



County Commissioners

**July 1, 2020**

**Agenda**

**3:00 P.M.**

**Special Meeting *ENGIE* Workshop**  
**Valencia County Commission Chambers**  
**444 Luna Ave.**  
**Los Lunas, NM 87031**

***Please Silence all Electronic Devices***

**DUE TO THE NATIONAL, STATE AND COUNTY COVID-19 DECLARED EMERGENCY AND PUBLIC HEALTH ORDER DATED JUNE 1, 2020 LIMITING GATHERINGS TO LESS THAN 5 PERSONS THE MEETING WILL NOT BE PHYSICALLY OPEN TO THE PUBLIC. ALL MEMBERS OF THE PUBLIC WILL BE ABLE TO ATTEND AND LISTEN TO THE MEETING VIA FACEBOOK LIVE AT THE FOLLOWING LINK: <https://www.facebook.com/VCAAdminandGov/>**

- 1) Call Meeting to Order
- 2) Pledge of Allegiance
- 3) Approval of Agenda

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*Sponsorship does not indicate endorsement of a given topic*

#### **DISCUSSION ITEM**

- 4) Review of Findings by *ENGIE* Regarding the Valencia County Buildings. Presenter: ***ENGIE Business Development Manager, Scott Stevens***; Sponsor: ***County Manager for Regular County Business***

#### **NEXT COMMISSION MEETINGS**

**July 1, 2020 – Business Meeting @ 5:00 P.M. via Facebook Live**  
**Valencia County Commission Chambers, 444 Luna Ave., Los Lunas, NM 87031**

**July 15, 2020 – ICIP 2022-2026 Workshop @ 3:30 P.M. via Facebook Live**  
**Valencia County Commission Chambers, 444 Luna Ave., Los Lunas, NM 87031**

**July 15, 2020 – Public Hearing/Business Meeting @ 5:00 P.M. via Facebook Live**  
**Valencia County Commission Chambers, 444 Luna Ave., Los Lunas, NM 87031**

#### **ADJOURN**

*If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the Valencia County Manager's Office at the Valencia County Administration Building, Los Lunas, New Mexico, (505) 866-2014 at least one week prior to the meeting or as soon as possible. Public documents, including the agenda and minutes, can be provided in various accessible formats. Please contact the Valencia County Manager's Office if a summary or other type of accessible format is needed.*



# Opportunity Assessment Report

## Energy Efficiency and Renewable Energy



Developed by  
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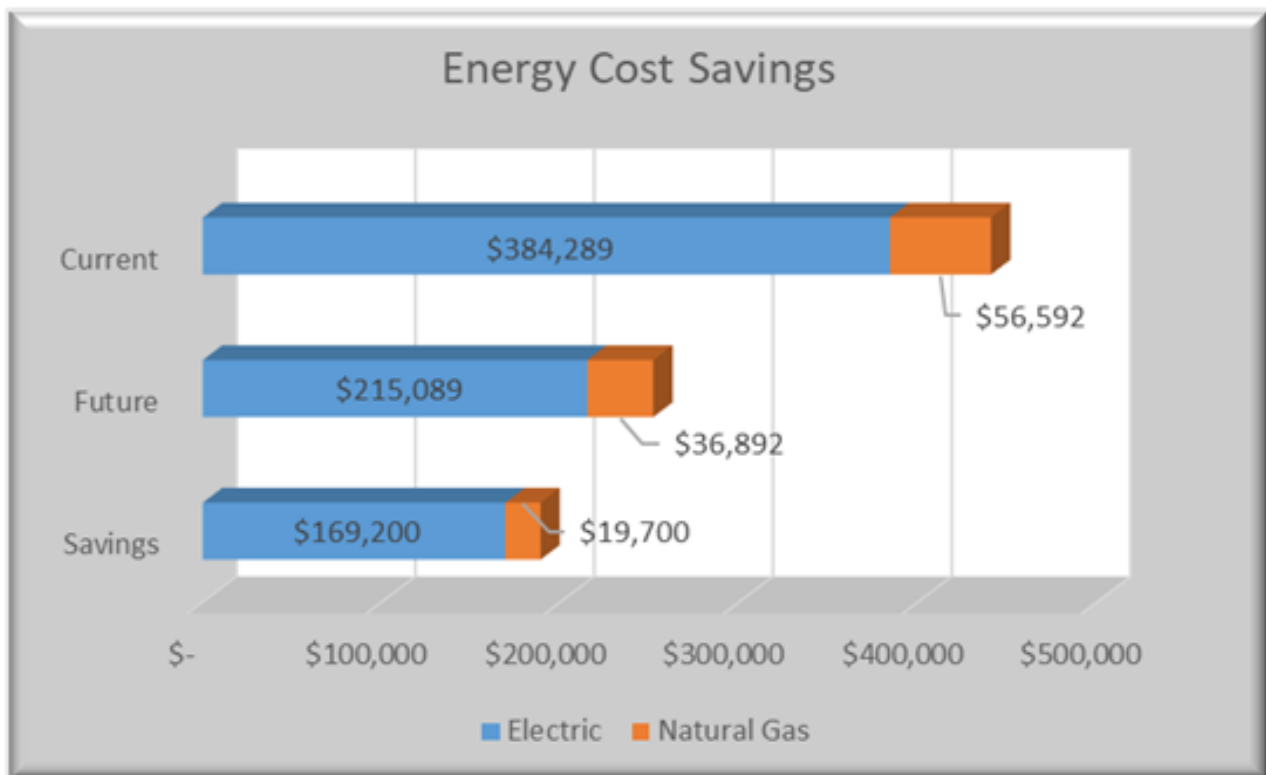


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## 1. Executive Summary

Using the New Mexico Energy Savings Performance Contracting Statewide Pricing Agreement, Valencia County can save up to 40% of the current energy use and cost. This is accomplished through upgrading facilities with high efficiency equipment and adding solar power systems at facilities. The ENGIE Services US (ENGIE) analysis determines that the program is cost effective through a guaranteed financing package with guaranteed annual savings. This results in a no out of pocket program of renovation and cost reduction. ENGIE will design, install, commission, and guarantee annual savings under the New Mexico program. The design, financing, and construction program will be delivered in 18-24 months. ENGIE will assist the County in measuring and verifying the savings and performance annually for the term of the agreement. The following chart indicates the current and future energy use and cost (not including maintenance and water savings) based on current use and conditions.



**Valencia County Preliminary Cash Flow Example****Proforma - NMFA or Municipal Lease Purchase (20 yr.)**

Implementation Cost	\$ 3,616,000
Investment Grade Audit Fee	\$ 67,047
Gross Receipts Tax	\$ 309,376
EMNRD Fee	\$ 38,672
Total	\$ 4,031,095

(1) Year	(2) Energy Savings	(3) O&M Savings	(4) Total Savings	(5) Project Payments	(6) MM Service	(7) M&V Service	(8) Net Savings	(9) Cumulative Savings
1	\$ 208,900	\$ 40,100	\$ 249,000	\$ (213,597)	\$ (15,000)	\$ (20,000)	\$ 403	\$ 403
2	\$ 215,167	\$ 41,303	\$ 256,470	\$ (220,092)	\$ (15,375)	\$ (20,600)	\$ 403	\$ 805
3	\$ 221,622	\$ 42,542	\$ 264,164	\$ (226,784)	\$ (15,759)	\$ (21,218)	\$ 403	\$ 1,208
4	\$ 228,271	\$ 43,818	\$ 272,089	\$ (233,679)	\$ (16,153)	\$ (21,855)	\$ 403	\$ 1,610
5	\$ 235,119	\$ 45,133	\$ 280,252	\$ (240,782)	\$ (16,557)	\$ (22,510)	\$ 403	\$ 2,013
6	\$ 242,172	\$ 46,487	\$ 288,659	\$ (248,100)	\$ (16,971)	\$ (23,185)	\$ 403	\$ 2,415
7	\$ 249,438	\$ 47,881	\$ 297,319	\$ (255,640)	\$ (17,395)	\$ (23,881)	\$ 403	\$ 2,818
8	\$ 256,921	\$ 49,318	\$ 306,239	\$ (263,408)	\$ (17,830)	\$ (24,597)	\$ 403	\$ 3,220
9	\$ 264,628	\$ 50,797	\$ 315,426	\$ (271,412)	\$ (18,276)	\$ (25,335)	\$ 403	\$ 3,623
10	\$ 272,567	\$ 52,321	\$ 324,889	\$ (279,658)	\$ (18,733)	\$ (26,095)	\$ 403	\$ 4,026
11	\$ 280,744	\$ 53,891	\$ 334,635	\$ (288,153)	\$ (19,201)	\$ (26,878)	\$ 403	\$ 4,428
12	\$ 289,166	\$ 55,508	\$ 344,674	\$ (296,906)	\$ (19,681)	\$ (27,685)	\$ 403	\$ 4,831
13	\$ 297,841	\$ 57,173	\$ 355,014	\$ (305,923)	\$ (20,173)	\$ (28,515)	\$ 403	\$ 5,233
14	\$ 306,777	\$ 58,888	\$ 365,665	\$ (315,214)	\$ (20,678)	\$ (29,371)	\$ 403	\$ 5,636
15	\$ 315,980	\$ 60,655	\$ 376,635	\$ (324,786)	\$ (21,195)	\$ (30,252)	\$ 403	\$ 6,038
16	\$ 325,459	\$ 62,474	\$ 387,934	\$ (334,648)	\$ (21,724)	\$ (31,159)	\$ 403	\$ 6,441
17	\$ 335,223	\$ 64,349	\$ 399,572	\$ (344,808)	\$ (22,268)	\$ (32,094)	\$ 403	\$ 6,843
18	\$ 345,280	\$ 66,279	\$ 411,559	\$ (355,275)	\$ (22,824)	\$ (33,057)	\$ 403	\$ 7,246
19	\$ 355,638	\$ 68,268	\$ 423,906	\$ (366,060)	\$ (23,395)	\$ (34,049)	\$ 403	\$ 7,649
20	\$ 366,307	\$ 70,316	\$ 436,623	\$ (377,171)	\$ (23,980)	\$ (35,070)	\$ 403	\$ 8,051
<b>Total</b>	<b>\$ 5,613,221</b>	<b>\$ 1,077,502</b>	<b>\$ 6,690,723</b>	<b>\$ (5,762,095)</b>	<b>\$ (383,170)</b>	<b>\$ (537,407)</b>	<b>\$ 8,051</b>	

## 2. Current Projects and County Overview

Valencia County's Building Capital improvement projects are usually done on a building by building basis and prioritized based on need and impact to the community.

The County responds in an "as needed" basis for building upgrades such as Heating Ventilation and Air Conditioning (HVAC) retrofits, roofing and general repairs as budget allows. It can be also be said that emergency repairs to HVAC systems are not uncommon. Deferred maintenance (defined as the practice of postponing maintenance activities such as repairs to infrastructure in order to save costs, meet budget funding levels, or realign available budget monies) on some of the County buildings has created challenges when trying to put a plan in place to renovate or bring buildings up to code. Building upgrades and repairs are costly and it is difficult to fit them into an already constricted Capital Upgrade budget.

There is a desire by County Administration to identify energy savings opportunities along with renewable energy strategies to best use County funds responsibly.

## 3. Facilities

The 27 buildings reviewed in this Operational Assessment Report are comprised of County buildings such as the Admin Center, Senior Centers, Police and Fire Stations as well as the Courthouse. Of the buildings where site visits were conducted, there was a varying range of conditions that were seen.

For example, the Judicial Complex has relatively new HVAC equipment and has also received upgraded LED lights but still appears to use more energy than is typical for a building that size and function. Very recently, the HVAC controls system at the Judicial Complex had work completed but it's unclear what Energy Conservation Strategies were programmed and how they are performing to previous benchmarks. Conversely, the Admin building has HVAC equipment at the end of its' useful life as well as outdated lighting systems. The County is in the process of evaluating various reports on the presence of asbestos and lead paint and how this will affect the ability to move forward with renovation plans and the budget required to do so.

The County also owns Street Lights and there are opportunities to upgrade to LEDs that will improve light quality and last up to 10 times longer than the current lighting technology.

Programmable thermostats are the typical mode of control for Roof Top Units throughout the County and prone to be improperly programmed and unable to regulate equipment efficiently or introduce the right mix of outside air. The County does not have a networked HVAC Control System.

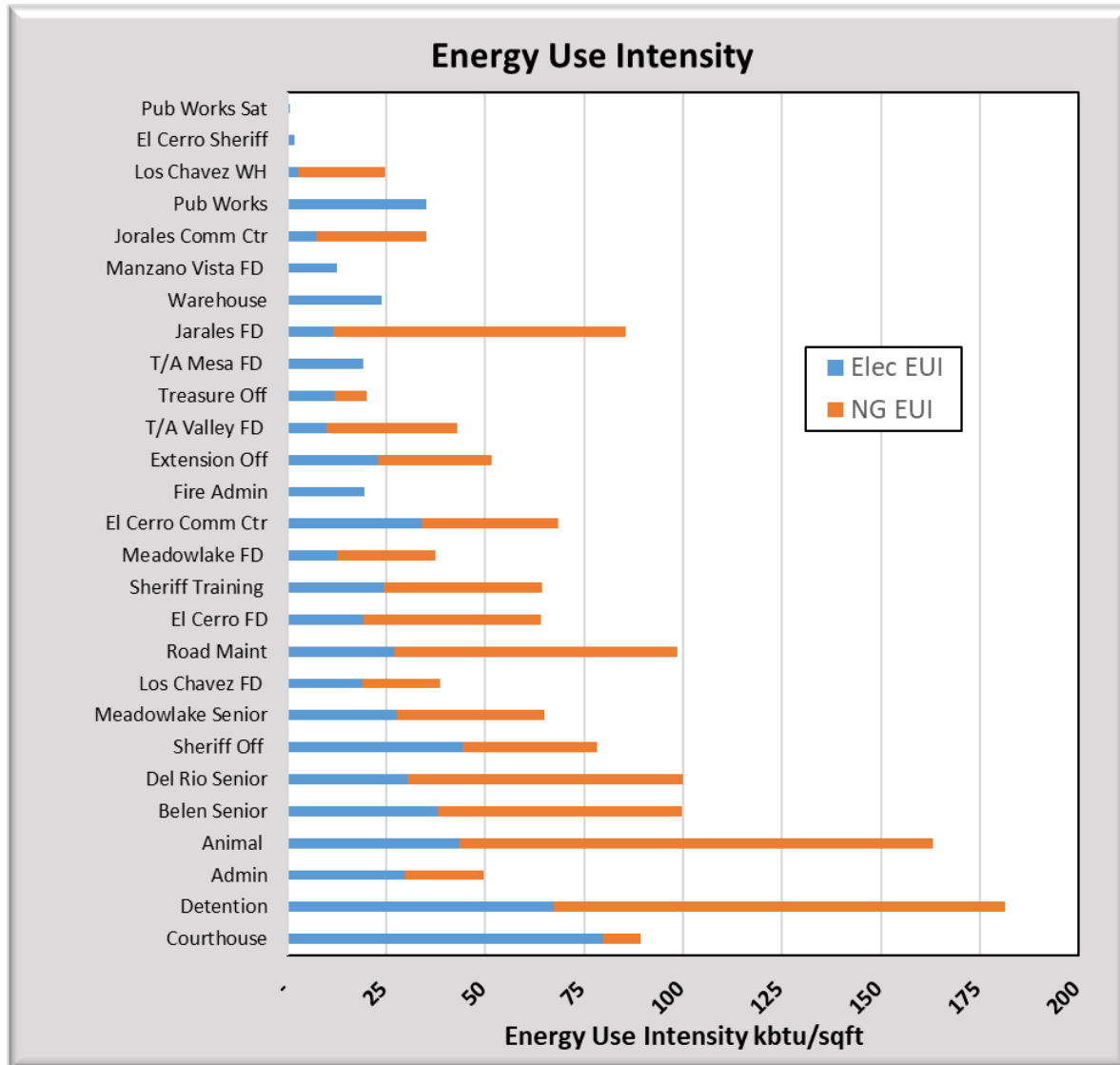
## 4. Energy Use Summary

Data collected from PNM and CenterPoint Gas helps to provide a basis for preliminary benchmarking which indicates that there is opportunity for energy, water, maintenance, and operations reductions sufficient to fund a program of infrastructure upgrades financed over a period of 10-20 years.

Electricity costs for the County facilities were provided which indicate relatively high usage of electricity compared to similar building types. Natural gas usage and costs were not available for

every site for this analysis, but for those buildings which were analyzed, there is also an opportunity to reduce gas usage.

The graph below illustrates the energy use per square foot in the locations included in the analysis.



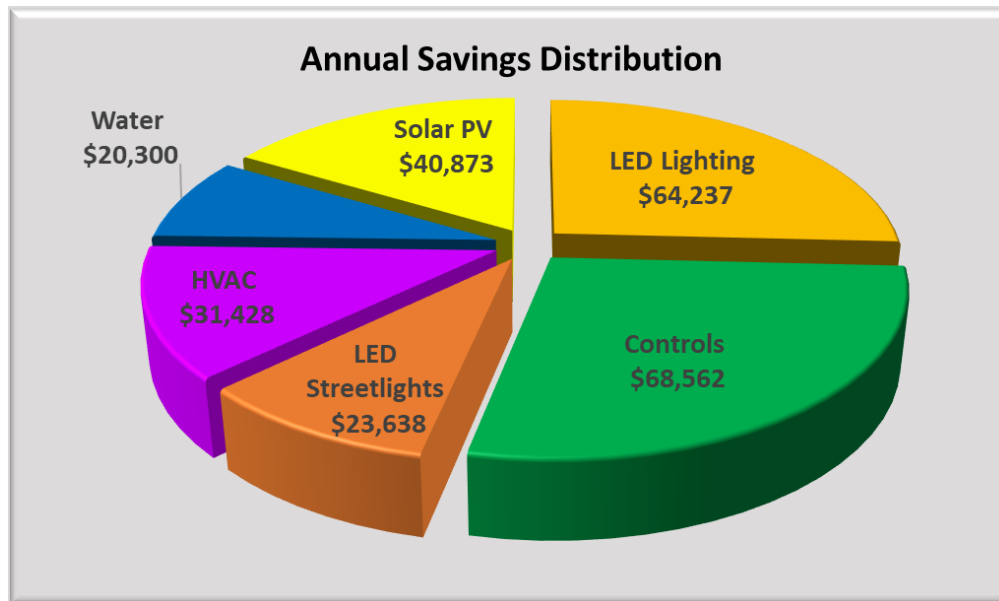
Most of the County utility expenses come from electricity use and will be the primary energy source to target to reduce overall County expenses.

## 5. Infrastructure Improvement Opportunities

### A. Overview/summary

ENGIE identified opportunities to upgrade facilities and infrastructure that will be reduce utility as well as ongoing maintenance and operations expenses. The table below highlights Energy Conservation Measures (ECMs) that could be included in an Investment Grade Audit (IGA) which produce the savings required to self-fund an energy savings performance contract.

Energy and Water Improvement Opportunities										
ECM	Price	Cost Savings						SPB	Energy Savings	
		Electric	Gas	Energy Savings	Water	Maint	Total Savings		kWh	therms
LED Lighting	\$ 752,000	\$ 48,600	\$ (500)	\$ 48,100		\$ 16,100	\$ 64,200	11.7	405,300	(950)
Controls	\$ 966,000	\$ 41,200	\$ 15,900	\$ 57,100		\$ 11,400	\$ 68,500	14.1	317,100	30,400
LED Streetlights	\$ 135,000	\$ 16,000		\$ 16,000		\$ 7,600	\$ 23,600	5.7	149,200	
HVAC	\$ 687,000	\$ 22,500	\$ 4,000	\$ 26,500		\$ 5,000	\$ 31,500	21.8	225,000	7,600
Water	\$ 150,000		\$ 300	\$ 300	\$ 20,000		\$ 20,300	7.4		570
Solar PV	\$ 926,000	\$ 40,900		\$ 40,900			\$ 40,900	22.6	376,600	
<b>Grand Total</b>	<b>\$3,616,000</b>	<b>\$ 169,200</b>	<b>\$19,700</b>	<b>\$ 188,900</b>	<b>\$ 20,000</b>	<b>\$40,100</b>	<b>\$ 249,000</b>	<b>14.5</b>	<b>1,473,200</b>	<b>37,620</b>



**B. Energy Conservation Measures (ECMs)**

The following measures would be investigated in more detail and included in the IGA report.

**i) LED Lighting**

All interior, exterior, parking, and field lighting will be evaluated. All fluorescent, incandescent, and high intensity discharge (HID) lighting fixtures and systems typically can be cost effectively upgraded to LED lamps and / or fixtures that improve light quality while reducing energy used by 40-70% and the LEDs last 3-5 times longer than the existing lamps.

**ii) LED Streetlights**

High Intensity Discharge (HID) streetlights can be a significant addition to County utility expenses. LED fixtures produce better light resulting in safer roads and also save 60-70% of the electricity cost while typically operating for over 20 years. In addition, with full cutoff design and 3000 K color temperature, the fixtures are “Dark Sky” compliant.



### iii) Building Automation Systems (BAS) and Controls

Provide Building Automation Systems (BAS) for improved building temperature control, remote monitoring, fault detection. Front-end software will integrate multiple buildings as well as various types of HVAC systems (boilers, chillers, RTUs).

### iv) HVAC Upgrades and Tune-ups

Several facilities have older inefficient heating, ventilation, and air conditioning (HVAC) systems and inadequate air distribution. The facilities will be analyzed and cost effective solutions high efficiency systems will be recommended.

### v) Insulation

Roof, ceiling and wall insulation can be cost-effective long term maintenance free solutions that reduce heating and cooling loads and therefore smaller HVAC systems are needed.

### vi) Windows and Shading

High performance windows or fenestration systems reduce heat gain in the cooling season and heat loss in the heating season. This is accomplished in three ways: 1) shading properties of glass, 2) insulation of the windows and frames, and 3) reduction of air leakage/infiltration. Windows are typically expensive retrofit solutions; however, the load reduction and comfort impacts make some buildings good candidates. Shading devices that block direct sun while providing the intended views will be considered.

### vii) Water Conservation

Water conservation focuses on both interior and exterior water use. Generally, exterior water use for irrigation is far greater than for interior/domestic needs. Low flow fixtures and valves are recommended solutions for interior applications. Irrigation systems can frequently reduce use with controls and moisture measuring systems.

### viii) IT and Plug Loads

Plug loads used to be a relatively minor energy using and cost component in facilities. With improvements in efficiency in other systems like lighting, cooling, and VFDs, coupled with concurrent increases in individual electronics; IT and plug load electrical use is now worth investigating. Occupancy controls and high efficiency equipment can make a significant improvement with little expense and personal impact.

### ix) Meters and sub-meters

With the proven adage that “you cannot manage what you cannot measure”, ENGIE analyzes and installs meters and sub-meters to enable the measurement of electric, gas, and water systems at and within facilities. These metering systems are integrated into the Building Automation System (BAS) and Automatic Fault Detection and Diagnostics (AFDD) to provide clear pictures of building and system performance and find and alert the County to problems and issues as they arise.

## 6. Renewables

Solar photovoltaic systems are recommended on most facilities. ENGIE has had excellent results with roof, ground-mount and parking canopy systems. These can be net-metered or developed as micro-grids that include batteries and generators for back-up/ emergency power. Based on the high electric rates, solar PV is a cost-effective infrastructure improvement in Valencia County.

## 7. Summary

Valencia County has an opportunity to use Energy Service Performance Contracting to identify Energy Conservation Measures within County owned properties and to use that information to move forward with building upgrades that the County is interested in pursuing. The projected energy savings and operational savings will pay for the building upgrades and will also allow the County to coordinate with current Capital Outlay Building Upgrade projects. The ability to focus on projects that lower operating costs by reducing the County's annual utility cost spending will allow for these important building upgrades to be done under one agreement – including a guarantee from ENGIE to produce the energy savings. Based on the information gathered, we see an opportunity to move to Investment Grade Audit phase and start gathering the detailed info needed to develop a scope of work for Guaranteed Energy Savings Program.