



Solano County

ENGIE Services US Inc.

Proposed Program Development Agreement for Integrated Facility/System Energy Assessment

Presented to Board of Supervisors
on September 10, 2019
Department of General Services

Item ##
File 19-691

ENGIE: A Global Efficiency Leader With Deep History in Northern California

ENGIE Services Local Leadership

- National headquarters in Oakland and offices in Sacramento and San Jose
- **45+** years in operation
- **\$2.5 billion** in energy and water costs saved
- **3 million tons** of GHG emissions reduced
- Comprehensive and turnkey engineering/design, procurement, financing, PM/CM, and educational services
- Energy savings partnerships with over 20 counties in California, including:
 - Alameda
 - Contra Costa
 - Madera
 - Merced
 - Sacramento,
 - Santa Clara
 - Sutter
 - Yuba

ENGIE Global Presence

- Largest independent energy producer in the world
- Operating in 70 countries
- \$68 billion in revenue in 2018



ENGIE's energy project with Contra Costa County

Objectives of Integrated Energy Assessment and Tasks-to-Date

Objectives of Integrated Energy Assessment

1. Identify energy measures to implement where they are cost effective and in best interest of conservation
2. Identify resiliency measures to overcome disruptions to PG&E service
3. Determine where the County could install solar arrays or other clean energy alternatives to reduce the dependency on traditional power from PG&E
4. Enhance fiscal stewardship by reducing current PG&E expenditures and exposure to rising PG&E rates

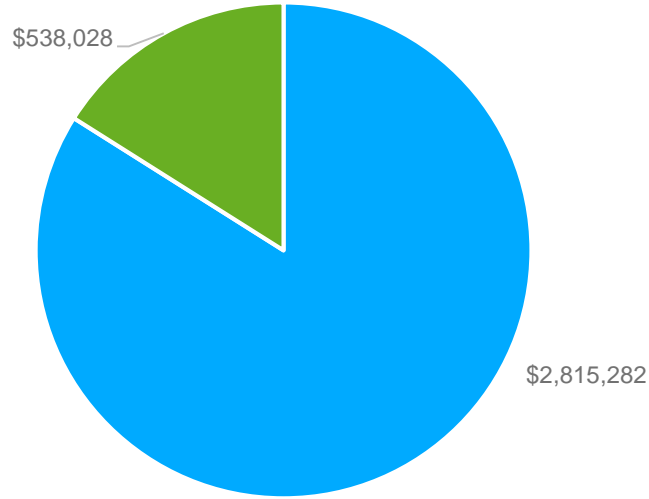
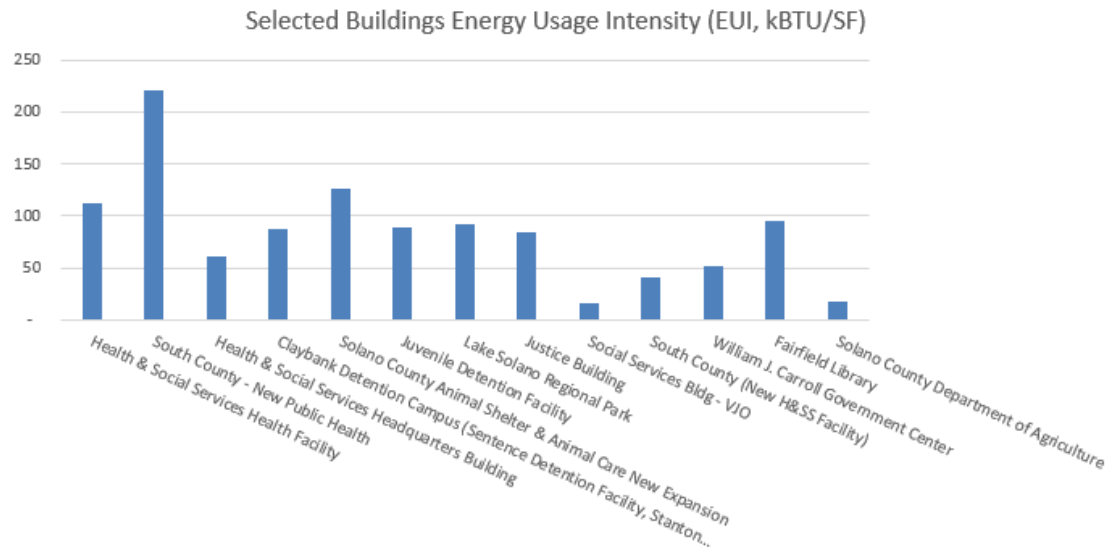
Task-to-Date	Date
GSA Director Introduction	January
Site Walks	Feb 26-27
Review Preliminary Findings	April-July

Preliminary Utility Analysis

Buildings	Electricity	Natural Gas	Total Utilities
Selected Buildings (Walked)	\$ 2,247,340	\$ 567,942	\$ 2,815,282
Remaining County Facilities*	\$ 474,277	\$ 63,751	\$ 538,028
	\$ 2,721,617	\$ 631,693	\$ 3,353,310

*Includes Cogen serving Historic Courthouse, Library Tech Services, Hall of Justice, Jail/Coroner, 601 Texas St, 675 Texas St, Law & Justice Center, Probation. Costs not included in PG&E data.

Annual Utility
Cost: \$3.3 million



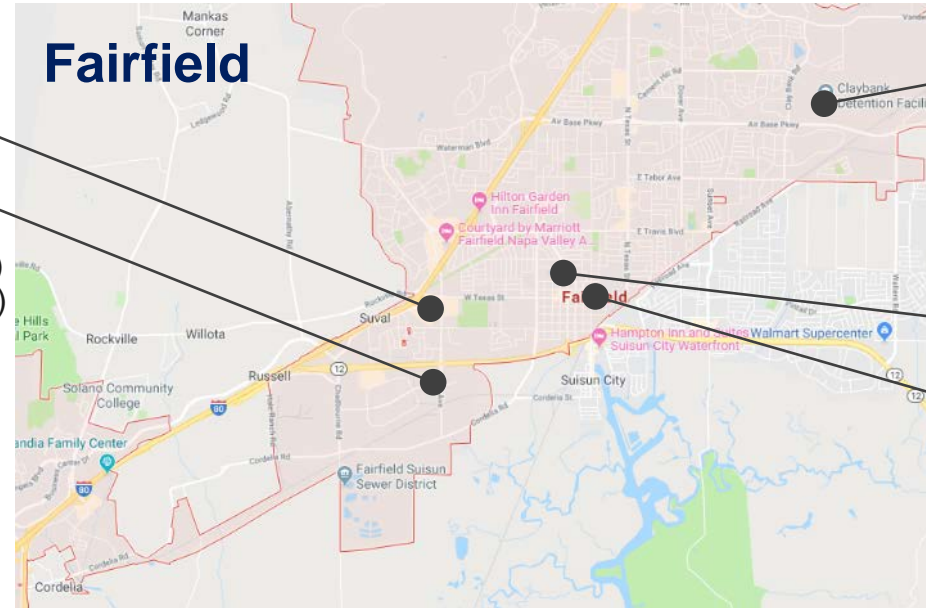
■ Selected Buildings ■ Remaining County Facilities

Proposed County Sites/Facilities

Juvenile Detention
740 Beck / 2010 W Texas

Beck / Courage Campus
Public Health (275 Beck)
Mental Health (2101 Courage)
Forensics Lab (2201 Courage)

Lake Solano Regional Park
Winters (Not shown)



Clay Bank Road
Stanton Detention (2450)
Clay Bank Detention (2500)
Animal Care (2510 2520)
Clay Bank Solar Array

Fairfield Center
Library (1150 Kentucky)

County Government Center
Cogen (501 Delaware)
Parking Structure (501 Union)



Health & Social Services
1119 E Monte Vista



Tuolumne Street Complex
Justice/Courthouse (321)
Social Services VJO (355)
Health & Social Svcs (365)

Summary Matrix of Possible Energy Conservation Approaches

Campus	Site	Total Energy Cost	Solar Projects	Electric Vehicle Charging	LED Lighting	HVAC Replacement	BAS/BMS	Motor VFD Upgrades	Exhaust Fans Replacement	Recapture VAV functionality	Duct Replacement	Boiler Replacement	Fume Hood Controls	High Efficiency Transformers	Plug Load Management	Peak Demand Management	Plant Monitoring	Utility Rate Analysis	Plumbing Controls	Solar Monitoring & Data	Refurbish Existing Solar
Beck/Courage	Health & Social Services Health Facility	\$191,963	X	X	X	X	X								X						
	South County - New Public Health	\$244,513	X	X	X	X	X						X		X	X					
	Health & Social Services Headquarters Building	\$307,091	X	X	X	X	X					X			X					X	X
Claybank	Claybank Detention Campus	\$565,323	X	X	X	X	X		X		X			X	X	X		X	X		
	Claybank Solar Array	-																		X	X
	Solano County Animal Shelter & Animal Care New Expansion	\$104,535	X	X	X		X								X	X				X	X
Tuolumne	Solano County Cogeneration Plant	\$534,854			X										X		X				
	Justice Building	\$211,135	X	X	X		X								X						
	Social Services Bldg - VJO	\$10,058			X		X			X					X						
	South County (New H&SS Facility)	\$146,500	X	X	X	X	X								X						
	Juvenile Detention Facility	\$176,638	X		X	X	X		X						X	X					
	Fairfield Library	\$155,812	X	X	X		X								X						
	William J. Carroll Government Center	\$94,337	X	X	X		X								X						
	Lake Solano Regional Park	\$51,447	X		X	X	X	X						X							
	Solano County Department of Agriculture	\$21,077	X		X		X														
	Remaining County Facilities	\$538,028	To be evaluated during detailed program development phase																		
	Total	\$3,353,310																			

Budgetary Pro Forma

Based on Possible Projects

Year	Combined ECM & Self Generation Savings	Financing Costs & Savings	
		Finance Payment	Net Savings
1	\$ 1,689,608	\$ (1,366,424)	\$ 323,183
2	\$ 1,707,224	\$ (1,384,041)	\$ 323,183
3	\$ 1,777,631	\$ (1,454,448)	\$ 323,183
4	\$ 1,850,943	\$ (1,527,760)	\$ 323,183
5	\$ 1,927,280	\$ (1,604,097)	\$ 323,183
6	\$ 2,006,769	\$ (1,683,586)	\$ 323,183
7	\$ 2,089,538	\$ (1,766,354)	\$ 323,183
8	\$ 2,175,723	\$ (1,852,540)	\$ 323,183
9	\$ 2,265,466	\$ (1,942,283)	\$ 323,183
10	\$ 2,358,913	\$ (2,035,730)	\$ 323,183
11	\$ 2,456,219	\$ (2,133,036)	\$ 323,183
12	\$ 2,557,542	\$ (2,234,358)	\$ 323,183
13	\$ 2,663,048	\$ (2,339,865)	\$ 323,183
14	\$ 2,772,910	\$ (2,449,727)	\$ 323,183
15	\$ 2,887,310	\$ (2,564,127)	\$ 323,183
16	\$ 3,006,433	\$ (2,683,250)	\$ 323,183
17	\$ 3,130,477	\$ (2,807,294)	\$ 323,183
18	\$ 3,259,643	\$ (2,936,460)	\$ 323,183
19	\$ 3,394,145	\$ (3,070,962)	\$ 323,183
20	\$ 3,534,202	\$ -	\$ 3,534,202
21	\$ 2,580,625	\$ -	\$ 2,580,625
22	\$ 2,686,271	\$ -	\$ 2,686,271
23	\$ 2,796,208	\$ -	\$ 2,796,208
24	\$ 2,910,612	\$ -	\$ 2,910,612
25	\$ 3,029,661	\$ -	\$ 3,029,661
Totals	\$ 63,514,398	\$ (39,836,342)	\$ 23,678,056

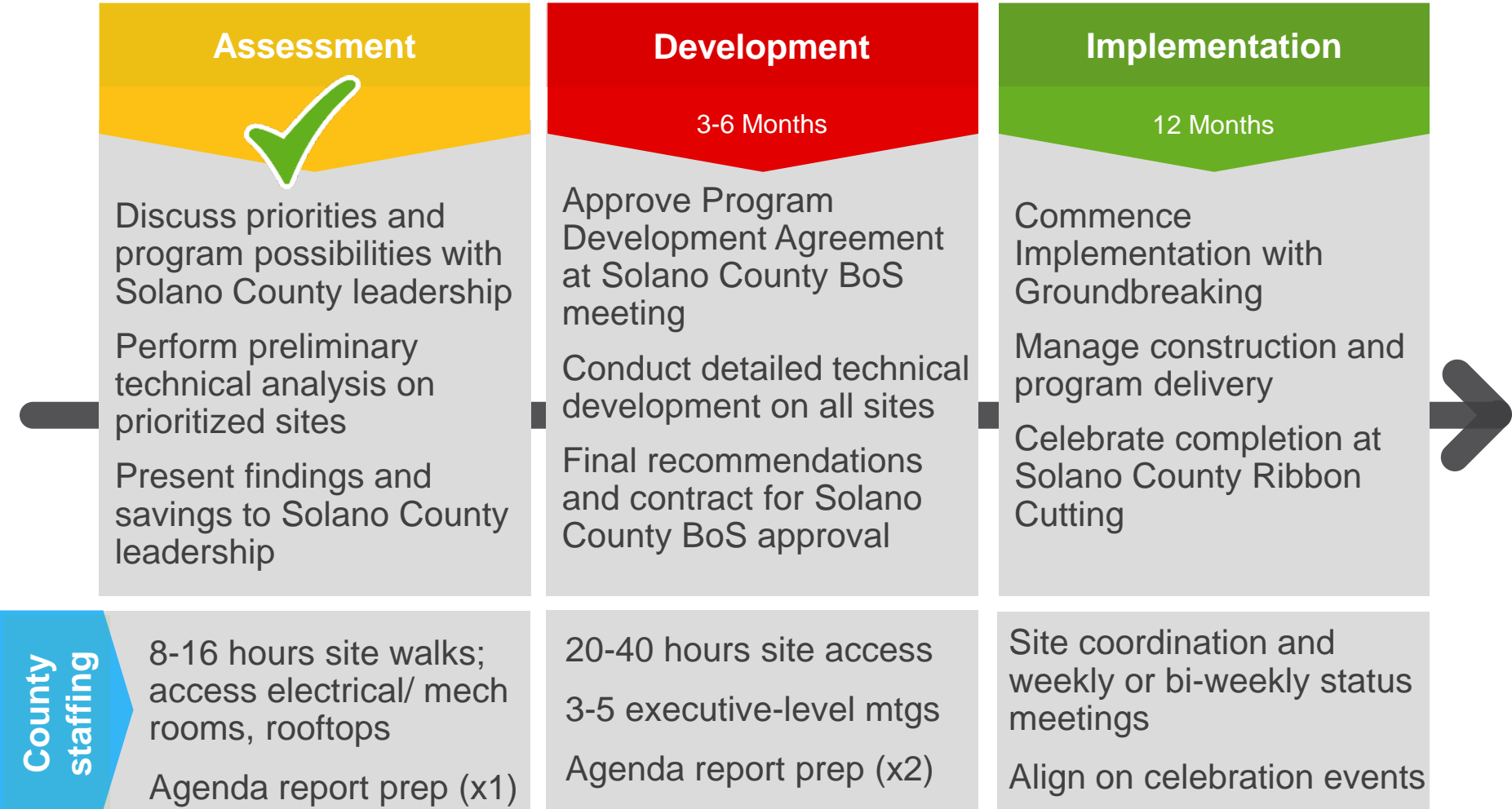
- Pro Forma Assumptions
 - 3.25% interest rate
 - 4.5% energy escalation rate
 - Financing over 19 years
- Includes energy conservation and generation measure at 15 County facilities
- Estimates of savings are based on potential projects identified during feasibility analysis using:
 - Preliminary sizing of solar pv
 - Lighting savings based on building area and existing fixtures
- Cost estimates based on similar recent projects in comparable geography

Estimated Energy Cost Savings Based on Possible Projects

- No Capital Required
- Over \$23 Million in Lifetime Savings After Financing, Comprehensive Project
- Over \$300,000 Per Year Savings After Financing
 - ENGIE to apply for CEC Loan
 - ENGIE to support third-party financing
- Project Cost Funded Through Choice of:
 - CEC 1% Loan
 - Third-Party Financing such as Tax Exempt Lease Purchase (TELP)



Program Development Process/Next Steps



Roadmap for Review and Potential Savings

Task	Date	Complete
Supervisor Introductory Meeting	July 2018	X
GSA Director Introductory Meeting	January 2019	X
Site Walks	Feb 26-7, 2019	X
Review of Preliminary Findings with GSA Director	April 8, 2019	X
Board Presentation / Approval of Program Development Agreement	today	
Detailed Program Development	Fall 2019	
Board Presentation / Approval of Implementation Contract	Winter 2019 - 2020	
Groundbreaking and Construction	2020	

Project Contacts

Kelly Fergusson, PE

Senior Business Development Manager

415-405-6673

kelly.fergusson@engie.com

Heather Benner, PE, CEM

Senior Project Developer

916-730-8796

heather.benner@engie.com

Emily Douglas

Manager of Government Partnerships

415-314-0680

emily.douglas@engie.com