

# Design/Build Energy Performance Contracting Services

Request for Qualification City of Beaumont

July 31, 2019





Request for Qualifications Efficiency Upgrades - Energy Service Performance Contract



#### SUBMITTAL LETTER

Kari Mendoza City of Beaumont 550 E 6th Street Beaumont, CA 92223

Dear Ms. Mendoza,

The City of Beaumont (the City) can reduce costs, upgrade its energy/building/water infrastructure, increase occupant comfort levels in its City buildings, and support local economic development through a guaranteed energy savings program with ENGIE Services U.S. Inc.

As a national energy infrastructure and building services company, ENGIE Services has deep experience partnering with government, education, and commercial and industrial customers. Over the past 44 years, thousands of our customers have captured billions in savings, while also improving the performance of their facilities in terms of reliability, safety, comfort and resource use. By leveraging ENGIE Services depth of experience, financial strength and commitment to a true, collaborative partnership in support of energy conservation and modernization initiatives, the City can meet its high-level objectives.

With the full backing of our parent company, ENGIE, we are driving the energy transition to a low-carbon economy. ENGIE has a strong commitment to renewables. ENGIE has helped tens of thousands of commercial and industrial, municipal and public organizations across approximately 1,000,000 sites become more efficient, productive and sustainable.

Our combined strength, enthusiastic and experienced staff, commitment to energy efficiency and renewable generation, coupled with our company value of providing true partnership as an ENGIE company means that we can build on the City's commitment to creating a more energy efficient, modern and sustainable community. As you consider our proposal, we want to inspire confidence that ENGIE will execute the best solution for a successful project and looks forward to being selected as your energy partner. We are well-positioned with a local office in Riverside, local staff and many project references to provide the best customer service and ensure your success. We believe that the information provided in our RFQ response will give the City ample evidence of how ENGIE Services can not only meet but exceed its desired scope of services. For any questions regarding our response, please contact our team leader:

Suzanne Gentilini Senior Business Development Manager 714-745-0031 suzanne.gentilini@engie.com

Thanks,

Jonathan Brown Vice President

Authorized Signatory

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## Firm Information

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#### **TAB ONE: FIRM INFORMATION**

Legal Name	ENGIE Services U.S. Inc.
Address of Firm/ Principal Place of Business	1420 Iowa Avenue, Suite 210 Riverside, CA 92507
Legal Form of Entity	Corporation

#### **Company Overview and Organizational Structure**

ENGIE Services U.S. Inc. is a national energy infrastructure and building services company that helps public-sector customers become more efficient, productive, and sustainable. With more than 45 continuous years in energy efficiency, our customers have benefitted from our wide spectrum of highly customizable building system maintenance and facility management services, technical projects, and integrated programs. Thousands of customers have captured more than \$2.8 billion in savings combined, while also improving the performance of their facilities in terms of reliability, safety, comfort and resource use.

ENGIE Services is a subsidiary of ENGIE, the largest independent power producer in the world with a more than 100-year history. ENGIE is a global energy and services group, founded on low-carbon electricity production. ENGIE has a strong commitment to renewables. With decarbonization at our strategic core, ENGIE generates power from a diverse and low-carbon fuel mix with over 1,300 MW of behind-the-meter generation in North America. ENGIE is also the leading efficiency provider worldwide, with \$5.2 billion in identified energy savings for our customers.

As a business unit under ENGIE North America, ENGIE Services has partnership access to several other ENGIE North America operating companies as shown in the graphic below:



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#### **Company History, Financial Strength and Stability**

ENGIE Services can trace its roots back to the midseventies when America was reeling from an energy crisis. Viron Energy Services, one of our legacy companies, was founded in 1974 to answer the need for energy conservation services primarily in government facilities across the United States. Viron was an innovative company from the beginning and is widely credited with implementing the first energy savings performance contract (ESPC) in 1981. In 2003 Viron was purchased by Chevron as a part of a strategy by the oil giant to have plays across the entire energy spectrum including energy efficiency and renewable power generation. For over a decade, Chevron Energy Solutions operated as a progressive arm of a global enterprise, implementing renewables and energy efficiency projects for commercial and public sector customers, including K-12 school districts, higher education, and federal, state and local government entities. In September 2014 Oaktree Capital Management, a leading investment firm with a strong track record of energy sector investing, acquired Chevron Energy Solutions, creating OpTerra Energy Services, Inc. a national company with over 250 employees. In January 2016, OpTerra became a subsidiary of ENGIE, the number one energy efficiency services provider in the world. In January 2018, ENGIE rebranded three subsidiaries in North America to build an even more comprehensive portfolio of energy offerings which included changing OpTerra Energy Services, Inc. name to ENGIE Services U.S. Inc.

With annual revenues over \$67.8 billion and Earnings before interest, tax, depreciation and amortization (EBITDA) of \$10.3 billion in 2018, ENGIE offers a strong balance sheet, a proven financial track record and a favorable credit rating. ENGIE has partnered with tax equity investors and lenders to finance hundreds of energy projects. The City of Beaumont will benefit from ENGIE's ability to invest its own equity and attract international financiers interested in high quality investments with a proven operational partner.

ENGIE SA is a public entity with approximately 60% of its shares available on the public exchange with additional shareholdings held by the French State (~33%), and employees (~3%). ENGIE Holdings Inc., is a North American wholly owned subsidiary of ENGIE SA. ENGIE North America alone manages a \$1 billion portfolio of intercompany debt, \$3.75 billion of project finance debt, and over \$1 billion of Letter of Credit Lines and working capital facilities.

#### **ENGIE North America by the Numbers**



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As a subsidiary of ENGIE North America. ENGIE Services has helped facilitate financing of approximately \$2 billion in "paid from savings projects" for our public-sector clients throughout the U.S. Our long-standing role as one of the premier energy service company's in the U.S. has given our team unparalleled access to financing markets and financiers.

The ENGIE Group is rated by the two international rating agencies, namely Moody's and Standard & Poor's (S&P: A-/Moody's: A2), and maintains investment grade ratings for both long-term and short-term credit.

#### **Total ESPC Contracted Value in the last five years**

ENGIE Services has contracted more than \$1.2 billion in ESPC contracts in the last five years.

#### **Most Current Financial Statement**

ENGIE Group's Management Report and Annual Consolidated Financial Statements available for download from the ENGIE Group's website at the link below:

2018

https://www.engie.com/wp-content/ uploads/2019/02/engie\_2018-managementreport-and-annual-consolidated-financialstatements\_27.02.2019\_bat.pdf

#### **Business Engagement Model**

Our business engagement model includes three key phases.

First, ENGIE will collaborate with the City to conduct an investment grade audit of all its facilities and infrastructure in scope to identify savings opportunities. Historical energy consumption is the greatest measure of a facilities performance. We analyze data from your utility to capture historical demand, 15-minute interval pricing, seasonal price changes, and cost escalation. Based on this, we will create an investment grade audit report summarizing results and making recommendations to the City.

Once the audit is completed, ENGIE Services will host meetings with City staff to discuss project prioritization to achieve specified goals and develop the scope of work.

The ENGIE team will coordinate study sessions for City Council and community outreach meetings designed to inform and garner feedback, thus ensuring strong communication and transparency throughout the process. These meetings will take place at City staff discretion and convenience.

A key ENGIE Services value is our success working with California Investor Owned Utilities. Over the past five years, ENGIE Services has helped secure more than \$100 million in state and utility incentive or rebate funding on behalf of our California customers. Our experience allowed us to navigate the requirements and application process, including energy calculations, and develop strategic scopes of work to fit within program guidelines and ensured approval for the highest amount of funding available.

As a part of Phase II, ENGIE Services will manage all aspects of project design and take responsibility for ensuring that all necessary permits are obtained for the proposed work. We have in-house design capability with numerous licensed professional design engineers in multiple disciplines (e.g. mechanical, electrical, civil) and a selection of highly qualified consultants to develop plans and specifications and to provide construction support. Furthermore, through the implementation of multiple projects in the region, ENGIE Services has acquired extensive knowledge and understanding of the applicable codes, standards, and legal requirements for the successful implementation of energy and water conservation projects.

Finally, ENGIE Services provides a turnkey design-build model to implement our program. The City will have one dedicated team that will remain with the project from development through delivery, including one primary point-of-contact. Our managers and engineers develop, design, and deliver these projects as a cohesive team that often becomes an extension of the City's staff. Our senior business development manager, operations director, project manager, construction manager, and the entire team assigned to this project will ensure one clear and consistent line of communication. When the project development team follows the project through its implementation, our clients benefit from a true design-build process and seamless transitions between each stage of work.

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To ensure that this model is delivered in the most costeffective and highest-quality manner, we use a combination of in-house staff capability and subcontracted installation labor. ENGIE Services takes complete responsibility for the entire program, regardless of how many different projects, scopes, or sites are within the design-build contract.

From start to finish, our goal is to design and implement energy and water conservation measures in a safe and efficient manner, with minimal risk to the City. ENGIE Services believes in clearly demonstrating value to our customers. This means we will deliver a program to the City that will positively impact the City's environmental and modernization goals, job creation, and financial objectives well into the future.

Moreover, after construction, ENGIE Services will deliver on our performance guaranteed savings through measurement and verification and operations and maintenance services where applicable.

ENGIE Services' management approach ensures that projects are completed on-time, on-budget, and to the satisfaction of the City.

#### **Buy American Act and Federal Grant Compliance**

The Buy American Act requires Federal agencies to procure domestic materials and products. Two conditions must be present for the Buy American Act to apply: (1) the procurement must be intended for public use within the United States; and (2) the items to be procured or the materials from which they are manufactured must be present in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality. The provisions of the act may be waived if the head of the procuring agency determines the act to be inconsistent with the public interest or the cost of acquiring the domestic product is unreasonable. Contracts awarded by State and local authorities under Federal grant programs are not covered by the act unless authorizing statutes explicitly providing for application of the act. Problems in administering the act involve definitions of "substantially all" of the components and definitions of "manufactured in the United States."

As a part of our procurement process, we seek to identify whether products can be considered a "domestic-end product" under the Buy American Act meaning the end-product is manufactured in the United States and more than 50 percent of the cost of all the component parts are also manufactured in the United States. We have done this for many customers when dealing with grant requirements. Customers we have managed this for include, but are not limited to:

Customer	Grant
Colorado Capitol Complex Phase IV Geothermal	\$4,124,299
City of Austin - Hornsby Bend Biosolids Management Plant	\$1,250,000
City of Garden Grove	\$1,473,101
Southern Utah University	\$250,000

In addition, ENGIE Services maintains a Federal business unit versed in complying with the following statues and Federal Acquisition Regulations (FAR):

#	Name
252.225-7000	BUY AMERICANBALANCE OF PAYMENTS PROGRAM CERTIFICATE BASIC (NOV 2014)
252.225-7001	Buy American And Balance Of Payments Program Basic (Dec 2016)
252.225-7035	BUY AMERICANFREE TRADE AGREEMENTBALANCE OF PAYMENTS PROGRAM CERTIFICATE BASIC (NOV 2014)
252.225-7036	Buy AmericanFree Trade Agreement- -Balance of Payments ProgramBasic (DEC 2016)
52.225-2	Buy American Certificate
52.225-4	Buy AmericanFree Trade AgreementsIsraeli Trade Act Certificate. (Basic, Alternates I, II, and III.)



# Project Team

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#### **TAB TWO: PROJECT TEAM**

#### **Roles and Responsibilities**

Our proposed project at Beaumont will be developed and delivered employing the "team" concept. Our approach to building a team for this project is to ensure that there is one clear and consistent line of communication between the City and ENGIE Services.

Engineering (Development) - Our approach to every project is to establish a consultative partnership with the City. Therefore, ENGIE Services begins its partnership with a kickoff meeting to understand needs and challenges, identify problem areas, and prioritize. Once this framework is established, we conduct a full audit. We begin every project with an investment grade audit to determine baseline energy use, seasonal variation, and effective energy costs. The energy assessment includes a review of utility data, consideration of any existing tracked utility baseline data, and site walks. Once completed, ENGIE Services runs energy models using the collected data to estimate system performance and simulate the yield of certain energy conservation measures (ECMs). This allows us to determine the most viable design at each site. As a best practice, we design to maximize customer benefit.

Construction Management – Implementation ensues via clearly defined management channels. For the City's project, a full-time, on-site construction manager (CM) will be responsible for construction scheduling, subcontractor and vendor coordination, safety programs, security issues, permits and licenses, and progress meetings with subcontractors and vendors. Our CM inspects all subcontractor work for compliance to design and performance specifications. Throughout the project, our project manager (PM) will work in conjunction with our CM. A detailed timeline will be created outlining and scheduling all construction activities to ensure timely completion, close coordination with the City's other activities, and minimal impact to operations. The on-site CM will ensure there is a managed process incorporating all City inputs, goals and needs into a successful energy savings project. Moreover, the CM's regular presence at the job site will provide the opportunity to develop a close working relationship with City staff.

Project Finance – ENGIE Services brings a robust portfolio of experience leveraging funding and maximizing resources for clients in the public-sector. We bring strong and unique expertise in structuring financial solutions from multiple funding sources to maximize program impact. Our in-house project finance department assists with identifying project funding and obtaining financing. We have assisted in the financing of more than \$1.25 billion in performance contracts (paid from savings projects) for our public-sector customers throughout the U.S. We have successfully developed projects that leverage funds and financing with low interest financing, grants, rebates, utility incentives, California state proposition funds and local and state bond proceeds without requiring any additional capital from the City's budgets.

Legal/Labor Compliance – To ensure compliance, ENGIE Services has an in-house legal team that supports project implementation activities through drafting, reviewing, editing and negotiating customer and subcontractor/vendor contracts and agreements. To increase adherence to laws, policies, procedures, and best practices, our labor compliance team conducts internal training programs, enhances subcontractor/consultant compliance with California Labor Code, Awarding Body requirements and Department of Industrial Relations regulations, and verifies submission of certified payroll records and apprenticeship (DAS 140 & DAS 142) forms and reports (including Fringe Benefit Statements and Training Fund Contributions) through a team of specialists.

Marketing/Communications – To effectively showcase the success of your energy program from pre-construction to implementation, ENGIE Services provides a suite of communications and public relations support to promote community awareness, engagement, and recognition for your strides toward sustainability during our partnership together. Our team of energy experts is supported by additional ENGIE Services communication staff with over 25 years of experience in marketing, communications, and public relations – enabling us to help you tell your story to local stakeholders and build your legacy.

Measurement & Verification (M&V) – Throughout the energy savings term, we will submit an annual Performance Guarantee Report that shows a precise calculation of the energy conservation savings during the corresponding

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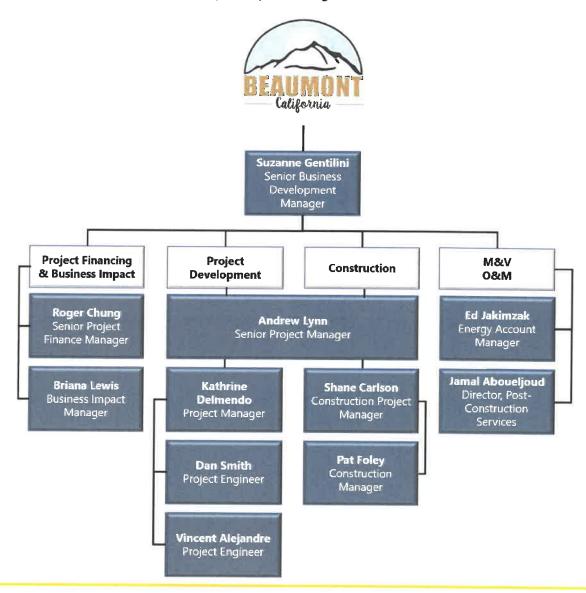


measurement period. Kilowatt-hours (kWh) produced by the system(s) will be measured using automated metering. Measured interval production kWh will be compared against production shown on the monthly utility bills, and any differences will be reconciled. To monitor data acquired from our energy projects, we use a proprietary web-based system, Utilityvision.

Operations & Maintenance (O&M) – ENGIE Services' O&M team helps ensure equipment warranties remain valid and that our systems produce at or above guaranteed production levels. Our infrastructure, organization, policies, procedures, management, and O&M philosophies

have been developed based upon the best practices that evolved from providing O&M services. ENGIE Services believes that a strong preventative maintenance program ensures reliability and efficiency standards are met. Most preventative maintenance can be conducted through using ENGIE Services' proprietary remote monitoring service, Utilityvision. These projects will be incorporated immediately into our regional maintenance rotations and preferred service dates will be coordinated with City staff.

#### **Organization Chart**



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#### **Description of Team Experience**

#### Suzanne Gentilini

Senior Business Development Manager



#### Experience Summary, Roles and Responsibilities

Senior Business Development Manager, Suzanne Gentilini, has more than 14 years of experience in modernization, design-build and energy services. She is responsible for the development and implementation of successful energy efficiency and renewable energy generation projects for public sector clients. She works closely with customer staff to determine needs and goals of the desired project during the development of objectives and scope. She ensures that each of our comprehensive programs positively impacts our client's general fund, improves facility operations and efficiency, promotes clean renewable energy, and provides measurable improvements to the customers defined goals and objectives.

#### **Education:**

B.A. in Psychology from University of California, Los Angeles

#### **Licenses/Certifications:**

Member: Association of Energy Engineers and the League of California Cities

Name	Project Scope
Westminster School District	Installed 1.5 MW solar PV, HVAC replacements, two EV charging stations, LED lighting upgrades, wireless thermostats, water conservation measures, new electrical switchgear, EMS expansion and STEM education program.
Huntington Beach Union High School District	Scope included 7.7 MW of solar PV, financed through a PPA, emergency backup generators and STEAM learning opportunities for all District students and staff.
Magnolia School District	Installed 1 MW solar PV at 11 school sites, 378 HVAC rooftop units, plug load management, 739 thermostats, lighting upgrades and a customized STEM education program.
City of Brea	Scope included 1.8 MW solar PV at three city sites (Civic Center, Reservoir Pump Yard and shade structures at the Community Center), citywide streetlight retrofits to energy-efficient induction lights, interior and exterior lighting retrofits at 14 sites and major heating, ventilation and air-conditioning infra-structure upgrades and controls at six civic sites.

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#### **Roger Chung** Senior Project Finance Manager



#### Experience Summary, Roles and Responsibilities

Roger has arranged more than \$300 million in paid from savings project financings in various structures. He is responsible for analyzing client needs/concerns and then structuring and coordinating all project financing activities to assure the optimal form and cost of financing is obtained. Financing activities include, but are not limited to, proposal solicitation, evaluation, and negotiation. He spends significant time building and maintaining relationships with leading financial vendors in the energy services arena. Roger also works with project teams in reviewing the financial aspects of proposed energy projects (e.g., interest rate assumptions, capitalized interest calculations, graduated payment calculations and the financial implications of the project from the client's perspective).

#### **Education:**

B.S. in Management Science from University of California, San Diego (Honors, Cum Laude, Provost's, Phi Beta Kappa member and Golden Keys Honors Society member)

Representative Project Experience	
Name	Project Scope
Solar PPAs	<ul> <li>Coordinated PPA with ENGIE for:         <ul> <li>County of Kings: 3.8 MW solar PV system and 500 kW battery energy storage system</li> <li>County of Tulare: 9.2 MW solar PV system and 1 MW battery energy storage system</li> <li>County of Madera: 1.9 MW solar PV system</li> <li>Moreno Valley Unified School District: 6.8 MW solar PV system</li> <li>Huntington Beach Union High School District: 7.7 MW solar PV system</li> </ul> </li> </ul>
County of Riverside	Project finance manager: secured financing for \$55 million at 3.33% for 20 years.
City of Salinas	Project finance manager: secured financing for \$5 million at 2.89% for 15 years.
City of Brea	Project manager: Energy efficiency and solar power project, including 1.8 MW of solar PV, lighting retrofits at 14 buildings, citywide streetlight upgrades, HVAC upgrades at one site, and controls expansion at four sites.

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#### **Andrew Lynn** Senior Project Manager



#### Experience Summary, Roles and Responsibilities

Senior Project Manager, Andrew Lynn, has nearly 25 years of industry experience. He is responsible for day-to-day oversight of the development and implementation of the project. He brings more than 20 years of experience in consulting engineering, energy engineering, performance assurance, commissioning, construction management, estimating, engineering and energy solutions management. He has engineered and/or managed the engineering for more than \$250 million of energy solutions and services projects.

#### **Education:**

B.S. in Engineering HVAC Emphasis, California State Polytechnic University, San Luis Obispo and Certificate of Applied Science, HVAC&R, College of Southern Idaho, Twin Falls, ID

#### Licenses/Certifications:

LEED AP, CEM, Member: Association of Energy Engineers, U.S. Green Building Council, and American Society of Heating, Refrigeration and Conditioning Enginers (ASHRAE)

Name	Project Scope
Los Angeles Unified School District	GMAX design-build project with open book pricing including central plant replacements, new chillers, variable volume conversions, interior and exterior lighting projects, building automation and controls systems upgrades or new installation, battery energy storage, high efficiency electrical transformer replacements and pool upgrades.
Magnolia School District	Installed 1 MW solar PV at 11 school sites, 378 HVAC rooftop units, plug load management, 739 thermostats, lighting upgrades and a customized STEM education program.
Montebello Unified School District	Installed 3.5 MW solar PV at 17 school sites, 263 HVAC unit upgrades, 2,656 LED lighting retrofits, 4 new EV charging stations, six battery storage units and one solar greenhouse enclosure.
El Camino Real Charter High School	Scope included parking structure solar generation systems, central plant upgrades, interior and exterior lighting projects, building automation systems, high efficiency electrical transformation replacement and STEM education programs.

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#### **Kathrine Delmendo** *Project Manager*



#### Experience Summary, Roles and Responsibilities

Kathrine has more than nine years of industry experience. She is responsible for the overall program development, scope identification, analysis oversight, delivery and customer interface. Kathrine will be assigned to the project from the inital development through final close-out.

#### **Education:**

B.S., in Computer Engineering, University of the Philippines

M.S. in Mechanical Engineering, California State University, Long Beach

#### **Licenses/Certifications:**

Registered Professional Mechanical Engineer

Representative Project Experience	
Project	Scope Description
City of La Habra	Managing team and developing the ECMs, pricing, and schedules along with managing the guarantee and ongoing M&V team. ECMs included internal and external lighting upgrades; HVAC replacements and efficiency upgrades at multiple locations; building automated control systems; solar PV; BESS; and energy efficient transformer upgrades.
City of Mission Viejo	Managing team and developing the ECMs, pricing, and schedules along with managing the guarantee and ongoing M&V team. ECMs included internal and external lighting upgrades including new ceilings; HVAC replacements and efficiency upgrades at multiple locations; building automated control systems; BESS; and EV charging stations.
Helendale School District	Scope included solar PV, lighting, controls, HVAC replacements, wireless thermostat upgrades, and energy education curriculum.
Los Angeles Unified School District	GMAX design-build project with open book pricing including central plant replacements, new chillers, variable volume conversions, interior and exterior lighting projects, building automation and controls systems upgrades or new installation, battery energy storage, high efficiency electrical transformer replacements and pool upgrades.

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## **Dan Smith**Project Engineer



#### Experience Summary, Roles and Responsibilities

Project Engineer, Dan Smith, has more than 10 years of experience. Dan's work centers around achieving cost-effective and efficient use of energy and designing and implementing solar PV generating systems at various facilities. He models solar PV energy production, calculates utility cost savings and assists with construction management.

#### **Education:**

B.S. in Mechanical Engineering from University of California, San Diego

#### Licenses/Certifications:

Registered Professional Electrical Engineer (CA #19700)

	Representative Project Experience	
Name	Project Scope	
County of Riverside	Developed and implemented 12.1 MW of solar PV systems across 13 county sites. Designed PV utility interconnection, developed conceptual layouts, and assisted with equipment procurement.	
City of Lemoore, Phase III	Developed and implemented 3.1 MW of solar PV systems across 11 city sites. Work included financial analysis, solar layout design, utility interconnection and construction support.	
City of Hanford, Phase III	Technical liaison for streetlight and lighting retrofit, occupancy sensor installation and design-build of 2.3 MW solar PV. Developed layouts for project approval and then administered design package through plan check for approval.	
City of Brea	Energy efficiency and solar power project, including 1.8 MW of solar PV, lighting retrofits at 14 buildings, citywide streetlight upgrades, HVAC upgrades at one site, and controls expansion at four sites.	

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#### **Vincent Alejandre** *Project Engineer*



#### Experience Summary, Roles and Responsibilities

Vince is a project engineer responsible for conducting solar PV, energy storage, electrical and mechanical engineering, solar thermal, lighting and construction. Vince performs engineering support (auditing, design, and project management) for energy efficiency and renewable energy projects. He has extensive knowledge in third-party and utility energy efficiency rebate processing. His work centers on achieving cost-effective and efficient use of energy at various facilities, including data centers, industrial sites, factories, chain stores, professional sports stadium facilities, city and county government buildings, public schools, and universities.

#### **Education:**

B.S. in Mechanical Engineering, California State Polytechnic University, Pomona

#### **Licenses/Certifications:**

Member: Association of Energy Engineers, U.S. Green Building Council, and American Society of Heating, Refrigeration and Conditioning Engineers (ASHRAE)

Trapitative Project Experience	
Name	Project Scope
La Mesa Spring Valley School District	Performed energy and cost analysis and forecasting, design and construction of energy conservation measures such as 12,000 retrofit lighting kits, 126 transformers, and multiple HVAC systems, oversaw the HVAC and controls retrocommissioning construction, and managed and secured over \$400,000 in public utility rebates for lighting, HVAC, controls, and transformers.
City of San Jacinto	Performed the testing and commissioning for 750 kW solar PV ground mounts connected to well pump houses. Performed the audit and created the scope for over 350 streetlights. He was responsible for labelling, mapping, and documentation for all the streetlighting, helped secure solar incentives for the two PV sites.
City of Moreno Valley	Responsible for all engineering tasks related to the construction of the 611 kW solar PV canopy system with battery storage. He managed RFIs and submittals, commissioning, punch listing, and coordinated subcontractors and site walks, inspections, boring, and soil sampling. He also redesigned the City Hall walking pathways due to column placement and ADA requirements.

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## **Shane Carlson** *Construction Project Manager*



#### Experience Summary, Roles and Responsibilities

Project Manager (Construction), Shane Carlson, has 15 years of industry experience. He focuses on developing and executing renewable energy and infrastructure enhancement projects for public sector clients with an emphasis on reducing energy consumption at various facilities. He has been a key construction project engineer for more than 5 MW of ground mount, rooftop, parking canopy, and shade solar installations. As a project manager, Shane is an integral part of the project team from beginning to end including initial site visits, audits, energy calculations and guarantees, contract development review and negotiations, project implementation, working closely with the construction management team, and verifying that the project is properly closed out.

#### **Education:**

B.S. in Mechanical Engineering, California State Polytechnic University, Pomona

#### **Licenses/Certifications:**

Engineer-in-Training (EIT) Certificate, CEM, Member: American Society of Heating, Refrigerating and Air-Conditioning Engineers

Name	Project Scope
Moreno Valley Unified School District	6.8 MW solar installation at 15 District sites.
Nuview Union School District	Scope included 622 kW of solar generation projects across three sites; and energy efficiency improvements.
Kings County, Phase III	Supported final design and construction phase of project scope, including installing 504 kW solar PV across two sites; HVAC and lighting improvements; and coordinated utility rebates and incentives.
City of Lemoore, Phase III	Provided engineering support during the construction phase of the 3.1 MW solar PV systems and parking lot carport structures at various well sites and city facilities.
Temple City Unified School District	Energy efficiency and solar photovoltaic improvement project, including design-build of 400 kW solar PV parking canopies and complete refurbishing of high school student parking lot; installing lighting and HVAC controls at nine sites; new boiler and chiller at elementary school; window replacement at three sites; designs for HVAC upgrades, roof replacements, and electrical upgrades; project required interface with DSA for improvement approvals.

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## **Pat Foley** *Construction Manager*



#### Experience Summary, Roles and Responsibilities

Patrick Foley, Construction Manager, successfully applies more than 40 years of training and experience to the team. His responsibilities include specification review, contractor selection, specification compliance, project work coordination and management, project implementation, and documentation. Patrick has managed work performed on a wide variety of environmental control systems and has working knowledge of the components, including pneumatic temperature controls required to successfully integrate state of the art energy management systems with existing, modified, and new mechanical systems. Additionally, Patrick is able to evaluate and recommend variances to the specification and work requirements as the job conditions warrant.

#### **Education:**

Refrigeration Correspondence Course, University of Wisconsin, Madison, WI

USMC training as Refrigeration Engineer

Engineering Courses, Golden West College, Huntington Beach, CA

#### **Licenses/Certifications:**

Member: Refrigeration Service Engineers Society

representative i roject Experience		
Name	Project Scope	
Mt. San Antonio College	Scope included new boilers; 1.4 MW cogeneration system, central chilled water and heating plant, thermal energy storage, energy management system, and lighting retrofit.	
City of Brea	Scope included 1.85 MW solar PV array installations, utility analysis, modeled solar photovoltaic system energy production, and estimated cost savings; produced conceptual rendering of solar photovoltaic shade structures, and provided onsite construction management.	
Los Angeles Community College District	Scope included central plant and heating and chilled water infrastructure installation	

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#### ED JAKIMZAK Energy Account Manger



#### Experience Summary, Roles and Responsibilities

Ed oversees and manages all system monitoring, measurement and verification (M&V), and other ongoing customer service activities in California. He is responsible for coordinating and performing all physical measurements as well as creating the reports necessary to fulfill ENGIE Services' M&V and performance guarantee responsibilities in accordance with the International Performance Measurement and Verification Protocol (IPMVP). Additionally, he is responsible for all ongoing services required to fulfill performance contracting responsibilities. He joined the organization in 2008.

#### **Education:**

B.S. in Electrical Engineering from California State University, Northridge

#### **Licenses/Certifications:**

Certified Energy Manager (CEM) -Association of Energy Engineers

Certified Measurement & Verification Professional (CMVP) - Association of Energy Engineers

Project Scope
Performs measurement and verification services for the California municipalities, including, but not limited to:
<ul> <li>City of Brea</li> <li>City of Garden Grove</li> <li>City of Palm Springs</li> <li>City of Simi Valley</li> <li>County of Kings</li> <li>County of Riverside</li> <li>Indian Wells Water District</li> <li>City of Concord</li> <li>City of Dublin</li> <li>City of Gonzales</li> <li>City of Patterson</li> </ul>

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## JAMAL ABOUELJOUD Director of Post-Construction Services



#### Experience Summary, Roles and Responsibilities

With nearly 30 years of relevant experience, Jamal leads all post-construction activities including operations and maintenance and warranty service. Jamal's areas of expertise include: energy management, business development, portfolio management, project lifecycle management, customer relations, team leadership, training and development, professional consulting, cross-team collaboration and communications. He joined the organization in 2015.

#### **Education:**

Master of Engineering from Lawrence Technological University

#### **Licenses/Certifications:**

Certified Energy Manager (CEM) -Association of Energy Engineers

Leadership in Energy and Environmental Design - Accredited Professional (LEED-AP)

California Advanced Lighting Controls Training Program - Acceptance Technician (CALCTP-AT)

Representative Project Experience	
Name	Project Scope
Multiple	Managed the execution of all scheduled PV system maintenance and customer relations for the California government projects, including, but not limited to:
	<ul> <li>City of Brea</li> <li>City of Garden Grove</li> <li>City of Palm Springs</li> <li>City of Simi Valley</li> <li>County of Kings</li> <li>County of Riverside</li> <li>Indian Wells Water District</li> <li>City of Concord</li> <li>City of Dublin</li> <li>City of Gonzales</li> <li>City of Livermore</li> <li>City of Patterson</li> <li>City of Waterford</li> <li>City of Yuba</li> <li>County of Yuba</li> </ul>

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## **BRIANA LEWIS** *Business Impact Manager*



#### Experience Summary, Roles and Responsibilities

Briana works with K-12, higher education and city customers to develop programs that compliment and build on the energy work ENGIE Services performs. She works with customers at every phase of a project, but focuses on the creation and implementation of education and community programs. She is an ongoing point of contact and resource for customers with our education program. Prior to working at ENGIE Services, Briana had nine years of experience in various aspects of environmental education, focusing on topics such as renewable energies, ocean science, pollution, and school gardens.

#### **Education:**

B.A. in Environmental Studies, University of California, Santa Cruz

M.P.A., California State University, Dominguez Hills

Name	Project Scope
City of Simi Valley	Education Program Manager; Oversight of Simi Valley Conserves program which hosts high school interns to work with residents to conserve energy through behavioral changes and small purchases.
Westminster School District	Education Program Manager; developed STEM focused Saturday School curriculum for school years 2015/16 and 2016/17 for grades 1-8 for a program that allows the District to recoup ADA dollars lost to absenteeism; supported their purchase and adoption of an online project-based learning platform; professional development for District staff around energy topics has also been provided.

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#### How Organization Chart Provides Value to the City

As previously described, our proposed project team at Beaumont is built to ensure there is one clear and consistent line of communication between the City and ENGIE Services. Our team consists of technical and professional experts that span from development and engineering to construction management and commissioning. We design and deliver scalable, multifaceted programs with an unrivaled team of specialists to achieve the highest level of results at every program phase. With ENGIE Services, you have a partner every step of the way.

ENGIE's areas of expertise are rooted in our technical team that will be assigned to the City's program. We take great pride in the fact that we have a strong professional and technical in-house staff, capable and experienced in performing in-depth energy evaluations and engineering design, including mechanical, electrical, lighting, building envelope and water management. Our engineers have worked in the industry in a wide variety of capacities and, together, they bring broad project experience and expertise in all areas of energy and water conservation.

Our team is built to provide a consultative partnership at every phase of the project. For instance, ENGIE's approach to subcontractors will combine our national buying power and resources with a great local and preferred selection process (co-authored by the City) to ensure transparency and multiple bids for the best value.

#### Firm's Overhead Structure

ENGIE Services determines fees for engineering and professional services including design engineering, project and construction management, guarantee services, and commissioning based on project scope, requirements and cost. Project costs are calculated using generally accepted industry standards based on the type, size, and complexity of the project. The overhead and profit percentages apply:

Mark-up Table	
Category	% of Total Project Cost
Overhead	9%
Profit	5%

Transparency and communication in the public-sector are more critical than ever before. Using a competitive process, such as the current RFQ the City is undertaking to select its energy partner, is an important first step. As a collaborative partner with our public-sector clients, ENGIE Services understands the need for transparency and communication and is committed to supporting a process that will facilitate those goals. An open, collaborative and communicative process will allow Beaumont's staff, elected officials, residents and stakeholders to have confidence that they are getting the best value and return on investment.

To better serve the City of Beaumont's goals of transparency and communication, ENGIE Services can:

- · Provide open book pricing
- Involve City staff in the subcontractor selection process, if desired including:
  - Developing and sending out RFPs for each scope of work to multiple subcontractors from our list of pregualified vendors
  - Including any local subcontractors preferred by the City, as long as they are able to successfully complete our rigorous, prequalification process
  - Reviewing subcontractors bids, once received, together with the City, to select the most cost effective, qualified subcontractors for each scope of work
  - o Provide regular updates and communication about the development, costs, and other relevant information about the project on the City of Beaumont's Transparency Portal



# Project Approach

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#### **TAB THREE: PROJECT APPROACH**

#### **Project Development and Delivery Process**

Our approach to energy services begins with the City's goals and then work our way back to the initiation of design work. The basis for design is an ASHRAE Level II investment-grade, computer modeled audit to yield energy savings projections and a detailed scope to achieve the City's goals. The table below outlines the steps performed during scope development.

Examine each building and energy-using system at the facility to identify candidate ECMs

Use utility bill analysis and sample metering to create energy-use profile for each building

Identify potential ECMs, renewable power generation, and other infrastructure projects that meet key criteria identified by customer

Draft preliminary assessment discussed with key stakeholders

Develop schematic scopes of work and budgetary cost, savings and rebate estimates to validate feasibility of identified ECMs

Summarize findings in a report and present initial recommendations

Conduct thorough on-site engineering of facility

Conduct interviews of personnel regarding equipment and building usage and schedules

Collected data entered into a computer energy model

Simulate energy usage of facility for the year through computer energy model

Verify accuracy of model by comparison and calibration to three-year history of monthly facility energy bills to create "baseline"

Enter all viable ECMs into model to conduct a fullyear simulation to determine savings Evaluate ECM 'packages" in model to observe interactive effects

Determine cost estimates for each ECM developing schematic diagrams and performance specifications

Solicit price proposals from subcontractors and estimate measures in-house

Validate all savings and cost estimates compared to database of past projects for accuracy

Review project cost effectiveness and determine the best selection of ECMs to meet customer energy savings and fiscal requirements

**Design** - Our process is designed to incorporate both technical requirements and unique local considerations. The design, review, and acceptance processes are composed of three major components: review design, finalize design package and validate the design process.

ENGIE Services' PM and design team will meet on a weekly basis during the design process of each site to ensure proper coordination between each discipline. Our typical design process requires conceptual 30%, 60%, 90% and 100% reviews, with the design team and/or the customer to ensure a thorough and compliant design. For this project, the team would consider the 60%, 90% and 100% designs as the schematic design, design development package, and completed construction documents stages, respectively.

Coordination among design disciplines (e.g. architect, civil, structural, electrical, landscape) will be performed at all design milestones:

- Conceptual Design: The early design stage in which design criteria are developed.
- Preliminary Design 30% Complete: The "design freeze" point for conceptual and the point at which the initial steps of final design begin.
- Interim Design 60% Complete: The design plans and specifications are at an advanced stage, all calculations are completed, value engineering performed, constructability reviewed, preliminary cost estimate finalized, and a preliminary construction schedule developed.
- Pre-Final Design 90% Complete: This phase of the design is the basis for development of the

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construction schedules and cost estimate. The design drawings, specifications, and calculations are essentially complete and changed only based on review comments or to add final details.

 Final Design - 100% Complete: Final design process validation is completed, and resolutions of design review comments have been accepted by reviewers. Plans, specifications, and calculations are signed and sealed by the professional engineer/ architect, as appropriate, and the approved final design package is released for implementation.

**Engineering** - Coordinating engineering with our clients follows a parallel track with the technical design. We begin detailed engineering after the project has been approved by our client and the implementation contract has been executed. The first task of the project team will be to review and confirm all project requirements in detail. This involves examination of all engineering analyses included in reports, as well as drawings and other documents that are pertinent to project design. The team will assess the constructability of preliminary designs made during the engineering analysis. If needed, modifications to the design, or alternatives to meet the original objectives, are then developed.

Procurement - ENGIE Services does not manufacture any equipment. At ENGIE Services, we are "vendor neutral," meaning we design, select, install, and maintain equipment openly available to the market. Moreover, as a subsidiary of ENGIE, we can leverage the buying power of our parent company to procure equipment at the best price. ENGIE is a global energy company, and the number one supplier of energy efficiency services, with \$67.8 billion in 2018 revenue. As such, we are a major buyer of HVAC equipment, lighting, solar modules and inverters. Our global buying power has allowed us to negotiate favorable terms to qualify industry leading original equipment manufacturers (OEMs) as preferred suppliers. Our procurement department leverages this buying power and our global agreements to receive the most competitive pricing. We will evaluate your unique specifications through total cost of ownership to ensure you receive the highest quality equipment at the lowest cost.

The procurement function supports our project management and operations team through policy, processes, and supplier management in the following areas:

- Negotiation of terms and conditions for subcontractors and material suppliers
- Category management systematically managing spend by categories
- Leveraging global buying power and strategic supplier relationships
- · Execution of cost savings opportunities
- Pre-qualification of new suppliers
- Supplier performance management
- Supplier management and tracking of Key Performance Indicators (KPIs)
- · Spend analytics and reports

In addition, our procurement team has extensive experience and knowledge about the California labor market related to engineering, construction, installation, and other services. We work with our customers to adhere to other requirements related to diversity, geography (local subcontractors), sustainability, material origin traceability, and any other important considerations and requests. Often our customers have existing relationships with contractors. In such instances, we prioritize awarding subcontracts to those preferred companies if they possess the capabilities needed to execute the scope of work and meet our supplier qualification requirements including safety, financial, commercial competitiveness, and work quality. In short, we take a customer centric approach to procurement and tailor our processes for each customer to include your unique, important necessities and requests.

**Installation** - Installation efforts and planning begin during the technical design period. We maintain close contact and coordination with equipment manufacturers and subcontractors to ensure that equipment and materials can be ordered with as much notice as possible.

During installation, ENGIE Services manages all activities through our installation staff. For the City's project, a full-time, on-site construction manager (CM) and assistant CMs (as needed) will be responsible for construction, subcontractor and vendor coordination, safety programs, security issues, permits and licenses,

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and progress meetings with subcontractors and vendors. In addition, the scheduler, estimator, labor compliance personnel, safety coordinator, and other key personnel will participate as needed for seamless project execution. Our Project Manager (PM) and on-site CM will hold weekly or bi-weekly construction meetings with designated City personnel, designers, and contractors. The field engineers and CMs inspect all subcontractor work for compliance to design and performance specifications. Careful attention to job safety, handling of any hazardous materials, and coordination of construction activities ensure minimal disruptions to the City.

For document control and to support project execution, the Project Team uses Procore™, a cloud-based construction project management tool. In addition to Procore™, the CM creates and maintains a project schedule (Gantt chart) using Microsoft Project⁺ or Primavera⁺ for tracking weekly construction progress and to establish construction start and completion dates for each installation. The CM also compares the actual progress to the project schedule to anticipate and communicate potential delays or advances in construction.

We use a collaborative approach, with the City and its individual sites, to carefully coordinate schedules and activities. In cases where building occupants will be impacted, the work will be scheduled with the City maintenance staff. Work that occurs in non-occupied areas and outside the building will be appropriately scheduled to assure that City officials are aware of all work activities being performed by ENGIE Services.

We take pride in our ability to complete work with minimal disruption to the occupants within a space. We look for portions of work that can be done with minimal disruptions to occupants during normal business hours. Other portions of a project that may be more disrupting can be scheduled during off hours. As always, communication is key in creating a smooth operations plan. As an example, when retrofitting HVAC systems for a City, we communicate the construction plan to occupants through a color-coded map with a legend of which work spaces are being impacted when. Building lighting work is always completed after regular business hours. Any power shutdown needed to interconnect the solar projects will be scheduled with the City well in advance

and during weekends or least disruptive times. Proactive communication allows occupants to prepare for any impact and ask questions.

Commissioning - As part of our Quality Assurance and Quality Control (QA/QC) process, every project built by ENGIE Services is commissioned. Commissioning is a process, separate from construction, which verifies each ECM is functioning according to the program design and ensures the success of our performance-based projects. ENGIE begins by creating a customized commissioning plan for the project that contains specific commissioning procedures for each ECM. We start the commissioning plan prior to completion of design work to help ensure the design effort will succeed in delivering a project that meets expectations. The process ensures that each ECM meets the design intent and that savings will be achieved.

ENGIE has a library of commissioning procedures for all of our ECMs that will be installed. These procedures include pre-functional checklists and tests, functional checklists and tests, as well as performance tests. These commissioning procedures are performed at the completion of the construction but prior to the system start-up. During system start-up, proper operation and control are verified, including proper flow rates, delivered temperatures, etc. ENGIE's commissioning team follows-up the installation of equipment by all subcontractors to ensure all ECMs are working properly. We highly recommend that the designated customer staff participate in the start-up to fully understand all facets of the newly installed systems.

Executing the commissioning plan includes: pre-functional equipment manufacturer checklists and inspections to verify the proper equipment was installed correctly, functional testing to verify equipment components are installed properly and function properly, performance testing to confirm the ECM works as intended (over a period of time) to generate the expected energy savings and commissioning documentation to record commissioning activities and test results including operations and maintenance (O&M) documentation and as-built documentation.

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#### **Required information from City**

ENGIE Services anticipates requiring the following information from the City, as available:

#### **Development and Energy Audit Phase**

- Utility bills, by building (three years) including Commodity supply contracts
- Utility company demand interval recordings of 15/30 minute electrical demand for characteristic months of the year (ENGIE Services can assist the City in obtaining this data by submitting a Third Party Authorization form to SCE)
- Record drawings (AutoCAD or hard copy) for the included buildings (e.g.: mechanical, plumbing, electrical, building automation and temperature controls, structural, architectural, modifications and remodels, floor and roof plans, including age, type and condition of the roof)
- Key contacts at each site, including Customer personnel knowledgeable of the electrical, HVAC, lighting and controls systems
- Energy management system and HVAC equipment operating schedules point lists and sequences of operation
- Communication tree contact list of stakeholders/ scheduling
- Access to the facility and maintenance staff that run the buildings.
- · Security requirements, (i.e. keys, escorts needed)
- Facility master plan
- Asbestos report
- Previous studies/analysis/audits
- Original construction submittals and factory data (specifications, pump curves, etc.), where available.
- Test and balance reports for water and air systems, where available.

#### **Program Implementation Phase**

During program implementation, we wear many hats, so you don't have to. The ENGIE construction team plans and coordinates closely with our subcontractors to minimize impact on the customer and their staff. As a result, the owner requirements during implementation are not extensive or taxing to your team.

- Secure Office Space/Trailer location
- · Storage, staging areas identified
- Coordination for site access
- · Weekly/Bi-Weekly update meetings with CM
- Monthly Progress update meeting with Project Management team
- Collaboration & Communication: notification to facilities and staff informing their teams of construction location, impact, and potential temporary shut-downs as required

#### Start-Up / Commissioning / Training

Following implementation, we will work with the City's staff to engage them for training. We find it is best to engage the staff during the start-up and commissioning process. This allows them keen insight and hands-on experience, while we have technicians and manufacturers' representatives onsite. Our team will coordinate with City staff to best accommodate the training sessions. We offer flexibility in our training approach, to ensure all the staff has the opportunity to participate in these activities.

#### Describe any direct relationship of the company or team member's interest or affiliation with any energy, fuel, product or system.

ENGIE goes beyond our competitors in the energy market who try to solve a piece of the problem, or default to their own products as "best fit". Our team offers cross-functional expertise across the entire value chain with vendor neutral procurement, acting as one accountable provider to make infrastructure and systems more efficient, sustainable, and usable for the long-term. ENGIE is the developer and general contractor on all our projects, which means we provide project and construction management services and assume responsibility for the proper installation of all equipment and systems.

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Description of measures or services provided related to energy efficiency, renewable energy, energy storage, asset planning, utility program expertise, energy Controls supply management, and other services relevant to the goals identified in Section 1.

A summary of measures or services provided include:

#### **Electrical Systems**

#### **Civil Underground Utility Construction**

- · Direct buried conduits
- Duct bank construction
- Transformer and switchgear foundations

#### Data & Telco Construction

 Low voltage implementation of voice, data, broadcast, network or specialty comms systems

#### **High Voltage Electrical Contracting**

- 5 kV to 230 kV installations
- Overhead & underground line construction

#### **IT Services**

Enterprise scale IT infrastructure and outsourcing

#### **Lighting Systems & Controls**

- · Advanced controls
- Human centric lighting
- LED lighting retrofits
- Natural lighting systems

#### **Mission Critical Systems**

 Management of power infrastructure including generators, UPS, batteries and ATS maintenance

#### **Temporary Construction Power**

- · ESA plan review
- Site power requirements
- Lease/rent/purchase arrangements

#### **Renewables & Energy Storage**

#### **Renewable Energy**

- Cogeneration/CHP
- Geothermal
- · Ground source heat pump
- Solar photovoltaic (PV)
- Solar thermal
- Waste-to-Energy/Biogas
- Wind

#### Storage

- Energy Storage/batteries
- · Microgrids
- · Thermal energy storage

#### **Energy Management & Controls**

- Building automation controls
- Energy management systems
- · HVAC set-point optimization
- Smart sensors & devices
- Variable frequency drives

#### Commissioning

- · Continuous commissioning
- HVAC tuning/retrocommissioning
- Operations and Maintenance (O&M)
- · Rooftop retrocommissioning
- · Steam system retrocommissioning
- Utilityvision™ remote energy monitoring

#### **Safety and Security Measures**

- · Electronic access locks
- Motion sensors
- Networked video-surveillance system

#### **Heating and Cooling Systems**

#### Air Side

- Demand ventilation
- Efficient fume exhaust hoods
- Heat reclamation
- Heat recovery units (enthalpy wheels)
- Outside air economizers
- Radiant heating

#### Central Plant and Mechanical Room

- Heating and cooling/energy networks
- Electric motor replacement
- **Energy recovery**
- Heat exchanger Systems
- · High efficiency boilers and chillers
- Modular heating and cooling systems
- · Tower tree cooling
- Waste heat recovery
- · Waste treatment systems

#### Influences/Other

- · Building envelope improvements
- Efficient monitor conversion & network upgrades
- Facility maintenance (re-training)
- Operating practices
- · Power factor correction
- Water conservation and efficiency

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Description of project financing models, asset ownership offerings, public-private partnership opportunities, or service agreements available to the City.

ENGIE Services has deep experience in securing grants, incentives and other financings. Our in-house project finance experts help today's public-sector customers bridge the gap between aging (and often failing) infrastructure, and the availability of revenue-saving energy technologies that are proven to increase comfort and productivity. The goal of project financing is to capitalize the program offering and repay the entire financial obligation out of realized savings, freeing up funds for important priorities.

Just as we are not tied to a single manufacturer for the purchase of the products that go into our projects, nor are we tied to a single funding source. We are involved in a wide spectrum of project types and each of these types has unique financing requirements. Based on the size and scope of a project, our project finance team investigates the energy performance contracting, public-private partnership and structured finance, tax exempt municipal leases, standard capital leases and loans, public sector bond issuances, general obligation bonds, revenue bonds, certificates of participation (COP), private activity bonds, Power Purchase Agreements (PPA) for generation projects, on-bill financing and PACE financing options (where applicable), state-specific loans programs and grants, and rebates and incentives. ENGIE Services has successfully developed projects that leverage funds and financing with low-interest financing, grants, rebates, utility incentives, California state proposition funds (like Prop 1, Prop 39 and Prop 84) and local and state bond proceeds without requiring any additional capital from City budgets. ENGIE Services' project finance department can educate and link you to funding opportunities such as, but not limited to, the following:

Tax Exempt Lease Purchase (TELP) - TELPs are a mature financing structure for public sector entities so there is little contract variance between TELP providers. The City would enter an agreement with a bank (as a TELP provider) who will typically secure the financing using the project's equipment as collateral. The terms for this type of financing vary, but generally range from 15-to-20-year terms at low rates. Based on recent market trends, financiers are

considering more than 20-year terms, typically securing the financing with an asset pledge. The payment structure can consider construction period interest and payment amounts, and can be shaped to match net cash flows which can vary over time because of varying incentives, maintenance costs, and energy prices. At the end of the term, the equipment would effectively be paid for and the end of term purchase is typically transacted with \$1 payment. Based on our observations, if 25-year and even 30-year terms are desired, Certificates of Participation are typically considered, where the financing is secured with an asset pledge.

ENGIE Services has assisted many customers with financing solar and other energy efficiency programs via a TELP.

TELP Examples	
Customer	Amount
Westminster SD	\$22.1M
Madera County	\$10.3M
City of Grass Valley	\$4.96M

Power Purchase Agreements (PPA) - As an ENGIE company, we offer an in-house PPA that allows for a fixed, predictable cost of electricity and/or battery storage over the term (20-25 years). Our project finance team will ensure the most efficient structured finance offering by leveraging ENGIE's low cost of capital to achieve the lowest PPA rates possible. This provides the City with the security of knowing that ENGIE Services will be there for the long term to service these sites and ensure savings to each of your sites is optimized and maximized. ENGIE's PPA is a service contract, rather than a lease. When a client enters into a PPA, it is agreeing only to purchase the power generated by the system. The PPA provider will own the system, monetize any ownership tax benefits such as the Investment Tax Credit (ITC) and depreciation, manage construction finance, and be responsible for system maintenance. Typically, at the end of the PPA term, the client will have the option to renegotiate/extend the PPA term, acquire the system at a fair market value, or have ENGIE Services remove the system. Under a PPA structure, after the tax benefit period in year six, the client generally has the option to purchase the system through an early buy out. This allows the client to exchange tax equity financing rates for tax exempt financing rates, typically to

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the client's benefit.

PPA Examples		
Customer	Amount	
Lake Elsinore USD	\$4.7M	
City of Dinuba	\$5.4M	
Madera County	\$7.0M	
Huntington Beach UHSD	\$23.5M	

Grant / Incentive Funding - During the development and design phase, ENGIE consistently achieves cost reductions by identifying and securing a broad spectrum of funding sources, grants, and incentives on behalf of our customers. Over the past five years, our team has submitted more than 400 projects to utility incentive programs and helped to secure more than \$100 million in state and utility incentive or rebate funding on behalf of our customers in California. ENGIE will identify and prepare applications for all available incentive programs.

SGIP Advanced Energy Storage Incentives	
Level	Amount
Step 1	\$5.58M
Step 2	\$8.81M

#### Low Interest California Energy Commission Loans

- Many of our customers use the Energy Commission's low-interest loan programs. For cities, the CEC offers loans for energy projects at 1% interest. ENGIE Services keeps abreast of the funding levels of this program and has experience with the loan application, disbursement, and documentation requirements. For example, ENGIE Services assisted the City of Waterford in securing a \$1.3 million 1% interest CEC loan to convert their streetlights to efficient LEDs, install solar panels, and implement an energy control system.

On-bill Financing (OBF) - OBF is a utility program that provides funding for qualified energy efficiency improvements that uses the utility bill as the repayment vehicle. OBF is a no-fee, 0% loan with terms and maximum loan amounts that vary depending on type of applicant. Payments are calculated to be "bill neutral" based on savings achieved by the project.

Once a financing option has been selected by the City, ENGIE Services project finance team can assist with request for proposals for project financing from a broad range of banks and financiers. This requires that the financiers bid for the business and helps secure the best overall financing rates and terms for the client. The client can then select from a range of submissions on multiple criteria, including rate, maturity, and terms and conditions. With ENGIE Services' financial strength, reputation for quality, and our strong financing relationships, we can assist in identifying the most attractive financing options available while leveraging our best-in-class performance guarantee.

Describe significant construction issues involving the following: 1) equipment non-performance, 2) design or development issues and 3) unexpected delay; and how they were resolved.

We believe in the value and impact of true partnership between us and our client. As a result our process emphasizes collaboration and consultation with our customers to navigate any issues. Many energy projects fail because the development, design, procurement and construction processes lead to misaligned incentives and goals or even worse, adversarial relationships between the owner, designer, and builder. ENGIE Services seeks out opportunities where we can work collaboratively with our customers through all stages of a project.

For certain projects, we have encountered significant construction issues that required resolution.

For example, at one school district customer in Riverside County, we experienced an equipment non-performance issue after an air-handling unit was damaged during shipping and the damage was not discovered until after the product was placed on the customer's roof. To reconcile the issue, we worked with the manufacturer to repair the unit, and offered the owner an extended warranty on the unit at no cost to our customer.

For another school district in Los Angeles County, ENGIE Services designed HVAC to be installed on one of its roofs. We conducted our due diligence during the design and development stage and navigated Division of State Architect (DSA) approval to install the HVAC unit; however,

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when we began to tear open the roof for installation, we identified roof beams were sagging and other structural defects that we would not have been able to determine during the design and development stage. We swiftly notified the District of the defects, worked with our design consultants to look at the issue, and established a cost effective change order solution that would be approved by DSA to repair the roof.

For another customer, we navigated unexpected delays after we received a notice to proceed, ordered equipment under the assumption that our customer's bond sales would be approved. When they were not on schedule, we worked with the customer to identify a solution that would not lead to extensive delays. Our executive management approved our team to proceed with the project allowing the customer six months to sell the bonds or obtain an alternate means of financing for the project.



# **Project References**

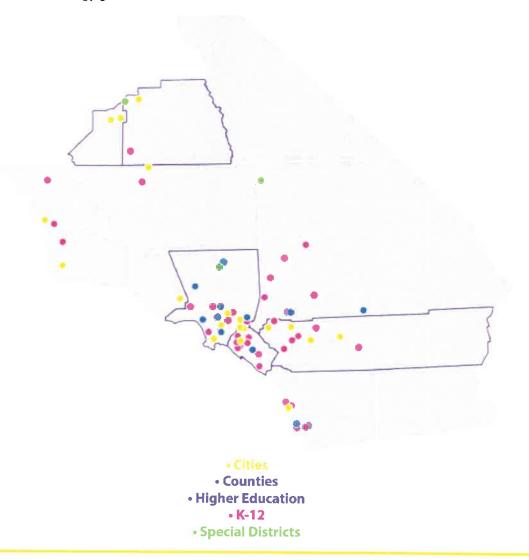
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#### **TAB FOUR: PROJECT REFERENCES**

ENGIE Services is the largest independent energy efficiency infrastructure and renewable power solutions provider for the public sector in the U.S. With a more than 40-year company legacy, ENGIE Services has implemented economically viable, comprehensive energy programs for over 500 public sector customers throughout the U.S., including more than 100 energy programs for California public agencies. The ENGIE Services portfolio has generated over \$2.8 billion in utility savings for our public-sector customers. Our proven results and diverse experience demonstrate our reliability and credibility to deliver various aspects of the City's energy and water efficiency and renewable energy goals.

Our experience with public-sector customers in Southern California is represented in the graphic below. Select references that include one energy service performance contract, one PPA, one energy master planning or energy supply management and one smart cities project are provided on the following pages.



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Engran Carries I	Y- 15
	Performance Contract
Name and Location	Merced County, California
Price and Savings	\$11,762,997; more than \$19 million in savings over the project life
Approval and Completion Dates	November 2016 - February 2018
ECMs implemented	Project included installing a 804 kW solar PV system at the administration building and 1,077 kW ground-mounted solar PV system for countywide cost avoidance on county land, removing and replacing specified HVAC equipment, upgrading existing or installing a new energy management system (EMS) where specified, installing new or retrofitting 4,990 lighting fixtures to LED, and furnishing and installing high-efficiency plumbing fixtures.
Customer	Jim Brown
name, title,	County Executive Officer
and contact	209-385-7538
information	ceo1@co.merced.ca.us

Power Purchase Agreement	
Name and Location	Perris Union High School District Perris, California
Price and Savings	\$10,587,056; Savings guarantee of \$3,121,504 over five years
Approval and Completion Dates	April 2018 - June 2018
ECMs implemented	Design-build of 3,586.8 kW solar PV at eight sites under a PPA.
	in a previous phase, ENGIE Services implemented comprehensive energy and efficiency and lighting upgrades at eight schools and the District office including mechanical unit replacements, retrofitting 1,800 interior and exterior lighting fixtures with LED technology, transformer replacements, and a pool pump variable frequency drive (VFD) and new pool cover at Perris High School.
Customer	Hector Gonzales
name, title,	Director of Facilities
and contact	951-943-6369
information	hector.gonzales@puhsd.org





Use of data contained on this sheet is subject to the restriction in the table of contents of this proposal or quotation.

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Energy Master	Planning or Energy Supply Mgmt
Name and	Westminster School District
Location	Westminster, CA
Price and	\$22,174,659; more than \$18.3 million
Savings	in savings over the project life
Approval and	August 2015 - January 2017
Completion	
Dates	
ECMs	Comprehensive, District-wide
implemented	energy analysis and development
	of energy master plan. Design, and
	implementation of 1.5 MW solar
	PV at all 19 District sites, 15,799
	interior and exterior LED lighting
	fixture upgrades, two electric vehicle
	charging stations, HVAC replacements
	at 13 sites, wireless thermostats
	for all portable classrooms, water
	conservation measures, energy
	management system expansion, new
	electrical switchgear at four sites, and
C	customized STEM education program.
Customer	Brian Johnson
name, title,	Executive Director of Facilities
and contact	714-264-4036
information	bkjohnson@wsdk8.com

Smart Cities Pr	oject
Name and Location	City of Pismo Beach, California
Price and Savings	\$4,934,318; more than \$5.3 million in savings over project life
Approval and Completion Dates	October 2017 - October 2019
ECMs implemented	Scope included replacing linear fluorescent T-8 and T-12 lamps and ballasts and incandescent lamps with LED technology at six sites, replacing HVAC package unit and split systems at three sites, a gas furnace replacement, web-enabled thermostat installation, server room redundancy, HVAC tune-up, variable frequency drive installation, dual electric vehicle chargers, 53 kW solar PV at the police station, 648 kW solar PV at the wastewater treatment plant/city yard, and a 120 kW/240 kWh energy storage. Our smart city partnership with Pismo Beach establish it as a regional technology leader, stimulates the local economy and provides local jobs and reduces the equivalent of 225 cars from the road annually via carbon dioxide reduction.
Customer name, title, and contact information	Jim Lewis City Manager 805-773-70003 jlewis@pismobeach.org



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## Pismo Beach City 360 Roadmap

The sequence of projects was strategically determined based on project feasibility, current City plans, and staff capacity.



Example Roadmap of Five Recommended Projects for City of Pismo Beach Reference. ENGIE Services can customize a roadmap with City of Beaumont stakeholders.



# Additional Benefits and Value-Added Elements

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## TAB FIVE: ADDITIONAL BENEFITS AND VALUE-ADDED ELEMENTS

Describe any additional benefits that may result from ECM implementation and the respondent's added value elements.

## Community Awareness, Engagement and Recognition Support

To support community involvement, ENGIE Services customized approach, co-authored with the City, includes communications and public relations support to promote community awareness, engagement, and recognition to highlight Beaumont's success specific to its goals.

The ENGIE communication team can create a communications roadmap to share ongoing news about the life of the City's energy program with the local community from pre-construction to project implementation. We can work with the City to determine the right cadence of information that it needs to effectively communicate with its residents, local businesses, staff, families, and other constituents about work progress.

Potential deliverables to promote community awareness:

- Construction signage and materials translated in relevant languages for community members
- Project team calls/in-person meetings with City points-of-contact and City stakeholders
- Council report updates based on City request
- Social media "packages" with highlights on program activity to date, photos, and reference to upcoming activities during pre-construction and construction
- Quarterly program summary for community newsletters/City email outreach to residents and staff
- Other City and ENGIE Services -branded materials for community meetings, City Manager updates, City events, or website updates
- Regular project updates and communications provided on Beaumont's Transparency Portal

Our communication team will actively work with your community to directly engage stakeholders around

positive changes coming to facilities and infrastructure across the City. We define engagement by the amount of touchpoints where we can support the City at events, fairs, and community forums that allow us to meet members of your community in person, be available to answer questions and concerns from neighbors, and help describe the benefits and exciting opportunities to come with your completed sustainability program.

Potential deliverables to promote community engagement include:

- Town hall-type Q&A forums where we can answer questions about proposed work
- Project team site visits with staff and community members during project info-sessions
- Support science fairs, career days, or other Cityhosted events where we can link the energy program to learning
- Walking tours with local leaders or other interested community members to showcase improvements

The most significant part of our support around communications and public relations often culminates in a customer dedication event following the development of our program together. We believe that working together to craft a positive narrative of change, ingenuity, and leadership around your energy program is always a win for the community at large. We will work closely with City personnel to design a customized public outreach program that benefits the City's ongoing awareness and engagement efforts.

Potential deliverables to promote community recognition:

- Newsletters to communicate all the activities taking place in the City
- Press release(s) during major program milestones
- Media advisory pitches to local press to promote major program milestones
- · Press conferences
- Case study collateral (handouts, brochures, posters, presentations, etc.) highlighting the program for external use
- Support applying for awards and recognition from local, state, and federal organizations
- · Full-court press customer recognition events

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(dedications, milestones, ground-breakings, ribbon cuttings, etc.) that include run of show development, media engagement, and coordination with elected officials

Unifying our approaches to awareness, engagement, and recognition to serve customers across the country, we are proud of the communications services we provide to support our customers' goals for building buy-in and excitement about what they are doing to create more sustainable, healthier, happier communities.

## Economic/Workforce Development - The Capacity Project

ENGIE Services has a rich history of bringing strategic and exclusive partnerships to our municipal clients. As part of our development plan with the City, we will work with the City to develop an innovative program, that we call the Capacity Project, aimed at spurring sustainable economic development. This program will help residents and business owners identify free and low-cost ways to reduce energy usage and generate between an anticipated nine to 20% savings on their utility bills. These savings will create more disposable income for households and lower expenses for businesses, which will increase spending and business expansion, helping to stimulate the local economy.

This strategic partnership will also include a rewards program in which the program participants who achieve energy savings targets can participate in a monthly contest with hundreds of dollars in prizes redeemable at participating Beaumont merchants.

Coupled with these efforts, this program will also launch a paid internship program that trains local high school and college students as home energy savings consultants. The internship program will provide project-based Science Technology Engineering and Math (STEM) learning experiences and invaluable exposure to opportunities in the emerging green economy and the job skills necessary to take advantage of those opportunities.

At ENGIE Services we are committed to creating local jobs for skilled men and women working in the region's construction industries. Examples of the job creation

and economic impact from our projects are depicted for a project below and top right. We will prioritize the construction businesses within City of Beaumont's boundaries to help support the local economy and reinvest public funds in the community. To do this, we will work closely with City staff in sourcing bids from trusted local vendors with proven track records of safety and reliability. ENGIE Services projects have generated thousands of local jobs, many of them in the construction sector, by working with our California customers.

Examples of new and/or local jobs that have been generated from our projects include:

- City of Livermore: Will create 188 new jobs over the life of the program
- Selma-Kingsburg Fowler County Sanitation District: Will create the equivalent of 244 jobs resulting from the economic multiplier effect
- · Franklin McKinley School District: Created 70 jobs
- East Side Union High School District: Created 85 local jobs
- Salinas City Elementary School District: Created more than 20 union construction jobs

We are proud of our programs and have implemented them with great success in past municipal projects. For example, at the City of Patterson, ENGIE Services implemented a program that included installing 1.12 MW of solar PV, upgrading 794 city-owned streetlights from high pressure sodium to more energy efficiency LED technology, retrofitting interior/exterior lighting citywide, and installing a plug-in electric vehicle charging station. The program will generate \$6 million in savings during the 30-year life of the program and impacts the community by reducing greenhouse gas emissions equivalent to removing 316 cars from the road per year. Centered around this project, our Capacity Project team empowered local high school student interns to engage with the community through energy consultations, conservation education, and sustainability initiatives. To further understand the impact of the Capacity Project, see the Appendices.

#### **Environmental Impact**

ENGIE Services' comprehensive approach to energy savings

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has a quantifiably positive impact on the environment for the clients we serve. Once audits are complete and ECMs identified, ENGIE Services will provide estimates of greenhouse gas reductions that will result from our work.

#### **Smart Cities – Better Cities Today**

ENGIE's Better City Today platform goes beyond "smart cities" by integrating holistic solutions that improve quality of life for City residents, staff and constituents. ENGIE Services supports small and mid-sized municipalities in creating a 'Smart City' roadmap. Using ENGIE's Unlock Process™ (highlighted in the graphic below and on the forthcoming page), we will develop a custom smart city roadmap to identify key priorities and incorporate the most relevant technologies and connectivity solutions to reduce operational costs, increase energy efficiency, improve customer service, and create new value through data. For instance, Smart City lighting and surveillance capabilities could mitigate crime issues and create a safer living environment for residents.

First, the City's key priorities are identified and highlighted though online research, a City staff survey, and stakeholder interview, as well as our City 360 Scan tool designed to provide a baseline measurement of a city's readiness and maturity. The City 360 Scan helps develop a strategy for

cities – regardless of their size – to advance to their future state, while assessing how they can specifically improve quality of life for their constituents in six key categories. This framework starts with reviewing a City's existing goals and assessing progress in each category to provide a snapshot assessment.

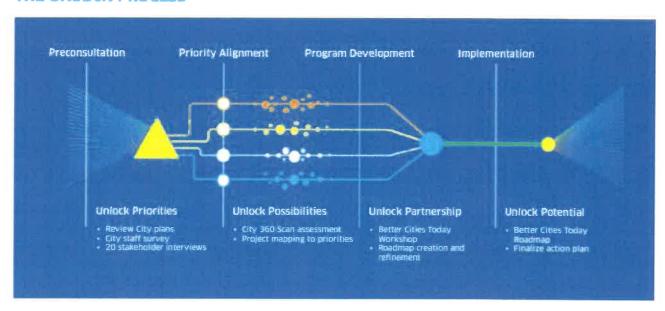
After creating an assessment, we unlock possibilities by facilitating a workshop with City staff and community members. In this discovery phase, primary opportunity areas for improvement are identified.

The final stage is to unlock partnership for implementation of these improvements. ENGIE's capabilities enable it to be a long-term partner to implement a City's vision for infrastructure, services and digital solutions. Collectively, a customized plan is put into action that takes tangible steps towards solving the City's most critical issues.

The Better Cities Today platform creates key advantages of pursuing a comprehensive partner for multiple projects:

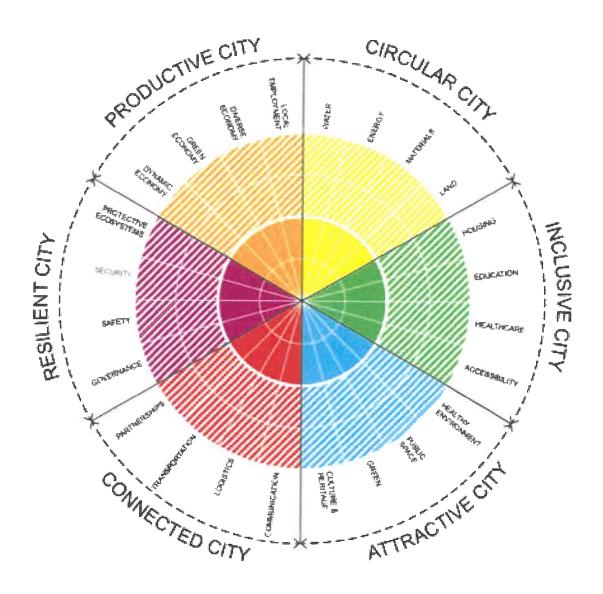
- · Leveraging gains from economies of scale
- Implementing/launching projects in parallel
- Streamlined contracting
- The opportunity to direct operational savings from certain projects into others that need resources

#### THE UNLOCK PROCESS\*\*





# ENGIE's response is guided by the needs and priorities of the City via a 360 degree City Scan.



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#### **Measurement & Verification**

ENGIE Services uses a proprietary web-based system, Utilityvision, to monitor data and provide post-project reporting acquired from our energy projects.

In 2014, ENGIE Services partnered with eSight Energy, a global leader in energy management software, to create a robust web-based energy management platform to handle our diverse portfolio of renewable and energy efficiency projects. We branded this platform Utilityvision™. Utilityvision™ is not only a powerful monitoring and data reporting tool, but it can also provide site, building, or individual ECM level diagnostics, trends, and energy consumption profiles depending on the project and our customer needs. ENGIE Services currently receives about three million data records per day from active renewable energy and energy efficiency customers.

As a standard, we provide monthly value reports from Utilityvision™ that we can customize based on project and customer needs. Administrative personnel can also use Utilityvision to create summary reports while facilities managers can set alarms and run trend analysis diagrams with the click of a button.

#### **Robust Analytics**

Utilityvision $^{\text{m}}$  enables our customers to make energy decisions from a place of confidence and assuredness and provides the following:

- Find anomalies in energy data in real-time via 15-minute interval data instead of waiting until you get your monthly energy bill
- Visualize the data in ways that make sense for a variety of stakeholders from senior administrative leadership to facilities managers and custodial staff – all of whom play an important role in energy conservation
- Monitor performance of solar arrays and energy conservation measures so that staff leadership can report on the successes of the programs in which you have invested. Energy consumption is shown against solar production to result in net energy metering (NEM) values
- · Visualize trends over time to spot recurring

- issues and resolve them quickly
- Track guaranteed performance to ensure that the investment made is performing as expected
- Isolate issues and deviations from expected production output of the solar arrays so that issues can get resolved as soon as possible
- Identify arrays that aren't performing as expected and dispatch people directly to those arrays for the shortest down time
- Use alarming capabilities to alert personnel to outages immediately so as to reduce lost production

#### **Analysis Tools**

Within Utilityvision™, personnel will be able to run a variety of reports to meet their needs. Building analysis reports showcase a daily, month, yearly summary of consumption data which can be compared day-over-day, month-overmonth, or year-over-year. Additionally, consumption data can be compared to solar production data to analyze efficiency and percentage of total consumption offset by the solar power project. Reports can also be run comparing predicted performance and actual performance of the solar PV system. These reports can be used to showcase the success of the program. Additionally, more detailed analytical reports can be viewed as graphic representations and printed for sharing amongst staff.

- Load Profiles: Utilityvision's web-based reports
  profile electric consumption and demand data
  by day, week and year for individual meters at
  15-minute intervals. This capability helps facilities
  managers determine unnecessary peaks and
  spikes in the building consumption and correct
  those in real-time.
- Trend Analysis: Trend analysis is a tool that helps facilities managers compare energy consumption day-over-day, month, and year to spot trends and correct unnecessary energy consumption.
- Diagnosis: Within Utilityvision™, there are specific diagnostic tools that alert energy managers and facilities managers to potential problems. Alarms can be customized to monitor specific issues – for example, inverter alarms can alert personnel that an inverter has been down for a longer period than should be expected so that the issues

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can be resolved with minimal down time. The schedule verification tool can be used to compare schedules to actual energy consumption assisting in the detection of equipment that is not following a prescribed schedule. These diagnostic tools can prove to be extremely valuable in detecting energy waste very quickly so that it can be corrected.

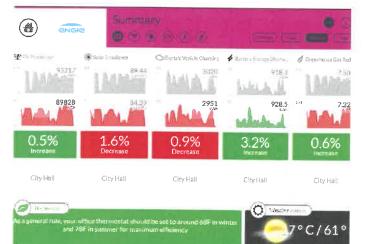
- Data Downloads: With Utilityvision™, reports and raw data can be downloaded for use and analysis with other tools (or even by students in a CTE program or advanced mathematics course).
- Metering Equipment: All metering equipment for the installation of Utilityvision would be included for energy services including hardware maintenance and cellular connection for the duration of our partnership and a one-year equipment warranty.
- Green Button: The Green Button program was created in a response issued by the White House to give utility customers timely, online access to their energy data. Through our partnerships with local public utilities commission (PUCs), ENGIE Services is now able to provide utility consumption and billing data through the Utilityvision™ platform, allowing our customers to take care of all their energy needs through a single web portal.

Utilityvision™ allows for users of all skillsets to access data relevant to their needs in a report or dashboard that is user definable. Each technical user can customize their own graphs, tables, digital displays, and dial indicators into a dashboard that cycles through each screen to keep important information at the users' fingertips. Custom reports can be automated and emailed directly to users or a list serve. The report can be represented in four different file formats.

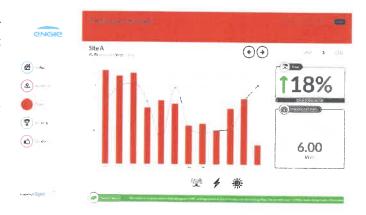
To the right, several screen shots of our monitoring software are shown illustrating the Utilityvision dashboards as they would appear on public-facing displays.



Home Screen



Summary of Data Dashboard



Yearly Performance Graph



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