature Page 10.
- 4. <u>Add</u> a two (2) page "Questions and Answers". (NOTE: This is for informational purposes only and is not part of any resulting contract.)

CITY OF SAN DIEGO PURCHASING & CONTRACTING DEPARTMENT

Veronica Fordese

Veronica Ford Associate Procurement Contracting Officer (619) 236-6032

July 14, 2017

VF/ss



Request For Statements of Qualifications (RFSQ) for 100% Renewable Energy ADDENDUM B Cover Sheet

RFSQ Number:

10088487-18-A

Closing Date and Time ("Closing Date"):

City Contact:

Submissions:

July 21, 2017, 2:00 p.m. PST

Veronica Ford, Associate Procurement Contracting Officer, 1200 Third Avenue, Suite 200 San Diego, California 92101 VMFord@sandiego.gov (619) 236-6032

Proposer is required to provide two (2) originals, four (4) copy, and one (1) electronic copy (e.g. thumb drive or CD) of their proposal, as described herein. Note: The most recent Addendum Signature Page must be signed and submitted.

Emailed submissions will not be accepted.

K. <u>CITY'S UNILATERAL RIGHT</u>

The City reserves the unilateral right to do any of the following if the City determines in its sole discretion that such action is in the City's best interests: Cancel this RFSQ, in whole or in part, or reject all submittals submitted in response to this RFSQ; select a Respondent's submittal in whole or in part; select one or more Respondents; waive or permit cure of minor irregularities; and conduct discussions with Respondents in any manner necessary to serve the City's best interests.

RESPONDENT SIGNATURE IS REQUIRED

Respondent Name:	CleanSpark LLC			
Address:	6365 Nancy Ridge Drive, FL2			
Telephone No. and E-I	Mail Address:619-204-6877, bhuber@cleanspark.com			
Website: <u>www.cleanspa</u>	rk.com			
Authorized Representative Name and Title:COO				
Representative's Original Signature:				
Date Signed:7/21/201	7			

Goods and Services RFSQ Effective: November 8, 2016 OCA Document No. 855623_3

ADDENDUM B - Page 10 of 10