

How to Implement an Energy Savings Improvement Plan

Sustainable Jersey How-To Guide



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Introduction

Energy efficiency is one of the best ways public institutions can save money and tax dollars. However, to realize savings from energy efficiency it is necessary to first come up with capital to pay for building and equipment upgrades. Even when the savings greatly outweigh the costs over the lifetime of the upgrade, these upfront costs often present a significant obstacle to moving forward. This document is intended to help local governments implement an Energy Savings Improvement Program that is designed specifically to overcome this hurdle.

In 2009, the legislature approved Energy Savings Improvement Programs (ESIPs) as an alternate method for New Jersey local government units to finance the implementation of energy conservation measures (P.L. 2009, c.4). On September 21, 2012, Governor Christie signed (P.L. 2012, Chapter 55) which further defined the ESIP process. ESIPs are a type of “performance contract.”

In essence, by using the ESIP financing alternative, the future value of energy savings is leveraged to pay for the upfront project costs. The law specifically allows boards of education, counties, municipalities, housing authorities and public authorities to enter into contracts for up to 15 years to finance building energy upgrades in a manner that ensures that annual payments are lower than the savings projected from the energy conservation measures; ensuring that ESIPs are cash flow positive in year one, and every year thereafter. The ESIP law allows local units to use “Energy Savings Obligations” as the financing method to pay for the costs (capital as well as soft costs) of these energy conservation measures.

In addition to energy savings, there are significant funding opportunities available through state and federal sources that can be layered into the financial package to offset the repayment of the obligations. Of particular interest to local governments is that Energy Savings Obligations are not considered “new general obligation debt” of a local unit and do not count against debt limits or require voter approval. In particular, this means that schools do not need to have ESIPs approved via referendum. These obligations may be issued as refunding bonds or leases.

The ESIP method of financing energy improvements is a relatively new financing option for local units of government in New Jersey. Recent economic hardships have caused local governments to look for creative ways to finance much needed infrastructure

projects and this financing option will allow for the implementation of energy conservation measures at no cost to the taxpayer.

Although the concept of performance contracting is not new, this opportunity in New Jersey has been structured to protect the local unit from the sort of past abuses that marred the concept. As a result, the process is involved. However it can be an effective way to lower your energy consumption, improve your buildings and equipment, and save the taxpayers' money, without increasing local indebtedness. As more local units realize the advantages of this financing option, its utilization will increase. Improvements made to the ESIP law and signed by the Governor in September 2012 should result in a more streamlined process that will, because of Board of Public Utilities (BPU) oversight, make the process more systematic.

Overview

The process for completing building improvements through the use of ESIPs is explained here in a step-by-step guide. Implementation of an ESIP starts with a Local Government Energy Audit, (Step 1), and is finalized when the last verification of energy savings and commissioning of equipment (Step 9) is complete. The process takes time, and a timeline should be established early on that includes the planning, contracting, and construction schedules in addition to the impact on the local unit's budget development cycle.

Completion of a Local Government Energy Audit

The first step to implementing an ESIP is the completion of an initial energy audit. Funding for the cost of the audit (on a reimbursement basis) is available through the Clean Energy Program <http://www.njcleanenergy.com> of the New Jersey Board of Public Utilities (BPU).

The Local Government Energy Audit Program (LGEA) as the audit program is known, targets buildings owned by local governments. Such facilities may include, but are not limited to: schools, offices, courthouses, town halls, police and fire stations, sanitation buildings, transportation structures, and community centers. All local governments, New Jersey State Colleges or Universities, and non-profit agencies exempt from federal tax under section 501 (c)(3) of the Internal Revenue Code that are located within the service territory of at least one of the state's regulated utilities are eligible. The process for completion of the LGEA through the Clean Energy Plan is as follows:

1. A resolution must be passed by the local governing body authorizing the local government to apply to the plan (non-profits need their board approval). Local governments do have the option of waiting to pass a single resolution to enter into the plan and contract with the selected auditing firm.
2. Complete and submit a draft version of the Request for Proposal (RFP) and submit the draft to the Program Manager for the Clean Energy Program for approval. There is a sample RFP on the Clean Energy Plan website: <http://www.njcleanenergy.com/commercial-industrial/plans/local-government-energy-audit/steps-participation>
3. Prior to soliciting for the audit services, the Program Manager must approve the Request for Proposal. Five contractors have been pre-qualified by the BPU to complete the LGEAs, and all five must be solicited in this RFP process. The list of five contractors is posted on the ESIP link of the BPU's Clean Energy Plan website: <http://www.njcleanenergy.com/files/file/LGEA%202011%20Forms%20and%20Applications/Auditing%20Firms%20Contact%20Info%20-%2010-28-11.pdf>
4. Once the solicitations are received, the local unit then evaluates the proposal results, but cannot award the contract until the Program Manager approves the selection through the submission of a "Firm Selection Form" provided on the website: <http://www.njcleanenergy.com/files/file/LGEA%202013%20Forms%20and%20Applications/eLGEA%202013%20Firm%20Selection%20Form%20-%201-1-13.pdf>

An audit should be completed for each building that is owned by the local unit. Funding for the completion of energy audits is capped at annual levels (usually sufficient to cover most projects) per local unit/agency. In order to complete an audit, the local unit must have twelve months of energy bills available. Once the audit is complete, the local unit can submit to the NJ Clean Energy Program (for each building) an "Incentive Request Form" along with the Energy Audit Report and the Energy Audit Invoice in order to request reimbursement for the cost of the Energy Audit.

<http://www.njcleanenergy.com/files/file/LGEA%202012%20Forms%20and%20Applications/eforms%20reader%20x%20issues/eLGEA%20Incentive%20Request%20Form%20-%20203-2-12.pdf>

The LGEA report will identify the current level of energy use of all facilities. It is important to include all of the facilities of a local unit to achieve the most efficient use of the ESIP process. The LGEA will, through a thorough review of each facility, identify the specific energy conservation measures that can be undertaken. Energy conservation measures are defined as improvements that result in reduced energy use, including, but not limited to, installation of energy efficient equipment; demand response equipment; combined heat and power systems; facilities for the production of renewable energy; water conservation measure fixtures or facilities; building envelope improvements that are part of an energy savings improvement plan; and related control systems. For each measure that is identified, the projected costs and payback time is determined. (Specific examples of energy conservation measures and the projected payback period can be seen in the case studies that follow). Once the energy audit is completed, it is posted on the BPU website.

It is important to note that the LGEA cannot be performed by the Energy Services Company (ESCO) that will ultimately install the energy conservation measures. The LGEA must be completed by an independent third party that will not participate in the implementation of the energy conservation measures.

Decision as to Method of Implementation

Once the LGEA has been completed and it has been determined that certain energy conservation measures will be implemented, the local unit can proceed in one of three ways: The use of an (1) Energy Services Company or “ESCO”; (2) The Do It Yourself or “DIY” method; (3) The Hybrid Option which uses parts of both previous options. The decision as to which method to use should be based on an understanding of each option and, to a certain extent, the availability of local officials to be involved in the process, as it will be more time consuming for the local officials to use the second or third option.

1. The method of hiring an ESCO will result in the local unit using one firm to be responsible for a wide range of services; virtually all of the required work associated with the completion of the ESIP (with the exception of the LGEA and subsequent verification work). They can provide the local unit a total approach, assuming responsibility for the entire process, from preparation of the Energy Savings Plan (ESP), to design and preparation of construction plan documents and bid specifications, to serving as a general contractor by contracting with and overseeing subcontractors hired through the bidding process, to providing an energy savings guarantee, or provide any of the individual elements. At the option of the local government unit, the ESCO can also assist with identifying funding options. However, it should be noted that it is still the responsibility of the local government unit to repay those debts so it is advisable to be prudent when exploring financing options and to make sure that all avenues are explored in order to get the best financing package available. When preparing a competitive contracting RFP, the local unit should carefully consider the role it wants the ESCO to play, particularly with regard to the role of other agency professionals. An ESCO is retained through an RFP process which is covered in more detail in Step 3.
2. If the local unit chooses the DIY method, the local unit takes the lead, and an Engineer (or an architectural firm with engineering capabilities) is usually retained. Retaining an Engineer to assist with the ESIP authorizes the engineering firm to be responsible for procurement of services from different organizations to perform the various elements of an ESIP including the ESP preparation, development of construction plans, bids and specifications, recommendation regarding the award of construction contracts and construction management. Conversely, if the local unit has the in-house expertise, this work can be completed in-house. Local units who choose to use the DIY method will also be responsible for obtaining the funding needed for the project.

3. Some local units may choose a third option which is a combination of the first two options. If the local unit chooses, it can retain the services of an engineering firm to be responsible to oversee the Request for Proposal for the Energy Services Company process. The Engineering firm would proceed to act on the local unit's behalf to supervise the ESCO's work throughout the process. When the local unit uses the third option which essentially mixes ESCOs and other services, there is the potential for professional or monetary conflicts of interests. Local units should ensure that contracting relationships do not create conflicts of interest or provide potential monetary incentives that go beyond the contract with the local unit. For example, if the local unit's architect or engineer is determined to be the best qualified to prepare design specifications and plans are based on an energy savings plan prepared by an ESCO, the local unit must hire and pay the professional; the professional cannot be hired by and be contractually responsible to an ESCO.

Regardless of which option is used, independent third party verifications must be completed periodically as required. Under all contracting models, it is important that contractors performing a range of services do not have conflicts (e.g., the firm that conducts the LGEA cannot serve as an ESCO and the firm that develops plans and specifications cannot bid on the work, the firm that completes the installation cannot conduct the final system verification, etc.)

Selection of Energy Services Company

In order to select an Energy Services Company (ESCO), a Request for Proposal is solicited. ESCOs must be hired through the competitive contracting process and cannot be hired through the professional services exception. As long as the ESCO retains ultimate responsibility for the work, they may rely on subcontractors. ESCOs and their subcontractors must also be pre-qualified or listed with the State Division of Property Management and Construction (DPMC). In order for the ESIP to be successful, it is important that the process allow all potential bidders a level playing field. There are twenty-one DPMC qualified Energy Services Companies and all twenty-one should receive the RFP. The list of qualified firms is fluid and subject to change, so the local unit should confirm the current list at the time it issues the RFP. The up to date list can be found on the website: http://www.state.nj.us/treasury/dpmc/contract_search.shtml (Enter Energy Services/ESCO on the "Contractors by Specialty" menu for the current list of approved contractors). Local units should be sure that the Request for Proposal is a fair and unbiased document. In other words, the RFP cannot give an unfair advantage to a firm that manufactures digital controls, for example by requiring a specific type of digital control. This requirement could give an unfair pricing advantage to the firm that manufactures the controls since they could bid a lower price for the equipment. Other firms that are required to provide those controls would not be as well-positioned to purchase and install the same equipment. In order to facilitate this part of the process, a sample Request for Proposal is available on the ESIP page of the Clean Energy Plan website: <http://www.njcleanenergy.com/commercial-industrial/plans/energy-savings-improvement-plan>.

Additionally, the RFP should disclose the rating or ranking methodology that will be used to evaluate the bids. The criteria for rating and ranking the bids should include the following five factors:

- (1) Company Overview and Qualifications
- (2) Approach to Energy Savings Plan Development and Implementation
- (3) Ability to Implement the Project
- (4) Project Comprehensibility and Energy Savings Projections
- (5) ESCO Fees Proposal

A sample Evaluation of Proposals is found in the Case Study Section of this document. The local unit must have the request for proposal reviewed and approved by the BPU prior to the solicitation. The BPU has fourteen days to review and approve the RFP. If no response is received in fourteen days, the RFP format is considered approved.

The firms that respond to the RFP must have equal access to the Local Government Energy Audit as that will be the starting point for ascertaining the potential energy conservation measures (ECMs) to include in the plan. More specifically, the RFP will

include a list of the ECMs that were listed in the original LGEA. However, when structuring the RFP respondents, the ESCO is not limited to the energy conservation measures that are listed in the initial Local Government Energy Audit. It should be anticipated that the respondents to the RFP will conduct their own review of the facilities to determine the most efficient energy conservation measures to include in their response. A pre-bidders conference, although not required, is recommended in order to allow potential bidders to ask any questions that might arise during the bid process.

Once bids are received, they should be thoroughly reviewed using the evaluation method that was disclosed as part of the RFP. **This evaluation is most likely the biggest challenge of the ESIP process. Because this method of implementing building upgrades has not been widely used, and the evaluation of the bids is not strictly a “low bidder” selection, it is recommended that the local unit use all available expertise to evaluate the bids.**

It is important when reviewing the proposals to closely evaluate the reasonableness of the projects that are proposed, the likely energy savings, and the cost and related services that are being proposed by the ESCO. The reviewers should keep in mind that the projects described in the proposal are not necessarily the final projects that will be included in the ESIP.

After the local unit has decided on the ESCO, the form of the contract must be approved by BPU prior to the official signing of the contract. This is a new requirement resulting from legislation signed by the Governor on September 21, 2012. The local unit must submit the form of the contract to the BPU for review and approval. The BPU has fourteen days to review the document. If no response is received in fourteen days, the contract is considered approved.

Development of the Energy Savings Plan

After the local unit adopts a resolution appointing the ESCO firm and the contract is approved, the development of the Energy Savings Plan (ESP) can begin. The purpose of the ESP is to match the most efficient Energy Conservation Measures with the respective savings to show that the total project costs, which include design and construction, as well as professional expenses, are offset by energy savings over the borrowing term.

Energy savings are defined as “a measured reduction in fuel, energy, operating or maintenance costs resulting from the implementation of one or more energy conservation measures when compared with an established baseline of previous fuel, or other energy expenses as a result of equipment installed or services performed as part of an energy savings plan.” The calculations of energy savings must be made in accordance with protocols for their calculation adopted by the BPU. These protocols detail specific acceptable projections for anticipated increases in energy costs for the duration of the term of the ESIP.

The ESCO or engineer retained by the local unit will have knowledge of these measurement requirements. The calculation should also include all applicable state and federal rebates and tax credits, but shall not include the cost of the Local Government Energy Audit and the cost of verifying energy savings. Another important factor to consider is that if the local unit is replacing outdated equipment, savings that will result from operations and maintenance of the old equipment can be anticipated as a savings. Avoided capital costs, however, cannot be included as a savings.

During this phase of the ESIP process, a more detailed audit is performed on each building to identify potential capital-intensive projects. It is also known as an “investment grade audit.” The process starts with the ECMs that were first listed in the LGEA, and it involves more detailed field data gathering and engineering analysis. The Energy Savings Plan should provide enough detailed project cost and savings information to allow decision makers to realize a high level of confidence sufficient for major capital investment decisions. A checklist of items to include in the ESP is as follows

- the results of the energy audit;
- a description of the energy conservation measures that will comprise the plan;
- the cost of each energy conservation measure;
- a detail of any available economic offset for each energy conservation measure;
- an estimate of greenhouse gas reductions resulting from those energy savings;
- identification of all design and compliance issues and identification of who will provide these services;
- an assessment of risks involved in the successful implementation of the plan;

- identify the eligibility for, and costs and revenues associated with the PJM Independent System Operator for demand response and curtailable service activities;
- maintenance requirements necessary to ensure continued energy savings, and describe how they will be provided; and
- the cost for providing a guarantee of energy savings once the projects are implemented.

In the last twenty years, the technology of energy systems has evolved to the point that in many cases a guarantee may not be required. The technology advances as well as the requirement that the ESIP is verified three different times could give reason for a guarantee not to be used. Additionally, when savings are calculated in accordance with the BPU protocols, and the system is installed properly, and the system operator maintains the system in accordance with specifications, a reliable outcome of energy savings can be achieved. If these elements are in place, the energy savings will accrue without the need for a guarantee. Local units should carefully consider the need for a guarantee and measure its cost, given the verification requirements that are part of the process. However, the guarantee will, if properly structured, eliminate the possibility of any budgetary shortfall.

During this process, the local unit can consider implementing capital projects that do not reduce energy use. For example, part of an ESP might include a boiler replacement in an older school building as well as the replacement of the ventilating system and the installation of a digital control system. At the same time, it could be economical for a local unit to consider other capital projects like air conditioning, an improvement that does not reduce energy use, but may be a useful and efficient improvement for the facility. In this example, the law permits “energy-related capital improvements” that do not reduce energy usage to be included in an energy savings improvement plan. The cost of these “additional improvements” cannot exceed fifteen percent of the total project costs, and must be paid through other appropriations (i.e., bonds or capital improvement funds).

By including other capital projects as part of this capital plan, the local unit can save money through economies of scale. For example, certain architectural, engineering and permit fees could be saved as they might otherwise be duplicated if two separate projects were to be completed. Likewise, site preparation and construction costs could be lowered if projects are completed simultaneously. It is not the intent of the ESIP law to prevent the financing of such capital improvements through otherwise authorized means. It is mandatory however, that the funding source as well as the financial record-keeping for other capital projects be maintained separately.

An ESIP can also include installation of renewable energy facilities, such as solar panels. Under an energy savings plan, solar panels can be installed, and the reduced cost of

energy reflected as savings. Alternatively, a power purchase agreement that is executed pursuant to Chapter 83 of P.L. 2008 can be included in the calculations of energy savings. [Local Finance Notice 2009-10](#) reviews renewable Power Purchase Agreements contracting under Chapter 83. The revenue generated from the sale of Solar Renewable Energy Credits (SRECs) cannot be included as an offset in revenue when developing the energy savings plan.

The ESP should be structured very carefully to ensure the reasonableness of revenue offsets that are anticipated. Allowable revenue offsets are simple: Energy savings, maintenance and operation savings, state and federal funding are allowed. Revenue from the redemption of Solar Renewable energy Credits (SREC's) is not allowed. Also, cash-flow savings must be positive in each year. The BPU will withhold funding incentives to local units (from both state and federal sources) if an ESIP is not properly executed.

Verification of the Energy Savings Plan

Once the ESP is developed, and prior to its adoption by the governing body, it must be verified by an independent third party that will review the plan and certify that the plan savings were properly calculated pursuant to the BPU protocols. The firm that verifies the plan can be the firm that initially developed the Local Government Energy Audit, but it cannot be the ESCO or the firm that developed the ESP.

The verification includes a thorough review of each proposed energy conservation measure that is included in the plan. As was mentioned previously, the plan itself must include on an individual basis, the project to be implemented, as well as its associated cost, the anticipated energy savings and any funding from outside sources such as grants. This calculation will result in a net cost before borrowing and it must be shown on an annual basis.

The final (and most important) factor to be verified is the net savings that will be achieved after all borrowing costs are considered. The calculations must show that the costs (including acquisition, installation and financing) of implementing the energy conservation measures will be offset by energy savings as well as grants or other related funding and will result in a break even or net savings to the local unit on an annual basis. Savings must be positive in each year.

Prior to the adoption of the Energy Savings Plan, it must be approved by the Board of Public Utilities (BPU). The BPU has fourteen days to review the document. If no response is received in fourteen days, the contract is considered approved.

Adoption of the Energy Savings Plan

After the verification is completed and the Energy Savings Plan is approved by the Board of Public Utilities, the governing body must formally adopt the plan. When adopting the plan, the local unit must decide whether or not to acquire the energy savings guarantee as part of the ESIP.

Caution should be used when deciding whether to purchase the energy savings guarantee. First, the guarantee is costly, and second, there are a variety of potential factors that could cause the guarantee to be voided. One factor that could void the guarantee is not adhering to the required maintenance of equipment. Other comments regarding the use of a guarantee is discussed in Step Four.

Once the plan is adopted, it must be submitted to the Board of Public Utilities where it will be posted on the BPU website. The plan must also be posted on the local unit's website.

Completion of Financing

Projections for the financing of the ESIP usually begin during the request for proposal phase when projects are first being considered. During this phase, the local unit has the initial list of possible energy conservation measures that can be undertaken and begins the review of the most efficient projects to consider. The total amount borrowed for the ESIP includes the design, construction, ESCO fee as well as all applicable soft costs. The soft costs could include expenses such as financial advisor, bond counsel, local attorney, auditor, underwriting fee, bond rating and other costs associated with the issuance of securities.

Energy savings obligations shall not be used to finance maintenance, guarantees, or the required third party verification of energy conservation measure guarantees. Energy saving obligations, however, may include the costs of an energy audit and the cost of verification of energy savings as part of adopting an energy savings plan or upon commissioning. While the audit and verification costs may be financed, they are not counted in the energy savings plan as a cost to be offset with savings.

As the local issuer moves forward with the development of the Energy Savings Plan, the repayment of the debt obligation is revised as various projects are considered. These projected calculations continue through the development of the Energy Savings Plan until the total anticipated value of energy saved equals or exceeds the costs associated with implementing the energy conservation measures. The law also provides that the cost of energy savings obligations may be treated as an element of the local unit's utility budget, as it replaces energy costs.

The ESIP can be financed using either bonds or lease obligations. Depending on the market conditions at the time of the financing, there are advantages and disadvantages to both options. The bond option takes a longer time to complete, but can result in lower costs and therefore, both options should be examined prior to selecting a financing method. Because an ESIP does not authorize new costs or taxpayer obligations, refunding bonds are used, as they will not affect debt limits, or in the case of a board of education, need voter approval.

With regard to bonds for public schools, the Department of Education (DOE) has concluded that debt financed ESIP projects are not covered by State aid for debt service as there is no new local debt being authorized. As a refunding bond, however, school energy savings obligations are eligible for coverage under the School Bond Reserve Fund. This fund simply enhances the bond rating of the obligations; it has nothing to do with any revenue commitment from the State. Finally, projects funded under an ESIP plan require DOE "Other Capital" Project approval.

If the bond option is used, the local unit issues refunding bonds, which are normally only used if the local unit refinances bonds previously issued with a higher interest rate. If this

option is chosen, approval is needed from the Local Finance Board (LFB), a Division of the New Jersey Department of Community Affairs. The LFB meets on the second Wednesday of each month and the application must be submitted three weeks prior to the meeting. Prior to receiving the LFB approval, the local unit must start the process of adopting a refunding bond ordinance. The first step in that process is the introduction of a refunding bond ordinance. The introduction (only) must take place prior to the date of the LFB meeting. During the introduction, a date is set (at least ten days later) to hold a public hearing on the ordinance. Following the completion of the public hearing, the bond ordinance can be adopted. In the case of a municipality, the ordinance must be advertised after its adoption, and twenty days later it takes effect. In the case of a NJ school district, there is no need for advertising the ordinance after its adoption. It simply is effective following its adoption. In both cases, following the ordinance adoption, and after a bond rating and all disclosure documents are completed, the bonds can be sold and the funds are received by the local unit on the bond sale closing date. The closing date is approximately two weeks following the bond sale date.

As was mentioned previously, if the local unit is a school district, no referendum is required prior to the process of introducing and adoption of the refunding ordinance. This is the biggest advantage of the ESIP process for NJ school districts. Using refunding bonds to finance an ESIP can, depending on market conditions, result in the lowest net interest cost to the local unit. The primary reason for the potential advantage is that New Jersey municipal bonds are generally good quality, relatively highly rated bonds, and those factors can result in lower interest rates than a lease obligation. There are potentially more issuance costs associated with the issuance of bonds. Fees from a bond counsel, local attorney, and rating agency could be higher if the refunding bond option is used. But, a cost analysis that includes a current market interest rate as well as all borrowing fees should be completed and compared to the repayment projections for a lease financing prior to choosing the method of financing.

If a lease financing option is used (after a thorough financial analysis is completed), the length of time it takes for the financing phase is shorter. When the lease option is used, there is no need for the issuance of refunding bonds and there is no approval required from the Local Finance Board. The agreement can be entered into directly by the local unit, with the ESCO, other private financing party, or through a county improvement authority or the New Jersey Economic Development Authority. When a local unit enters into a lease with a private party that is not a governmental entity, or with the ESCO it has selected through competitive contracting, it must be done in accordance with a competitive process as required under the local unit's procurement law.

Additionally, there is no bond rating required for the lease financing option. In order to get the most advantageous financing rate, the local unit should solicit bids from at least three banks. The local unit should also include its "bank of record" as one of the respondents. No formal Official Statement is required to solicit a proposed interest rate,

but a term sheet that lists all of the pertinent financial terms would assist the prospective bidders with understanding the project to be financed. A sample term sheet is included herein following this section. When the term sheet is sent to the bidders, access to the local unit's most recent financial audit should also be made available. Most likely this process would be completed electronically, and the local unit's website could be referenced for access to the audit. As with the bond financing option, the funds are available to the local unit two weeks after the terms are finalized. The funds become available after the closing of the transaction when all of the pertinent documents are sign by the borrower as well as the lender.

In both financing options, the maturity schedules for energy savings obligations must not exceed the estimated useful life of the individual energy conservation measure. However, the recently signed legislation allows that the duration of the repayment term can commence on the date upon which construction and installation of the energy savings measures is completed.

The following additional requirements affect ESIP leasing:

1. Ownership of the energy savings equipment or improvements shall remain with the third party financing entity until all lease payments have been made or other requirements of the financing documents for the satisfaction of the obligation are met. If improvements are made to facilities owned by the local unit, the local unit will have to enter into a ground lease of the facilities to be leased back to the local unit.
2. The duration of a lease-purchase agreement shall not exceed 15 years, except that the duration of a lease purchase agreement for a combined heat and power (CHP) or cogeneration project shall not exceed 20 years. CHP and cogeneration facilities are specialized types of energy conservation measures. The law supersedes the existing 5 year limit on lease-purchase financing for these types of projects.
3. Any lease purchase agreement may contain a clause making it subject to the availability of sufficient funds as may be required to meet the extended obligation; or a non-substitution clause maintaining that if the agreement is terminated for non-appropriation, the contracting unit may not replace the leased equipment. While normal for these types of leases, the optional nature in the law permits the transaction attorney to negotiate them as terms of a lease agreement.

A sample Term Sheet can be found on the next page. Additionally, page 19 provides a summary of ESIP financing highlights and a sample cash-flow.

Term Sheet for Energy Savings Improvement Plan Financing

The Board of Education of the Borough of _____ is soliciting bids for the lease financing of an Energy Savings Improvement Plan (ESIP). The projects to be financed consist of energy conservation measures which when implemented will generate energy savings equal to the lease payments of this bid.

Issuer: _____ Board of Education, _____ County, New Jersey

Security: Equipment to be acquired as a result of the financing, see attached list.

Amount to be borrowed: \$3,000,000

Repayment Terms:

The repayment term is 15 years.

The payments are should be structured on a level annual basis

First payment: 9 months from the date of the closing of the transaction

Principal payments: annual

Interest payments: semi-annual

Interest Rate: Rates must be held for a period of sixty days following receipt of bid.

Anticipated closing date: January 15, 20__.

Redemption: Issuer requests the terms of any prepayment penalty.

(information that is underlined should be determined by the issuer prior to soliciting financing bids)

Summary of ESIP Financing

Construction costs:	\$3,385,000	Average Repayment	(\$423,740)
Soft Costs	<u>\$1,450,000</u>	Average Energy Savings	\$438,764
Total Project Costs	\$4,835,000	Rebate & Incentives Years 1 & 2 *	\$300,000
		Gross Average Savings (No M&V)	\$55,024
 Borrowing Term	 15 Years		
Interest Rate	3.50%	Annual V&M	\$20,000
		Net Annual Savings	\$35,024

Additional Assumptions:

30% Soft Costs including professional fees (ESCO and/or architect and engineering), financing costs and related soft costs

*** realized in first 2 years; amortization customized to match projected savings and incentive stream**

Annual measurement & verification costs are needed if guarantee is selected. These costs cannot be financed but should be considered in cash flow.

New Jersey Local Unit Sample Cash Flow Analysis for ESIP

Year	Annual Repayment	Annual Energy Savings	Energy Rebates and Incentives	Gross Annual Savings	Annual Measurement & Verification	Net Annual Savings	Financing and M&V Coverage
1	(\$619,225)	\$305,000	\$375,000	\$60,775	\$20,000	\$40,775	106%
2	(\$488,475)	\$320,250	\$225,000	\$56,775	\$20,000	\$36,775	107%
3	(\$281,750)	\$336,263		\$54,513	\$20,000	\$34,513	111%
4	(\$296,850)	\$353,076		\$56,226	\$20,000	\$36,226	111%
5	(\$316,250)	\$370,729		\$54,479	\$20,000	\$34,479	110%
6	(\$334,775)	\$389,266		\$54,491	\$20,000	\$34,491	110%
7	(\$352,425)	\$408,729		\$56,304	\$20,000	\$36,304	110%
8	(\$374,200)	\$429,166		\$54,966	\$20,000	\$34,966	109%
9	(\$399,925)	\$450,624		\$50,699	\$20,000	\$30,699	107%
10	(\$419,425)	\$473,155		\$53,730	\$20,000	\$33,730	108%
11	(\$442,875)	\$496,813		\$53,938	\$20,000	\$33,938	107%
12	(\$470,100)	\$521,654		\$51,554	\$20,000	\$31,554	106%
13	(\$495,925)	\$547,736		\$51,811	\$20,000	\$31,811	106%
14	(\$515,350)	\$575,123		\$59,773	\$20,000	\$39,773	107%
15	(\$548,550)	\$603,879		\$55,329	\$20,000	\$35,329	106%
Total	(\$6,356,100)	\$6,581,462	\$600,000	\$825,362	\$300,000	\$525,362	

Construction

The law requires that all contractors performing ESIP work must be listed or qualified by the State Division of Property Management and Construction (DPMC). DPMC expanded their trade/discipline listings to include ESCOs and firms qualified to perform measurement and verification (both energy auditing and building commissioning firms). Local units that contract for engineering or architectural services should ensure that their consultants have properly filed with the DPMC and have a proof of approval. This is an important requirement of the ESIP process and one that must be followed from the start of the process in order to eliminate the possibility of using non-qualified contractor or consultants.

DPMC listed contractors and pre-qualified professional services consultants meet specific qualification and experience standards. They are also evaluated on the dollar volume of contracts in which they can engage and are assigned a dollar rating for the services they are approved to provide. Details on the DPMC process and practices are available on their website.

The ESIP law is specific about how improvements are made or implemented. The routine public works construction contracting procedures of the local unit are followed, whether or not an ESCO is used. This includes requirements regarding public bidding, bid security, performance guarantees, insurance, and other requirements that are applicable to public works contracts. Once plans and bid specifications are prepared, the governing body advertises for bids, and the usual course of contracting is followed. If the ESCO or project engineer is engaged as a project manager, they may have a role in reviewing and recommending award of contracts. The role of all professionals involved with an ESCO must be clearly defined in its contractual arrangements and in bidding documents.

For projects guaranteed by an ESCO that manufactures its own digital energy control system, the ESCO can specify its own equipment as part of the construction bid specifications. Under the law, these “direct digital controls” (DDC) are declared to be “proprietary” in nature, which permits their specification in lieu of any other manufacturer’s products. When bidding, the specifications shall provide an “allowance” amount for the cost of the DDC; meaning that the cost of the DDC equipment shall not be a part of the determination of the lowest responsible bidder. The allowance is a fixed amount set by the ESCO and is used by all bidders. The ESCO has the incentive to keep the cost low to ensure that the overall savings are not jeopardized. The cost of installing DDC, however, is part of the bid calculation.

Non-DDC items that are manufactured by an ESCO must be specified as an “or equal” or be based on industry standards and LPCL rules (N.J.A.C. 5:34-9.1 and 9.2), and

cannot be restricted to the ESCO, unless all requirements of “proprietary goods and services” rule are met.

Contract documents should also include sufficient retainage of contractor funds to ensure that the contractor is not fully paid until the system is successfully commissioned.

In addition, local staff must be trained in the use of the system and be taught how to perform routine maintenance unless maintenance will be performed under a separately procured service contract (service contracts are not part of the ESIP process and are subject to the local unit’s procurement laws). Training requirements should be explicitly required in bid documents or ESCO contracts.

Whether or not the local unit obtains an ESCO guarantee, ongoing maintenance as recommended by an ESCO or manufacturer specifications is required to achieve the projected energy savings. Maintenance should also include a periodic verification of the system to make sure the maintenance is properly conducted and the system is meeting the original specifications and design. If the owner fails to maintain the system according to the manufacturers specifications, an ESCO guarantee could be voided and added energy costs will be incurred. If there is no ESCO guarantee and the owner fails to properly maintain the system, savings will be lost and the local unit will incur additional energy costs, as they will continue to pay for the improvements and more for energy that did not need to be consumed.

Commissioning and Verification

Once the construction and installation is completed, the final commissioning and verification is required. This process is performed by an independent third party, not the ESCO or the contractor that installed the equipment or participated in construction. When construction is completed, most energy improvement projects require “commissioning;” the process of starting, testing, and adjusting the improvements to make sure they are working in accordance with the design and meeting the projected energy savings. In many cases, specialized service providers known as “commissioning agents” serve this role. The DPMC also has a listing of pre-qualified “Building Commissioning” firms approved to provide commissioning services. As was mentioned previously, the verification can be completed by the third party that first performed the LGEA and or the verification of the Energy Savings Plan. In summary, the final step is self-explanatory; the equipment that is installed must be commissioned (i.e. “up and running properly”) and the projected energy savings must now be verified for a third and final time.

If a guarantee (of energy savings) is used, the law requires a third party (using the same third party parameters as above) to perform the calculations necessary to see if the guarantee is met. The periodic cost of the calculations cannot be financed through the energy savings obligations; they must be paid from the local unit's operating budget. If a guarantee is desired, it can be for a limited time period, it does not have to be for the useful life of the improvement. In some cases, a guarantee for a limited period of time may be appropriate and cost-effective.

Finally, if the project involves an ESCO guarantee, contracts should be executed with a third party to conduct a periodic review of energy use on the agreed upon guarantee schedule. The costs to conduct the review are paid from the local unit's annual budget, and are not part of the energy savings calculation.

Who Should Do an ESIP? Pros and Cons

New Jersey public entities (i.e. State agencies and authorities; public institutions of higher education; local boards of education; counties, municipalities and other local units; and any other public contracting agency) are authorized to enter into ESIPs. There are advantages and disadvantages to different local units that choose this financing option.

One overall advantage to using the ESIP model for any local government unit is the ability to purchase the guarantee of energy savings. This concept allow the local unit to enter into a contract with an energy services company, have the improvements financed and installed, and pay for a guarantee that will cover any shortfalls in energy savings during the repayment period. This alleviates any risk on behalf of the local unit that could result in the unit having to raise taxes to pay an ESIP payment. Other advantages and disadvantages vary based on the laws governing the local unit's ability to borrow funds.

For a school district in New Jersey, the biggest advantage of using the ESIP financing model is that it allows for the financing of energy conservation measures without receiving voter approval. Other capital projects that must be financed in excess of 5 years require voter approval. This is a tremendous advantage to school districts given the recent economic difficulties they have experienced. This financing method allows the improvements to be financed at no additional cost to the taxpayer and therefore, no new debt is required. The repayment of the financing for ESIP projects merely comes from the savings generated from those improvements and it can clearly be seen that no new expenditure is required.

Other local units of government that choose ESIPs will structure the repayment in the same fashion, and no new debt is required, however, since a referendum would not be required in any event, this factor makes the use of ESIPs not as attractive to municipalities and other government units. Recently, more than one New Jersey County government has chosen the ESIP financing method to finance improvements to their county vocational school and county college. Although funding for capital projects for these institutions do not require voter approval, the ESIP method was chosen.

A disadvantage to this method of financing is the minimum value of energy conservation measures that must be bundled in order to make the project attractive to ESCO bidders. As was discussed in this document, in order for ESCOs to bid on a project, a minimum value of approximately \$1.5 million of projects is needed. This amount will preclude a number of local governments to pursue this financing alternative simply because their buildings do not warrant improvements with a value at that level.

Who to Contact For More Information

For more information on the ESIP process and approval, contact the Board of Public Utilities, Division of Economic Development and Economic Policies

NJBPU - Division of Economic Development and Energy Policy

Email: esip@bpu.state.nj.us

Frequently Asked Questions

How do I get started with an ESIP?

The first step is the completion of a Local Government Energy Audit (LGEA), for which funding is available on a reimbursement basis through the BPU Clean Energy Program.

How long will it take to complete an ESIP?

From start (LGEA) to finish (commissioning and verification) the process takes 24-36 months.

Is Guidance available from the State to help with this process?

There are staff members available at the BPU. They can be reached at 609-777-3327

Is funding available from outside sources?

Funding is available from the Board of Public Utilities' Clean Energy Program for the initial Local Government Energy Audit (up to 100%). Also, funding is available for certain projects through various Clean Energy Programs like Direct Install and Pay for Performance that may pay up to 70% of the cost of some efficiency measures. Since the incentive levels on these different programs are subject to change from time to time based on state budget funding levels, the local unit should always check with the Clean Energy Program for the latest funding options available before pursuing facilities upgrades.

Is debt service aid available for these projects?

No, for a NJ school district, projects funded through an ESIP are considered "Other Capital Projects" and as such are not available for debt service aid.

Can I finance projects other than energy conservation measures?

Other projects can be undertaken simultaneously with the ESIP projects, however, funding for those projects must come from other sources like capital reserve or operating budget.

What professionals must be retained to complete an ESIP?

The type of ESIP (ESCO, Do it Your-self, or a hybrid option) as well as the financing method (lease or bonds) will dictate the professionals to be retained. They may include architect, engineer, bond counsel and financial advisor.

What formal action is required by the local unit?

A resolution authorizing the LGEA

An authorization to go out for RFP

A resolution awarding the RFP

A resolution approving the Energy Savings Plan

Traditional resolutions for financing and construction contracts

What approvals are required from BPU?

Approval of RFP for ESCO services: 14 days to review and approve

Approval of Contract for ESCO services: 14 days to review and approve

Approval of Energy Savings Plan: 14 days to review and approve

Case Study: Barnegat Board of Education, Ocean County NJ

In 2010, the Barnegat Board of Education took action that began the process of financing energy conservation measures through a relatively new financing method call an Energy Savings Improvement Plan or ESIP. Barnegat chose the ESIP hybrid option in that the Board of Education retained the use of an architectural firm (with an engineering subcontractor) as well as an Energy Services Company.

How was the ESIP Completed?

The first step that the Barnegat Board of Education took was to retain the services of an architect in conjunction with an engineer. The architect started the process through the completion of an energy audit. The energy audit 1) completed a thorough review of each facility, 2) identified the current level of energy use of each facility 3) identified the specific energy conservation measures that could be undertaken, and 4) calculated the return on investment for each energy conservation measure, i.e. how long it would take for energy savings to pay for the improvement. Energy conservation measures were defined as improvements that would result in reduced energy use, including, but not limited to, installation of energy efficient equipment; demand response equipment; combined heat and power systems; facilities for the production of renewable energy; water conservation measures fixtures or facilities; building envelope improvements that are part of an energy savings improvement program; and related control systems. In summary, the energy audit identified the energy conservation measures, projected the associated acquisition and installation costs and determined the payback time in terms of energy savings.

Following the completion of the energy audit, the Board of Education authorized the architect to solicit Requests for Proposal for an Energy Services Company (ESCO). The role of the ESCO was to develop a plan to install as many energy conservation measures as possible within the parameters of the projected energy savings. After the development of the plan, in Barnegat's case, the ESCO served as the general contractor. According to the ESIP method that is chosen by the local unit, the role of the architect and ESCO can vary.

The RFP responses were submitted to the Board of Education in July, 2011.

Three responses were received.

After a review of the submissions, the Board of Education approved the selection of the ESCO in August, 2011. The first task of the ESCO was the development of the Energy Savings Plan (ESP). The purpose of the ESP was to match the most efficient Energy Conservation Measures with the respective savings to show that the total project costs, which include design, construction as well as professional expenses, would be offset by energy savings over the borrowing term. The plan was developed by completing a second, more thorough energy audit for each school district building, and it included the following:

- A review of the results of the initial energy audit;
- A description of the recommended energy conservation measures to comprise the program;
- An estimate of greenhouse gas reductions resulting from those energy savings;
- Identification of all design and compliance issues and identification of who would provide those services;
- An assessment of risks involved in the successful implementation of the plan;
- Identify the eligibility for, and costs and revenues associated with demand response activities; (demand response is the activity of receiving compensation through the reduction of energy use upon the “demand” notice of a third party energy aggregator)
- Proposed maintenance requirements necessary to ensure continued energy savings, and a description of how they would be provided.

Once the ESP was developed, and prior to its adoption by the governing body, it must be verified by an independent third party. The firm that verified the plan could be the firm that initially developed the Local Government Energy Audit, but it could not be the ESCO or the firm that developed the ESP. In Barnegat’s case, the verification of the ESP was completed by the architect in conjunction with engineer.

One important highlight of the Barnegat ESIP case was a mold problem in the Cecil Collins School that caused the school to be closed for six months. This situation was caused by high humidity in the building and the ESCO, architect and engineer were able to design a more efficient, safe and sustainable HVAC system for the building through the ESIP process. Although this situation

caused the development of the project to be delayed for two months for mold remediation, the building is now safe for the staff and students.

What Other Professionals were Involved?

During the development of the ESP, finance professionals were retained by the Board of Education to work with the ESCO to develop the repayment schedule and terms to achieve two goals. The first was to allow for the implementation of the greatest number of energy conservation measures and the second was to generate enough energy savings to pay for the installation and all related costs of the measures. In addition to the architect, engineer and ESCO, the Board retained a bond counsel and financial advisor. Ultimately, through solicitation, a bank was chosen to fund the project.

How do the Numbers Work?

The coordination of the financial projections by the financial advisor and the ESCO were vital to the success of the financing structure. For example, while the ESCO was developing the cost projections for various energy conservation measures, the financial advisor and the ESCO needed to agree on the borrowing assumptions to be used. In Barnegat's case, the total costs of the energy conservation measures, less the financial offsets (grants and energy savings) were projected to result in a total savings of \$350,000 after repayment of the fifteen year loan. This was the essence of the ESIP process; that the energy savings pay for all of the costs associated with the implementation of energy conservation measures.

What is the Final Outcome?

After starting with the energy conservation measures that were identified in the initial energy audit, the ESCO completed its own higher level audit and provided a final package of energy conservation measures to be included in the ESIP. Every building in the School District is receiving an improvement whether it is a lighting retrofit or a new HVAC system. A total of \$4,074,225 was borrowed and deposited in the construction fund to pay for design, construction, and project management costs. An additional amount of \$57,500 was borrowed to pay for the costs associated with the financing. The cost of borrowing these funds was offset by the anticipated annual energy savings provided by the ESIP.

Case Study: Somerset Hills Regional Board of Education, Somerset County, NJ

In 2009, the Somerset Hills Regional Board of Education took action that began the process of financing energy conservation measures through an Energy Savings Improvement Plan.

How was the ESIP Completed?

As part of an initiative to reduce energy costs and consumption, the Somerset Hills School District secured the services of Camp Dresser and McKee (CDM) to perform an LGEA for buildings owned and operated by the District. At the time of the audit, the BPU program paid (on a reimbursement basis) 75% of the cost of the LGEA. Once CDM was retained, the team visited the facilities on April 15th and 16th, 2009. As a result of the site visits and evaluation of the historical energy usage of the facilities, CDM identified opportunities for energy savings measures. CDM also evaluated the potential for renewable energy technologies (solar electric photovoltaic panels) to be implemented at the District's facilities to offset the District's electrical energy usage. In addition, CDM solicited proposals from third party electric energy suppliers to investigate any additional energy cost savings that may be available to the District.

Following the completion of the LGEA, on May 21, 2009, the Board of Education requested proposals (RFP) from interested and qualified energy service companies (ESCO) to implement energy conservation measures at all of the facilities of the Somerset Hills Regional School District. The goal was to select the most qualified contractor for the purpose of obtaining the maximum amount of energy savings and/or energy related improvements allowable by law. A pre-proposal conference was held on July 21, 2009. Interested companies visited the district's facilities, met with district personnel, and reviewed the Local Government Energy Audit. Local officials were available and the District's energy bills and other documentation were available for review. Proposals were received on August 11, 2009 from three ESCOs. The Facilities and Operations Committee (F&O Committee) of the Board, along with the Board's engineering firm, reviewed the proposals and the F&O Committee interviewed all three ESCOs on August 19, 2009. Subsequent to the interviews, clarifications and revisions were requested from each of the three companies. The F&O Committee recommended that the Board of Education approve the ESCO at its meeting on October 14th, 2009.

The Evaluation of Proposals of the ESCOs follows:

Somerset Hills School District

Evaluation of Proposals

from

Energy Services Company

To Perform

Self-Funded Energy Efficiency Improvements

October 9, 2009

On May 21, the Somerset Hills Board of Education requested proposals (RFP) from interested and qualified energy service companies (ESC) for the following project:

Implement Energy Conservation Measures at the Somerset Hills School District

The plan is to select the most qualified contractor for the purpose of obtaining the maximum amount of Energy Savings and/or Energy related improvements allowable by Law.

A pre-proposal conference was held on July 21, 2009. Interested companies visited the district's facilities, met with district personnel, and reviewed the Energy Audit prepared by an approved auditor and reviewed energy bills and other documentation. Proposals were received on August 11, 2009 from three ESCOs.

The Facilities and Operations Committee (F&O Committee) of the Board, along with the Board's engineers reviewed the proposals. The F&O Committee interviewed the three ESCOs on August 19, 2009.

Subsequent to the interviews, the F&O Committee met on September 9th. Clarifications and revisions were requested from each of the three companies. The F&O Committee met again on October 1st and on October 5th. The F&O Committee is recommending that the Board of Education approved the ESCO at its meeting on October 14, 2009.

The proposals were evaluated using the following criteria as specified in the RFP.

1. Experience and Qualifications of the Respondent (35%)

Preference will be given to respondents demonstrating strong capabilities, experience and reputation in undertakings similar to those described in this RFP, and providing authoritative documentation of the respondent's financial condition and stability. Specifically, the respondents shall list other clients where similar projects have been successfully implemented and monitored. Furthermore, because of the desired response capability, response to local problems is a necessity. The contractor must show a local capability of monitoring, servicing and maintaining all energy conservation measures (ECM's) and equipment. Provide a listing of at least 10 projects similar in nature and location.

2. Technical Approach (25%) *

Proposals should include a detailed and sound technical approach to meeting owner's energy efficiency objectives. Proposals should also outline the respondent's specific responsibilities for operation, maintenance and repair of equipment and systems following installation, and should demonstrate the ability of the respondent to provide service on both a routine and emergency basis. Preference will be given to firms who can provide onsite support, training and operational enhancements that will assure the success of the project over the entire term. Respondents should demonstrate their capabilities and methodologies regarding training, staff support, management and associated programs proposed.

3. Financial Terms (35%) *

Preference will be given to proposals that responsibly maximize the net economic benefit to owner. Factors that will be considered include: the proposed term (length) of the Performance Contracting agreement, the benefit to owner from entering into the transaction, and the level of energy savings achieved in the buildings and will require proposals to include a guaranteed level of energy savings (in dollars) and to provide a cash flow consistent with the economic plans of the owner.

4. Ability to Implement Project Promptly (5%) *

Preference will be given to proposals demonstrating an ability to carry out the tasks and responsibilities outlined in the proposal, including the procurement of any necessary financing, in a prompt and efficient manner with minimal disruption to the owner. It is the intent of this RFP for all construction work to be fully complete no later than August 1, 2010.

The respondents scored as follows: *

	Points	ESCO #1	ESCO #2	ESCO #3
Experience/Qualification	35	35	35	35
Technical Approach	25	20	15	25
Financial Terms	35	25	20	35
Prompt Implementation	5	5	5	2
Total Points	100	85	75	97

*At the time of the RFP reviews, no regulations were in place for weighted evaluations for ESCOs. However, the new 2012 regulations state that no one category can exceed 25%.

What was the ESCO's Responsibility?

Once the ESCO was appointed, the first step for their work was the completion of the Investment Grade Audit which is the next step in the ESIP process. The Audit was submitted by the ESCO to the Board of Education on March 26, 2010. The energy conservation measures that were proposed for the district's four schools were:

- Lighting System Improvements
- Lighting Controls
- Integrated and New Energy Management System
- Vending Mizers
- PC Load Management
- Boiler Replacements
- Kitchen Hood Controls
- Water Conservation Measures
- Kitchen Pre-Rinse Sprayer
- Energy Procurement
- Window Replacements
- Infiltration Reductions
- Ice Storage Schedule Modifications
- Energy Efficient Transformers

The Financing Structure

The School District also benefited from participating in the BPU Pay-for-Performance rebate program which included \$320,000 in rebates. The approximate amount financed for the ESIP was \$3.2 million. The district issued lease purchase obligations to finance the funding for the project. The lease payments are to be repaid over 15 years from excess funds to be generated from energy savings. The district exercised their option to purchase the guarantee for the energy savings. The cost of the guarantee started at \$20,600 and is indexed up to \$31,159 in the 15th year.

The budgetary projections are for the district to achieve a net savings of \$31,000 per year after paying debt service and the guarantee.