

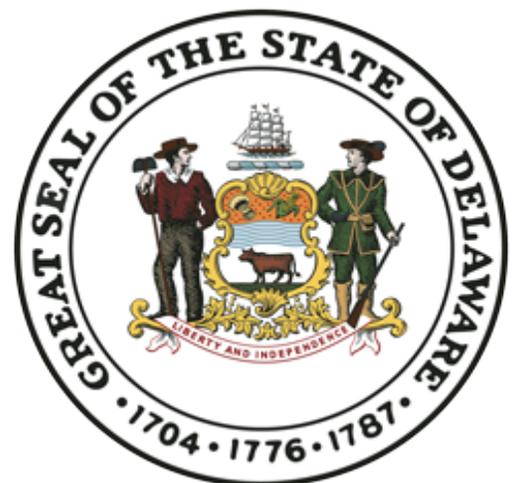
State of Delaware
Office of Auditor of Accounts

Sustainable Energy Utility, Inc.

Inspection

Issuance Date: January 12, 2016

R. Thomas Wagner, Jr., CFE, CGFM, CICA
Auditor of Accounts





State of Delaware
Office of Auditor of Accounts
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At a Glance

Working Hard to Protect YOUR Tax Dollars

Why We Did This Inspection

Issues stemming from heating and cooling problems in the Legislative Mall Complex buildings to concerns about the cost-benefit of the State entering into these programs and the impact of long-term obligations were brought to the Office of Auditor of Accounts' (AOA) attention. AOA was also informed that State Officials stood to gain from these agreements. Our work did not identify any evidence to support such claims but did raise significant issues about lack of cost savings.

This inspection was performed in accordance with the Council of the Inspectors General on Integrity and Efficiency, *Quality Standards for Inspection and Evaluation*.

For further information on this release, please contact:

Kathleen A. Davies
CPA-PA, CISA, CGFM, CGAP, CFE
(302) 857-3919

What We Found

State Officials could not offer evidence of a study or thoughtful analysis that ensured the Sustainable Energy Utility (SEU) program was beneficial. Additional review and analysis of the contractual arrangements reflected that the State's best interest was subordinate to the interests of the SEU and its partners.

The energy conservation measures included changing light fixtures and bulbs, installing new heating and cooling units that proved to be unreliable and improperly installed, and reducing water flow on sinks through the installation of faucet aerators that were eventually removed because they proved to soak employees as they washed their hands. By design, ongoing monitoring of cost savings for the Legislative Mall Complex project is solely based on calculations using manufacturers' estimates of energy usage and spot measures of installed equipment. Further, the State's accounting for the energy funding and contractual payments is so complex, the State will never know whether true cost savings is occurring.

John Byrne, SEU Co-Founder, was quoted as saying, "Outfitting public buildings with this type of energy saving measures will allow the government to use the cost savings to purchase solar, fuel cell and geothermal technologies that have the potential to render a building's energy consumption and carbon emissions at or near zero."

Overall, our work supported the conclusion that, three years into the Legislative Mall Complex project, the possibility of the State breaking even on this agreement is looking bleak.

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with Significant Observations*

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	Dr. John Byrne, the Director of the University of Delaware’s Center for Energy and Environmental Policy, oversees the preparation of a monitoring report regarding the State’s energy conservation measures while also holding a position on the SEU’s Board. How can the State trust that energy efficiencies are being achieved and cost savings are truly occurring without an independent analysis?	13
	Although the Project Savings Analysis Report is not final, a press release posted on the SEU’s website on June 29, 2015, states, “The full report indicates that these projects are meeting and surpassing performance expectations,” without describing the results as interim. Further, in the same press release, Senator Harris B. McDowell, III, SEU Oversight Board Chairman and Co-Founder, stated, “The [SEU] now has a clearly documented, proven track record. Delawareans need to be made aware that these energy savings programs work beyond expectations and the savings will offset the cost of recommended energy efficiency measures.”	14



Despite the Project Savings Analysis Report pointing out numerous potential flaws in the data, it continues to tout the performance of the energy conservation measures.

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SEU Oversight Board is Not Independent

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The State relies on the University of Delaware’s analysis of the State’s energy usage and actual cost savings, which was supervised by Dr. John Byrne, the creator of the SEU. Issues with the Project Savings Analysis Report are detailed in the previous section.

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Governor Markell appointed the Director of the Division of Accounting to represent the SEU, which is in direct conflict of the Director’s duty and responsibility to the State.

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Past issues at People’s Settlement Association (PSA) regarding the use of the Department of Natural Resources and Environmental Control’s Green Energy Green Savings Program funds, combined with PSA’s Executive Director’s membership on the SEU Task Force, draw further attention to the close relationship between PSA and the SEU Board.

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2005 Lessons Learned at the Federal Level

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Had the State performed its due diligence when evaluating the program, the State could have implemented the “lessons learned” from the federal government a decade ago and avoided repeating the same mistakes.

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Abbreviations

AOA	Auditor of Accounts
CAFR	Comprehensive Annual Financial Report
CEEP	University of Delaware’s Center for Energy and Environmental Policy
CO₂	Carbon Dioxide
COSO	Committee of Sponsoring Organizations of the Treadway Commission
DOC	Department of Corrections
DNREC	Department of Natural Resources and Environmental Control
DTCC	Delaware Technical & Community College
ECM	Energy Conservation Measures
EO	Executive Order
ESCO	Energy Service Company
ESPCs	Energy Savings Performance Contracts
GAO	United States Government Accountability Office
GEGS	Green Energy Green Savings
GESA	Guaranteed Energy Savings Agreement
GFOA	Governmental Finance Officers Association
M&V	Measurement and Verification
MOU	Memorandum of Understanding
NSF	Non-Appropriated Special Funds
OMB	Office of Management and Budget
PSA	People’s Settlement Association
RGGI	Regional Greenhouse Gas Initiative
RR	Richardson & Robbins
SC	Sussex County
SEU	Sustainable Energy Utility

Background

The Sustainable Energy Utility, Inc.¹ (SEU), created by the laws of the State of Delaware (the State), is tasked with “design[ing] and deliver[ing] comprehensive end-user energy efficiency and customer-sited renewable energy services to Delaware’s households and business” to lower customers’ energy bills and reduce the environmental impacts of energy production, delivery, and use. According to the SEU’s audited financial statements for the fiscal year ended June 30, 2014 (Fiscal Year 2014), the SEU’s services include energy conservation, efficiencies, and the use of renewable energy sources, like solar, wind, and geothermal.

Financial information for the SEU also appears in the State’s Fiscal Year 2014 Comprehensive Annual Financial Report (CAFR)² as a blended component unit of the State. The SEU activity is included as part of the Department of Natural Resources and Environmental Control (DNREC). The SEU also has its own financial statement audit performed annually.³

The Secretary of DNREC is authorized to establish, implement, and manage an auction program in accordance with the Regional Greenhouse Gas Initiative (RGGI) to sell carbon dioxide (CO₂) allowances into a market based trading program.⁴ RGGI is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and reduce CO₂ emissions from the power sector. States sell nearly all emission allowances through auctions and invest proceeds in energy efficiency, renewable energy, and other consumer benefit programs.⁵ According to 7 Del. C. §6046 (c)(1), “sixty-five percent of the CO₂ allowance proceeds shall be directed to the [SEU].... The SEU shall apply these funds to further the goals and activities of the SEU including, but not limited to, the promotion of energy conservation, energy efficiency, renewable energy, and energy financing....”

The SEU may also issue bonds for any corporate purpose. The 2011 SEU, Inc. Energy Efficiency Revenue Bonds are covered under the Procedures and Results section of this report.

SEU Oversight Board

An SEU Oversight Board (the Board) directs the business and affairs of the SEU, which, per the Certificate of Incorporation, is a 501(c)(3) nonprofit corporation. The Board shall include representation from each county in the State, and is comprised of the following 11 members:

- The Secretary of DNREC, or the Secretary’s designee
- The Public Advocate, or the Public Advocate’s designee⁶
- Seven members appointed by and serve at the pleasure of the Governor

¹ Unless otherwise stated, this information is derived from 29 Del. C. §8059.

² <http://www.auditor.delaware.gov/Reports/FY2015/FY%202014%20CAFR.pdf>

³ https://imageserv11.team-logic.com/mediaLibrary/191/Final_Financial_Statements.pdf

⁴ 7 Del. C. §6045(a)

⁵ <http://www.rggi.org>

⁶ Per 29 Del. C. §8716, the Division of the Public Advocate is established within the Department of State. The role of the Public Advocate is to establish the lowest reasonable utility rates for residential and small commercial consumers while maintaining adequate utility service, as well as maintain an equitable distribution of rates among all classes of consumers.

- One member appointed by and serves at the pleasure of the President Pro Tempore of the State Senate
- One member appointed by and serves at the pleasure of the Speaker of the State House of Representatives

One member is elected by the Board to serve as the chairperson. The Director of DNREC's Division of Energy and Climate, or designee, serves in an ex-officio nonvoting capacity.

The oversight board is made up of the following members:⁷

Table 1: SEU Oversight Board Members	
Senator Harris B. McDowell III, Chairman and Co-Founder	State Senator
Kristopher E. Knight, Board Treasurer/Secretary	Director of the Division of Accounting for the State Department of Finance
Nnamdi Chukwuocha	Associate executive director of Kingswood Community Center in Northeast, Wilmington
Dr. Charles Gilbert Wagner, MD	Physician trained in medicine, aviation, and electromagnetics
David Bonar	Public Advocate
David Small	Secretary of DNREC
Sean Finnigan	Legislative Assistant to the State Senate Majority Caucus
Syed Ismat Shah	Professor of Materials Science and Engineering and Professor of Physics and Astronomy at University of Delaware
Pamela Bakerian	Executive Director, Delaware Farm Bureau
Joseph Schorah	Delaware Business Agent for Local LU19, Sheetmetal Workers of America
W. Charles Paradee III	State Representative, Chair of the House of Representatives Energy Committee
Dr. John Byrne, Honorary Board Member and Co-Founder	Director of the Center for Energy and Environmental Policy (CEEP), Professor of Energy and Climate Policy at the University of Delaware

The Board also selects an Executive Director through an open and competitive process. The Executive Director is responsible for the routine administration of the SEU, including oversight of program management and setting and compliance with appropriate performance and budgetary targets.

⁷ <http://www.energizedelaware.org/index.cfm?fuseaction=content.faq&faqTypeID=12>

Procedures and Results

Statements That SEU Energy Efficiency Revenue Bonds are not Backed by Full Faith and Credit of the State are Misleading

The SEU may issue bonds for any corporate purposes, and

“The bonds and notes of every issue shall be *payable solely out of the revenues of the SEU*, subject only to any agreements with the holders of particular bonds or notes pledging any particular revenues and subject to any agreements with any participating facility. Notwithstanding that bonds and notes may be payable from a special fund, they shall be and be deemed to be, for all purposes, negotiable instruments subject only to the provisions of the bonds and notes for registration.”⁸ (Emphasis added.)

Further, 29 Del. C. §8059 (f)(2)(f) states that

“Bonds or notes issued under this section shall **not** be deemed to constitute a debt or liability of the State or of any political subdivisions thereof or a pledge of the faith and credit of the State or of any such political subdivisions, but shall be payable solely from the funds herein provided therefor. All such bonds or notes shall contain on the face thereof a statement to the effect that neither the State nor any political subdivision thereof shall be obligated to pay the same or the interest thereon and that neither the faith and credit nor the taxing power of the State or of any political subdivision thereof is pledged to the payment of the principal of or the interest on such bonds.”

However, Moody’s Investors Service (Moody’s) website⁹ states,

“The bonds are paid by appropriations made from the [State’s] General Fund to those agencies or entities....” Further, the SEU bond document states, “The bonds are equally and ratably secured by the Trust Estate, and *the failure of the State to appropriate each year sufficient available funds to any of the Agencies to make that Agency’s Installment Payments will cause insufficient funds to be deposited into the Bond Fund to pay all principal and interest on the bonds when due.*” (Emphasis added.)

The SEU issued \$67.4 million of its SEU, Inc. Energy Efficiency Revenue Bonds, Series 2011 (the “SEU Bonds”) on August 1, 2011, to finance energy conservation measures (ECMs) for multiple State organizations. The final maturity of the bonds, as reported in the State’s CAFR, is September 15, 2034.

⁸ 29 Del. C. §8059(f)(2)(a) and (b)

⁹ https://www.moodys.com/research/MOODYS-ASSIGNS-INITIAL-RATING-OF-Aa2-TO-APPROXIMATELY-70-MILLION-New-Issue--NIR_16963011

The State’s CAFR also states that,

“The SEU Bonds are limited obligations of the SEU, secured by the trust estate and payable only from amounts appropriated by the State that are eligible for payment under the Installment Payment Agreements. The bonds are **not** direct obligations of the State.”

The **Guaranteed Energy Savings Agreements (GESAs)** between the State and SEU includes an Installment Payment Agreement. The **Installment Payment Agreement**, between the agency and the SEU, sets forth how the agency will repay the SEU for the cost of construction. The Installment Payment Agreement states,

“...Installment Payments will be payable only from amounts appropriated by the State...that are eligible for payment of the Installment Payments pursuant to the Energy Performance Contracting Act...” Further, “Agency’s obligations under this Agreement are absolute and unconditional and will remain in full force and effect until all Installment Payments have been paid in full and will not be affected, modified or impaired by the occurrence of any event or circumstance, including termination of the [GESAs] for any reason, including default or failure of [Energy Savings Company (ESCO)] fully to perform any of its obligations....”

The Installment Payment Agreement also references a Memorandum of Understanding (MOU) between the State Office of Management and Budget (OMB)¹⁰ and the SEU, whereby,

“OMB agrees to (i) request amounts owed under this Agreement in its Annual Budget Request, (ii) work to ensure that appropriate levels of funding are received and (iii) make payments due pursuant to this Agreement directly to the Trustee.”



The State has committed to an irreversible obligation through the Installment Payment Agreement and the Memorandum of Understanding. These agreements lack the standard funding out clause for state contracts¹¹ while locking the State into a 20-year payment schedule, regardless of performance or availability of State funds. Additionally, the CAFR fails to paint a complete picture of how this program works nor does it provide any transparency about the funding obligations of the State. In conclusion, our work found the bond repayments are **exclusively** supported by the irreversible obligation of State Appropriations.

¹⁰ The MOU for the Legislative Mall Complex was signed by Ann S. Visalli, OMB Director, and Harris B. McDowell III, SEU Oversight Board Co-Chair.

¹¹ <http://gss.omb.delaware.gov/contracting/agencyboiler.shtml>, September 15, 2015

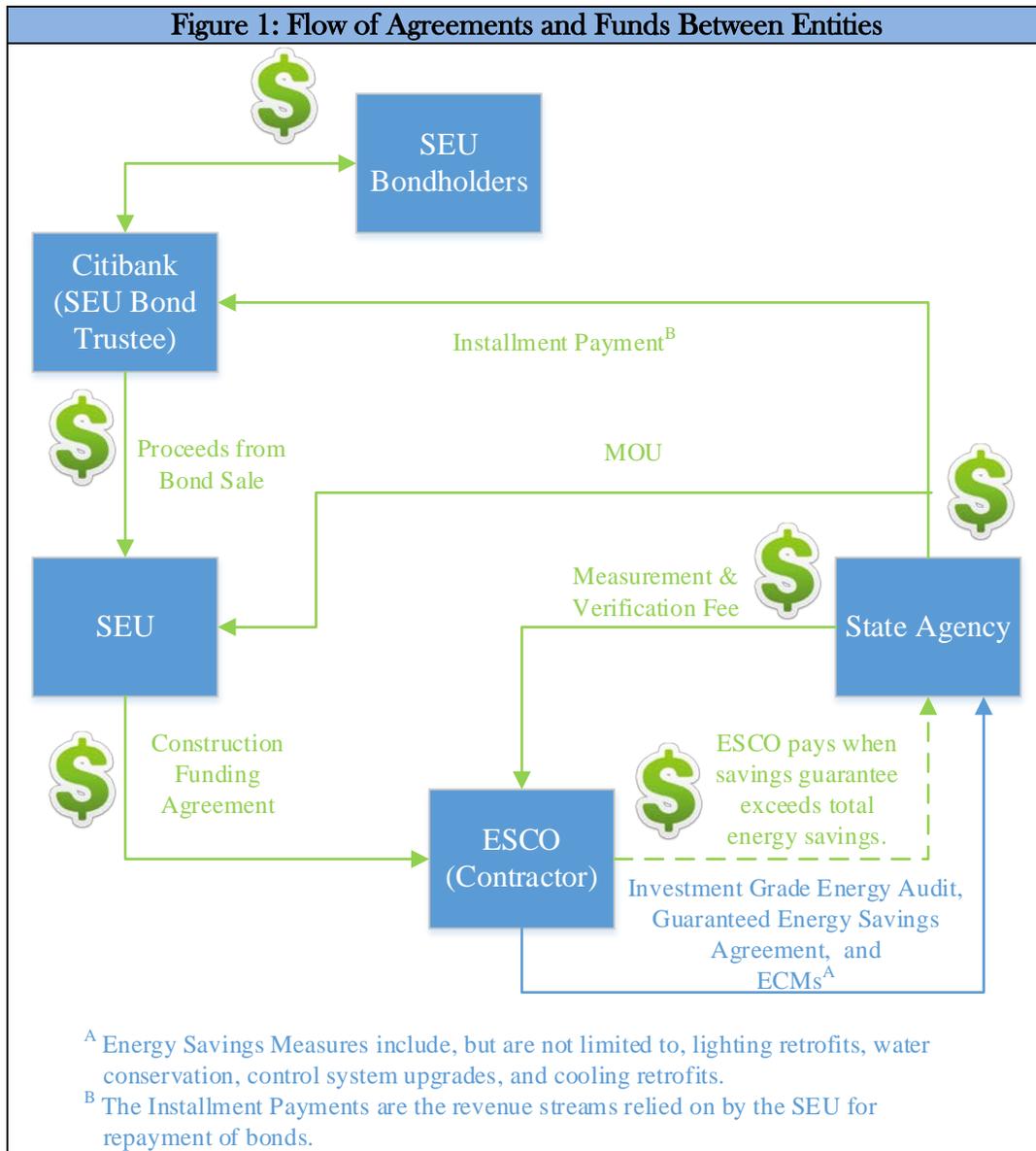
Use of the \$67.4 Million 2011 SEU Energy Efficiency Revenue Bond Proceeds

According to Moody's, the \$67.4 million of bond "...[p]roceeds will be used to finance projects for [State organizations] consisting of the design, construction and installation of certain [ECMs], and to fund capitalized interest on the bonds." All agreements were also signed by Ann Visalli, Director of OMB. The following table outlines the detailed use of the bond proceeds.

Table 2: Use of the \$67.4 Million in Bond Proceeds for ECMs			
Agency	ESCO	Agency Official Signature	Cost of Work
Delaware Technical & Community College (DTCC) - Terry Campus	Pepco Energy Services, Inc.	Orlando George, DTCC President	\$ 2,060,000
DTCC - Wilmington & Stanton Campuses	Pepco Energy Services, Inc.	Orlando George, DTCC President	3,995,000
Department of Services for Children, Youth, and their Families	Noresco, LLC	Vivian Rapposelli, Secretary	1,545,000
Department of Corrections (DOC)	Noresco, LLC	Carl Danberg, Commissioner	37,030,000
Delaware State University	Johnson Controls, Inc.	Harry L. Williams, President	11,265,000
OMB - Legislative Mall	Honeywell International, Inc.	Dennis Groom, Director of Facilities Management	4,830,000
OMB - Carvel, Richardson & Robbins (RR), Delaware Economic Development Office	Ameresco, Inc.	Dennis Groom, Director of Facilities Management	5,770,000
OMB - Sussex County (SC) Courthouse, SC Courthouse Annex, SC Court of Chancery, SC Family Court, Elections Building, Elections Warehouse	Trane U.S., Inc.	Dennis Groom, Director of Facilities Management	940,000
Total			\$ 67,435,000

Complex Agreement

The Office of Auditor of Accounts (AOA) obtained and reviewed various documents, including the 563-page GESA for the Legislative Mall Complex. In the absence of any State prepared program assessment or evaluation, which is discussed in more detail later in this report, we developed the diagram in Figure 1 below.



GESA

The SEU maintains a list of “qualified providers,”¹² as defined by the Energy Performance Contracting Act,¹³ for agencies to select an Energy Service Company (ESCO) to perform ECMs. Each agency enters into an Investment Grade Energy Audit Agreement with the ESCO where the agency provides data related to energy consumption over the previous 36 months and the ESCO provides a Technical Audit Report.¹⁴ This report is an assessment of the energy consumption, along with recommended energy savings. The agency’s acceptance of this report leads to the agency and the ESCO entering into a **GESA**.

¹² In 2009, the SEU put out a Request for Qualifications of Energy Service Companies with specific technical criteria. The SEU reviewed responses and determined which companies were considered qualified providers.

¹³ 29 Del. C. §6972

¹⁴ AOA did not review the details of the procurement process for the ESCOs.

Construction Funding Agreement

The GESA requires the agency, the SEU, and the ESCO to enter into a **Construction Funding Agreement**, where the SEU agrees to pay the ESCO, on behalf of the agency, for the cost of construction. Further, the GESA requires the agency and the SEU to enter into an Installment Payment Agreement, where the agency repays the SEU¹⁵ for its construction funding commitment. The GESA states, “The annual payments...will begin the first month following the completion of the Construction Period and final acceptance by the STATE for the scope of work....”

State Energy Appropriations Remain Constant

The Energy Performance Contracting Act¹⁶ states, “Grants, subsidies, or other payments from the State to an agency shall not be reduced as a result of energy savings obtained through this performance contract during the life of the contract.”



In what appears to be an effort to incent agency participation, the legislation commits to maintaining the same level of funding instead of enacting a budget cut based on the energy savings. Further, there is no provision to commit those cost savings towards advanced technology that would help move the State toward using renewable energy sources, much less towards the lofty goal of “render[ing] a building’s energy consumption and carbon emissions at or near zero.”¹⁷

To muddy the water, the accounting for the agencies’ Installment Payments is convoluted by an indirect process. With the exception of DTCC, we found that the funding for the Installment Payments is appropriated through the annual budget bill to the participating agencies as energy costs from the General Fund. A portion of the funds received for energy are transferred to OMB to make the Installment Payments. Once received by OMB, they are considered non-appropriated special funds (NSF), which have “no legislative spending limits” and are “not considered State monies.”¹⁸ **Although the State does not have an annual budget process for these funds, they are most definitely State monies.** As AOA has in the past, we once again recommend that OMB correct language in the State Budget and Accounting Manual and work to ensure all State generated revenues are treated with consistent fiscal prudence.



This complex accounting process will result in the State’s inability to ever know the true cost savings.

The GESA requires the ESCO to pay the agency, in any savings year,¹⁹ when the actual savings is less than the guaranteed savings. However, Schedule C of the GESA states that, when the savings per the energy savings statement is greater than the guaranteed savings, the ESCO will apply the excess savings to future years.

¹⁵ The Construction Funding Agreement requires the Agency to make Installment Payments to the bond issuance Trustee (Citibank N.A.) as assignee of the SEU.

¹⁶ 29 Del. C. §6972

¹⁷ <http://www.udel.edu/udaily/2012/dec/byrne-delaware-seu-121411.html>

¹⁸ State Budget and Accounting Manual, Chapter 3, v.2.8, <http://www.budget.delaware.gov/accounting-manual/chapter03.pdf?ver=1010>

¹⁹ The savings year is determined by when construction is completed.



If and when energy savings are realized, the State cannot invest the savings into renewable energy resources because the agencies' energy funding was guaranteed to remain the same. Further, the GESA allows the ESCO to apply energy savings in excess of each years' guarantee to future years.

Additional Costs to the State: Measurement & Verification (M&V) Fee

In addition to the payments under the Installment Payment Agreement, the agency is required to make monthly payments to the ESCO for an M&V Fee. This “represents a fee for ongoing costs of monitoring...this fee will be adjusted annually on the anniversary of the completion of the construction period of this GESA...”



However, no criteria are provided to describe what adjustments may occur. Can taxpayers trust the State's best interest will be represented in the annual adjustment?

Energy Savings Statements

The GESA requires the agency to provide the ESCO with copies of all utility bills. Within 60 days of receipt of the final utility bills each year, the ESCO provides the agency with an Energy Savings Statement that details the energy savings for the year, with all relevant calculations and supporting documentation. The agency has 30 days of receipt of the Statement to accept the Statement and request payment of the Guaranteed Savings Payment, if any, or reject the statement and state its objections.

The GESA allows the agency to “...request that the ESCO prepare additional reports on a quarterly, semi-annual, or annual basis, or may prepare such reports...that analyze the savings achieved as a result of the implementation of one or more Construction Units with reference to actual Baseline Energy Consumption and ongoing metered data to determine if the Agency's Expected Metered Savings are at least equal to the aggregate of all Installment Payments....” Further, “...if any report prepared...demonstrates that the Agency is not receiving the Expected Metered Savings that equal or exceed the aggregate amount of the Installment Payments, the ESCO and the Agency will work together in good faith, and subject to commercially reasonable standards, to achieve such metered savings...at no additional cost to the Agency.”



The GESA provides for the State to review the ESCO's Energy Savings Statement; however, the cost of such monitoring and the significant time and effort on the part of State employees was never factored into the true cost of these projects.

If the State elects to revoke the ESCO's M&V services, the ESCO will be relieved from providing any guaranteed savings. The GESA states, “If a change in the Delaware Code occurs that permits the Agency to terminate the [M&V] Services provided by the ESCO, Agency will be entitled to terminate the [M&V] Services upon delivery of notice to ESCO. In such case, (i) ESCO's obligation to perform [M&V] Services and its obligation to make payments...shall terminate....” This event does not absolve the agency from its obligations under the Installment Payment Agreement as they are “absolute and unconditional and will remain in full force and effect until all Installment Payments have been paid in full and will not be affected, modified or impaired by the occurrence of any event or circumstance, including termination of the [GESA] for any reason,

including the default or failure of the ESCO fully to perform any of its obligations under the [GESA]....” Further, the “Agency shall pay all Installment Payments without set-off or reduction notwithstanding any obligation owed by ESCO to the Agency under the [GESA] or otherwise.”

Legislative Mall Complex Buildings Participating in the GESA

AOA constructed the following map of the 16 buildings originally included in the Legislative Mall Complex improvements in Figure 2 below. Through our procedures, we found that the planned ECMs at Legislative Hall were removed from the scope of work and substituted with ECMs at the James Williams Service Center, Ag Lab, Ag Building, Fire Marshal’s Office, Fire School, Thomas Collins Building, and William Penn Building. The documentation provided no explanation for the change.



The True Cost of Legislative Mall Complex Improvements

Throughout this engagement, we requested any documentation that demonstrated a cost-benefit analysis of initiating the ECMs but none was provided. Consequently, AOA was left to analyze the various components of the ECM projects. We selected the Legislative Mall Complex for our detailed review. Using the Installment Payment Agreement and GESA for the Legislative Mall Complex, we detailed the amount of expected energy savings and the amounts OMB is required to pay for the renovations and energy monitoring. These amounts are included in Table 3 below.

Table 3: Comparison of Guaranteed Energy Savings to Payments by Agency						
Calendar Year		Guaranteed Energy Savings	Installment Payment ²⁰	M&V Fee	Total Payments by Agency	Projected Difference
		A	B	C	B+C	A-(B+C)
1	2014	\$ 356,607.00	\$ 322,413.37	\$ 18,160.00	\$ 340,573.37	\$ 16,033.63
2	2015	436,843.00	383,892.62	22,337.00	406,229.62	30,613.38
3	2016	447,764.00	383,843.62	23,007.00	406,850.62	40,913.38
4	2017	458,958.00	383,641.62	23,697.00	407,338.62	51,619.38
5	2018	470,432.00	380,486.62	24,408.00	404,894.62	65,537.38
6	2019	482,193.00	381,663.95	25,140.00	406,803.95	75,389.05
7	2020	494,248.00	378,949.95	25,894.00	404,843.95	89,404.05
8	2021	506,604.00	384,082.95	26,671.00	410,753.95	95,850.05
9	2022	519,269.00	378,656.95	27,471.00	406,127.95	113,141.05
10	2023	532,251.00	380,905.95	28,296.00	409,201.95	123,049.05
11	2024	545,557.00	374,405.95	29,144.00	403,549.95	142,007.05
12	2025	559,196.00	377,655.95	30,019.00	407,674.95	151,521.05
13	2026	573,176.00	373,905.95	30,919.00	404,824.95	168,351.05
14	2027	587,505.00	376,155.95	31,847.00	408,002.95	179,502.05
15	2028	602,193.00	372,655.95	32,802.00	405,457.95	196,735.05
16	2029	617,248.00	374,355.95	33,786.00	408,141.95	209,106.05
17	2030	632,679.00	369,605.95	34,800.00	404,405.95	228,273.05
18	2031	648,496.00	371,643.45	35,844.00	407,487.45	241,008.55
19	2032	664,709.00	370,643.45	36,919.00	407,562.45	257,146.55
20	2033	681,326.00	363,903.61	44,396.00	408,299.61	273,026.39
Totals		\$ 10,817,254.00	\$ 7,483,469.76	\$ 585,557.00	\$ 8,069,026.76	\$ 2,748,227.24

Table 3 requires further adjustment to account for additional costs, such as:

- State resources used to develop and implement the agreements. OMB represented that Project Engineers from Facilities Management spent approximately 2,080 hours managing the Legislative Mall Complex project.
- Operational disruption to the State employees working in the buildings during the planning and construction phases.
- State resources used to track the energy savings progress, e.g. 60% of OMB's Energy Resource Manager's time, at an annual salary of \$40,000 a year, not including benefits and pension costs.
- Additional costs associated with hiring non-State employees to assist with the program monitoring. OMB paid one vendor \$14,800 in Fiscal Year 2015 for these services.
- Costs associated with equipment failure, such as was the case with the portable chillers used in the summer of 2015. See "Townsend Building Problems" section below.

²⁰ "Agency's obligations under this Agreement are absolute and unconditional and will remain in full force and effect until all Installment Payments have been paid in full and will not be affected, modified or impaired by the occurrence of any event or circumstance, including termination of the GESA for any reason, including default or failure of ESCO fully to perform any of its obligations...."

- Operational disruption to the State employees working in the buildings during equipment failures.

Further, OMB could not provide its own analysis of any actual energy savings. We did not find OMB's monitoring to be timely as OMB was still gathering data and working through the process. OMB did, however, provide analysis performed by the ESCO and the University of Delaware. More information on the University of Delaware report is provided below.



After considering all of the issues discussed above, AOA concludes that no one knows the true cost of performing the ECMs and whether any actual (not estimated) savings, much less savings attributed to renewable energy sources, are being achieved.

Townsend Building Problems

Required Temperature Settings

The Legislative Mall Complex GESA mandates that ECMs regarding heating systems “...will be designed and installed with the capacity (where applicable) to provide a space temperature of at least 72 degrees Fahrenheit (°F) and not more than 78 °F...” Likewise, measures regarding cooling systems “...will be designed and installed with the capacity to provide a minimum space temperature of 72 °F and a maximum space temperature of 76 °F...”

These settings actually contradict the temperature settings required by Governor Jack Markell's Executive Order (EO) 18, *Leading by Example Towards a Clean Energy Economy & Sustainable Natural Environment*, dated February 17, 2010. EO 18 requires heating systems temperature settings to not exceed 68 – 70 degrees and air conditioning temperature settings to not exceed 75 – 78 degrees during normal working hours.

Staff experiences in the Townsend Building alone have found that these temperatures are not consistently maintained, especially on days when the heating and cooling systems are not working. We confirmed with various building employees that, in the winter of 2015, the heating system failed and it was so cold for several days that the employees could see their breath.

In early July 2015 and again in early September 2015, the Townsend Building's cooling system failed. These outages have been communicated to Townsend Building tenants as problems with the chiller. The scope of work for the Legislative Mall Complex described the chiller being replaced during the ECM work. AOA confirmed that the upgrades did not address interactions with older heating and cooling system components. As a result, this caused unexpected and ongoing heating and cooling system issues. For example, the method used to deliver water coming into the building needed updating but this work was not included with the chiller replacement. To building employees, it appears that the Townsend Building is functioning worse than before the work was performed.

Cost of Inadequate Upgrades

A query of the State's accounting system revealed payments during Calendar Year 2015 of over \$17,000 to Carrier Rental Systems, Inc. for portable chillers rented due to the cooling system outages in early July 2015. See Figure 3 below. OMB stated that the warranty on Townsend

Building’s chiller expired in February 2015; therefore, the State was not reimbursed for the cost of the portable chillers.

Further, OMB stated that maintenance and repair costs are not factored into the energy savings calculations. OMB represented that maintenance and repair costs for the Townsend Building were \$28,297 in Fiscal Year 2015 and \$22,453, which includes the portable chillers discussed above, to date in Fiscal Year 2016.



The cost of maintenance and repairs for Fiscal Years 2015 and 2016 has significantly depleted the projected difference displayed in Table 3.

Figure 3: Portable Chillers behind Townsend Building



Methods Used to Analyze ECMs

The GESA for the Legislative Mall Complex renovations states that the M&V plan to determine the energy savings includes calculations based on manufacturers’ claims on the energy used by their products and spot measures of a sample of equipment. This is also known as “Option A.” In May 2015, the University of Delaware’s Center for Energy and Environmental Policy (CEEP) issued a Project Savings Analysis Report on the energy efficiency projects completed by the SEU for the State. The Project Savings Analysis Report states, “Post-retrofit measurements are made only once. Thus, it is extremely important to make sure that all equipment is performing and operating as expected during the guarantee term.”

The Project Savings Analysis Report provides recommendations for future SEU bond projects. One recommendation states, “...some participating agencies have raised their concerns on the

validity of the project performance and energy savings. Admittedly, the verified savings using Option A might not be reflected in the utility bill. For example, if the portion of electricity savings is small, the slight change of variables, such as operating schedule or weather, could overshadow the savings. The utility bill might not necessarily show the reductions. On the other hand, Option B or C by its nature should be able to assure the agencies that the verified savings they receive are ‘real’. But Option B or C might have a higher associated M&V cost, compared to option A when applying to certain ECMs.”



While the option to calculate cost savings using Option A was agreed upon by the State and the ESCO, it does not take into account the actual cost of utilities. If equipment is not functioning properly, as is the case in the Townsend Building, the calculated cost savings will be inaccurate. Again, how can the State ensure that cost savings are actually occurring?

Further, the Project Savings Analysis Report called attention to an issue with the Legislative Mall Complex’s Kent County Family Court building, among others. The Project Savings Analysis Report explains that, while performing a bi-annual remote inspection, the ESCO found that the heating and cooling system operating schedule in this building was 4 a.m. to 6 p.m., 7 days a week, instead of the schedule per the contract of 6 a.m. to 6 p.m., Monday through Friday.



Because all Legislative Mall Complex ECM calculations are “Option A” and based strictly on estimates, the State would not know if the energy savings were not being achieved. Further, there is no protection to ensure the State will benefit from a reduction in actual energy costs.

CEEP’s Project Savings Analysis Report Misleading and Not Independent

In May 2015, the University of Delaware’s CEEP released the “DESEU Energy Efficiency Revenue Bonds Series 2011 Project Savings Analysis” Report “...to evaluate the actual energy savings performance of all the bond projects and measure the progress and achievement.” The CEEP researchers used data collected from participating State agencies to perform the analysis.

Dr. John Byrne, the supervisor on the CEEP’s Project Savings Analysis Report and CEEP Director, is also the Co-Founder and an Honorary Board Member of the SEU.



Dr. Byrne oversees the preparation of a monitoring report regarding the State’s ECMs while also holding a position on the SEU’s Board. How can the State trust that the energy efficiencies are being achieved and cost savings are truly occurring without an independent analysis?

At the time of release, the CEEP had not received all information from the agencies. As such, the report is clearly marked as an interim report due to “...data-related needs, which could not be achieved as of the date of this report...A final report will be issued once these data-related needs are satisfied.” Further, it states, “The DOC and Carvel & RR projects were not officially completed when the analysis was conducted.”

However, the report claims that “For all five projects, the total cost savings are higher than their guaranteed savings.” A final report has not been posted on the SEU’s website as of January 8, 2016.



Although the Project Savings Analysis Report is not final, a press release posted on the SEU’s website on June 29, 2015, states, “The full report indicates that these projects are meeting and surpassing performance expectations,” without describing the results as interim. Further, in the same press release, Senator Harris B. McDowell, III, SEU Oversight Board Chairman and Co-Founder, stated, “The [SEU] now has a clearly documented, proven track record. Delawareans need to be made aware that these energy savings programs work beyond expectations and the savings will offset the cost of recommended energy efficiency measures.”

Further, the Project Savings Analysis Report states, “This study is not intended, nor shall it be construed, to express or render any opinion as to whether any contractual requirements related to the 2011 Energy Efficiency Revenue Bonds have been fulfilled. The analysis set forth herein does not assume the **efficacy**²¹ of, and does not promote, calculations that differ from those defined in signed contracts which underlie the 2011 SEU bond financing.”

The Project Savings Analysis Report states, “It is important to note that the Portfolio Manager²² entries are the secondary data rather than the primary data. Secondary entry data can include errors. Experiences at other state facilities by CEEP’s researchers indicate that entry errors can be significant.” Further, the Project Savings Analysis Report recommends that future SEU bond projects require the agencies to provide the SEU with actual utility bills to analyze the program performance to minimize the effects of input errors, billing cycle errors, and meter allocation issues.



Despite the Project Savings Analysis Report pointing out numerous potential flaws in the data, it continues to tout the performance of the ECMs.

SEU Oversight Board is Not Independent

Dr. John Byrne

Dr. John Byrne, who created the idea of the SEU and served as Board Co-Chair, resigned from the Board at its May 18, 2012, meeting. At the time of his resignation, Governor Jack Markell recommended that the SEU Board appoint Dr. Byrne as the SEU’s first Honorary Board Member (ex-officio), which the Board approved unanimously. Dr. Byrne also serves as the director of the University of Delaware’s CEEP.

²¹ Per www.webster.com, efficacy is defined as the power to produce a desired result or effect.

²² An online utility management tool, created by the United States Environmental Protection Agency through its Energy Star program, in which state agencies input their monthly electricity and fuel utility bill consumption and costs.



The State relies on the CEEP's analysis on the State's energy usage and actual cost savings. Issues with the Project Savings Analysis Report are detailed in the previous section.

Kristopher Knight

Kristopher Knight, the Director of the State's Division of Accounting, was appointed to the SEU's Board by Governor Jack Markell in May 2012. As part of his role in preparing the State's financial statements and implementing internal controls, Mr. Knight should follow guidance from the Governmental Finance Officers Association (GFOA)²³ and the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

GFOA's Code of Professional Ethics states, in part:

- [Government finance officers] shall exercise prudence and integrity in the management of funds in their custody and in all financial transactions.²⁴
- Government finance officers shall actively avoid the appearance of or the fact of conflicting interests.
- They shall discharge their duties without favor and shall refrain from engaging in any outside matters of financial or personal interest incompatible with the impartial and objective performance of their duties.²⁵

Further, COSO's *Internal Control - Integrated Framework*, which provides a blueprint for organizations to establish internal controls, promulgates principles for organizations to follow. Principles six through nine, related to Risk Assessment, and principles ten through 12, related to Control Activities, are outlined below:

Table 4: COSO Principles 6 through 12	
6	Management should define objectives clearly to enable the identification of risks and define risk tolerances.
7	Management should identify, analyze, and respond to risks related to achieving the defined objectives.
8	Management should consider the potential for fraud when identifying, analyzing, and responding to risks.
9	Management should identify, analyze, and respond to significant changes that could impact the internal control system.
10	Management should define internal control activities to achieve objectives and respond to risks.
11	Management should design the entity's information system and related control activities to achieve objectives and respond to risks.
12	Management should implement control activities through policies.

²³ The Delaware Division of Accounting is a member of GFOA.

²⁴ <http://www.gfoa.org/about-gfoa/code-professional-ethics>, Section II

²⁵ <http://www.gfoa.org/about-gfoa/code-professional-ethics>, Section VI



Governor Markell appointed the Director of the Division of Accounting to represent the SEU, which is in direct conflict of the Director's duty and responsibility to the State. This is particularly ironic given the absence of the State's diligence with respect to the GESA.

People's Settlement Association (PSA)

In 2008 and 2009, AOA released investigation reports on PSA regarding diverted State funds, financial difficulty, and questionable transactions. The 2009 report discusses the management of a grant PSA received from DNREC's Green Energy Green Savings (GEGS) Program for the period July 1, 2007 through February 2009. Overall, AOA found that PSA spent program funds but did not complete several of the program deliverables and did not maintain supporting documentation for all expenditures. Further, based on PSA's accounting records, AOA concluded that PSA used the GEGS funds to fund current operating expenses, which is "equivalent to an interest free loan to PSA from the State of Delaware." AOA's report also stated, "The Executive Director's [Keith Lake] lack of knowledge and/or willing intent to withhold information resulted in discrepancies in the information presented."

In 2006, Keith Lake was also a member of the SEU Task Force that worked to establish the SEU. Dr. John Byrne was a member of the Board of Directors for People's Settlement at the time the AOA investigation was performed.



The issues at PSA draw further attention to the close relationship between PSA and the SEU Board.

2005 Lessons Learned at the Federal Level

In June 2005, the United States Government Accountability Office (GAO) issued a report, "Energy Savings: Performance Contracts Offer Benefits, but Vigilance Is Needed to Protect Government Interests."²⁶ Congressional requestors asked GAO to look into Energy Savings Performance Contracts (ESPCs), used by federal agencies since they were authorized in 1986. These contracts are similar to Delaware's GESA contracts in that ESCOs perform ECMs and the energy savings is used to pay for the cost of construction. In the study, GAO found several issues related to the contracts and monitoring data:

- The federal agencies with ESPCs generally believed that energy savings were covering the costs, as required by federal law, but data provided on those projects was insufficient to draw a conclusion.
- The U.S. Army and Air Force performed audits of their ESPCs and found several instances where savings may not have covered the costs. For one contract, they found that (1) the baselines were incorrect because the contractor inflated labor costs for operation and maintenance and (2) the contractor overstated baselines for electrical consumption and water conservation. These issues occurred because of insufficient time to review contract

²⁶ <http://www.gao.gov/assets/250/246803.pdf>

proposals and a desire to award the contract and pay the contractor prematurely, which could lead to the agency paying for nonexistent savings over the life of the contract.

- In one instance, Air Force civil engineering officials did not maintain documentation to support the baseline calculations, the methodology for savings computation, or the validation of cost savings, but reported savings over \$6.7 million.
- Calculating the financial savings is extremely difficult. One major problem occurs because some calculations are based on estimates instead of actual measurements. The report states, “striking the ‘right’ balance between [estimation] (which is less costly but also less accurate) and measurement (which is more costly but also more accurate) is a challenge for agencies. To the extent that [estimation] is used in lieu of actual measurement...savings calculations may be based on inadequate data or incorrect assumptions, which contribute to uncertainties about the actual savings.”
- It is difficult to identify the cost of energy. Because utility rates are complex, “...it is easy for [ESCOs] or federal officials to provide incorrect utility rates, which in turn will have important consequences for the level of savings...Anomalies due to weather, fluctuations in energy prices, or other influences can affect the rates. In general, if utility rates go down or increase more slowly than projected, then the actual savings will not materialize. In essence, these rates are [estimated], and the agency bears the risk.”
- Agencies must ensure that installed equipment is operating effectively and being properly maintained or savings can be affected. For example, an Air Force official stated that a chiller was ruined in only 3 years due to improper maintenance.
- Federal agencies expressed concerns regarding a lack of technical and contracting expertise in those responsible for evaluating proposals and monitoring savings. For example, officials “...do not always have the necessary expertise to forecast utility rates and, given the complexity of forecasting these rates, particularly over the long terms typical of ESPCs, it is easy for the officials to agree to incorrect estimates.” This lack of expertise is further projected to the agency’s review of technical M&V reports, which affects the agency’s contract oversight.
- Conflicts of interest can occur because agencies often rely on the ESCO “...to provide much of the needed expertise to develop and monitor the ESPC projects, potentially raising a conflict of interest.”

GAO concluded that while agencies have been able “...to reduce energy consumption and achieve other goals, the extent to which savings cover costs as required by legislation remains uncertain. The complexity of ESPCs accounts for much of this uncertainty.”



Had the State performed its due diligence and a robust cost-benefit analysis, the State could have implemented the “lessons learned” from the federal government a decade ago and avoided repeating the same mistakes.