



Delran Township Public Schools

Application to the Governor's Environmental Excellence Award: Clean Air Category

September 28, 2016

1. DOCUMENTED ENVIRONMENTAL BENEFIT (30 Points)

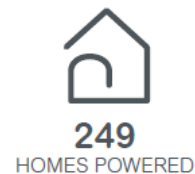
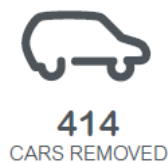
Quantify the overall environmental benefits of this program/project or individual accomplishment over the past year or most recent 12-month period for which data exists. For example: amount of pollution prevented; resources or energy conserved; acres preserved; tonnage recycled, etc. It is to the applicant's benefit to be as specific and thorough as possible.

Delran Township Public Schools embarked on this Energy Savings Improvement Program with the primary goal of reducing energy costs by A) reducing energy consumption as much as possible, and B) installing solar panels through a power purchase agreement (PPA) to offset the remaining load. This is a comprehensive program addressing all utilities that will allow Delran to achieve a **48% reduction in Greenhouse Gas Emissions**, through the following:

- Electric savings (kWh) of 24%
- Natural gas savings (Mbtu) of 26%
- Water savings (kGal) of 29%

In addition, the District will install just over **2 MW of solar on all 4 schools**, provided through a power purchase agreement. These systems will provide roughly **80%** of the District's aggregate electrical needs, and several schools will be close to net-zero.

Once completed, the project will provide an environmental impact equivalent to:



In total, Delran Township Public Schools' ESIP project will **reduce energy costs by 32% and cut emissions in half**. These figures, incorporated in Delran's Energy Savings Plan, have been reviewed and approved by the Board of Public Utilities and the District's 3rd party engineer. Construction on this project began in July 2016 and will be completed in August of 2017.



2. MEETING NEEDS (20 points)

Describe how this program/project or individual accomplishment contributes to the environmental needs of the State. Reference such issues as: originality, effectiveness, risks that were overcome and whether the project is a component of a larger comprehensive plan.

Delran chose to pursue ESIP not only to reduce energy consumption, but to **address key needs that improve the learning environment** in Delran:

- Better interior and exterior lighting systems
- Better temperature control through upgraded building management systems
- Addressing hot & cold complaint areas by retro-commissioning the HVAC system at the Middle School
- Additional air condition at a few locations
- New roofs at the High School and the Elementary School

Traditionally, the District would have to meet these needs through its annual capital budget or through a referendum. But by **saving taxpayers \$5.6 million over the next 15 years, Delran will be able to use these funds to meet other needs that directly benefit students in the District.**

Energy Conservation Measure (ECM)	Delran High School	Delran Middle School	Delran Intermediate School	Millbridge Elementary School
Hot Water Pump Variable Frequency Drives & Control Valve Upgrades				
Building Automation System (BAS) Upgrade				
Rooftop Unit (RTU) Upgrade with AC - Music Room				
Retro-commissioning - D Wing				
Lighting Upgrade - Interior				
Lighting Upgrade - Exterior				
Urinal Replacement - Faculty Lounge & Boys Locker Room				
Building Envelope Upgrades				
Walk-In Cooler & Freezer Controls				
Vending Misers				
Plug Load Controllers				
Solar Power Purchase Agreement (PPA)				
Water Conservation				

Key
 Scope Included:

This project also meets many of the needs of the State:

- Contributing towards New Jersey’s **renewable portfolio standard**, with an annual solar generation of 2,549,400 kWh
- Providing **permanent demand reductions to the grid** by 15% through efficiency measures, with additional benefit on peak demand days provided by the solar generation
- Continue to create momentum within the public sector market for the Energy Savings Improvement Program, a successful piece of NJ legislation
- Leveraging roughly \$305,000 in NJ Clean Energy program funds, helping the District fund the project and making the program a success.
- Economic development: This project, with a total contract value of \$4,531,155, is expected to generate an estimated **\$13 million in total economic activity and provide 43 jobs¹**.

¹ “Economic and Fiscal Impact of Green-Energy Infrastructure Projects;” Center for Economic Research and Education of Central California; California State University, Fresno.



3. COVERAGE AND REPLICABILITY (20 points)

Describe how this program/project or individual has impacted the business, community, school/district, region or State, long-term. Describe how easily the project can be replicated in other locations or by other people.

This project will provide substantial financial, environmental, and infrastructural benefit to Delran Township Public Schools. It will also generate roughly \$13M in economic activity in the regional economy, through the various subcontractors and partners that will play a vital role in its implementation.

This project is also a fitting example of what is possible for NJ school districts and public entities through the Energy Savings Improvement Program. The ESIP program is in the early stages of adoption, and **Delran has actively helped other Districts take steps to form their own Energy Savings Plans.**

On August 24, 2016, the New Jersey School Boards Association (NJSBA) hosted a professional development seminar geared towards the Sustainable Jersey for Schools certification. **Dr. Christopher Russo**, Business Administrator at Delran Township Public Schools, was one of four administrators featured on a **panel discussion entitled “Best Practices in Energy Efficiency.”** The goal of this program was to help promote energy efficiency actions amongst NJ school board members, superintendents, business administrators, facility directors, and energy managers. The event was a huge success, with over 40 attendees. Stepping outside of his typical job duties, Dr. Russo shared his “lessons learned” to promote energy efficiency and sustainability, to the benefit of those in the audience.

Delran is one successful project that can easily be replicated by other public entities in New Jersey. ESIP is a streamlined process that involves leveraging a professional organization to support the planning and project development. The BPU provides guidance, a template RFP, feedback, incentives, and project approval. ESIP projects are also third party financed through a lease purchase or refunding bonds, allowing public entities to overcome the high capital costs of energy efficiency investments.

Making the Case for Sustainability: NJSBA's Professional Development Workshops

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Energy Efficiency

Join us on Wednesday, August 24 for a professional development workshop on energy efficiency, dedicated to helping support your school in its efforts to implement sustainable practices that will lower your operating costs and create healthier learning environments for students and staff.

Energy is one of the few areas of the budget where school districts can cut costs in order to make a positive impact on students. Energy efficiency also represents some of the highest ROI actions possible through the Sustainable Jersey for Schools program. Did you know that school districts can earn 90 points toward certification with a comprehensive energy efficiency program? Bryan McGair and Daniel Riggle of Schneider Electric will facilitate a panel discussion with several school districts sharing best practices in energy efficiency. The panelists include:

- Kevin Kitchman, retired Superintendent, West Deptford School District
- Chris Russo, Business Administrator, Delran Township School District
- Joe Biluck, retired Director of Operations, Medford Township Public Schools
- Jim Strimple, Business Administrator, Franklin Township Public Schools

There will be an exercise in goal setting and determining immediate next steps toward achieving those objectives.

Registration Information

Registration for this program must be handled by the business administrator. Online registration requires a password. If you need to retrieve your password, please [click here](#).

Pre-registration is required

[Directions](#) [Register](#)

Registration Page for NJSBA event



4. LEADERSHIP/INNOVATION (15 points)

Describe this program/project or individual shows leadership and has taken steps beyond "traditional" environmental protection efforts.

Delran Township Public Schools has exhibited leadership by becoming one of the first 15% of school districts to implement an Energy Savings Improvement Program. Secondly, Delran's focus on deep energy retrofits is unique, addressing all sources of electric, natural gas, water, and operational and maintenance expenses.

Many school districts in New Jersey have implemented solar projects. However, very few have implemented a solar PPA as part of ESIP project, as Delran has. This allows the District to address both the supply side and the demand side of the energy equation.

Delran Township Public Schools is also a leading District when it comes to the **Sustainable Jersey for Schools Certification** program. Of the 2,522 currently operating schools in New Jersey, only 118 have achieved Sustainable Jersey for Schools Certification. Delran was one of these top 5% early adopters, having achieved **Bronze certification at Millbridge Elementary School and Delran High School.**

Through its Sustainability efforts, Delran was also awarded a \$10,000 through Sustainable Jersey for Schools to aid in the implementation of a rain garden at Millbridge Elementary School.



*Millbridge Elementary School:
\$10,000 Grant Recipient for Rain Garden Installation*



5. EDUCATION AND OUTREACH (15 points)

Describe what education and/or outreach activities were undertaken in association with this project for affected individuals, employees, students/faculty, stakeholders, contractors, consultants, community, etc.

The development of the Energy Savings Improvement Program required many workshops, presentations, and back and forth discussions with key stakeholders for Delran, including:

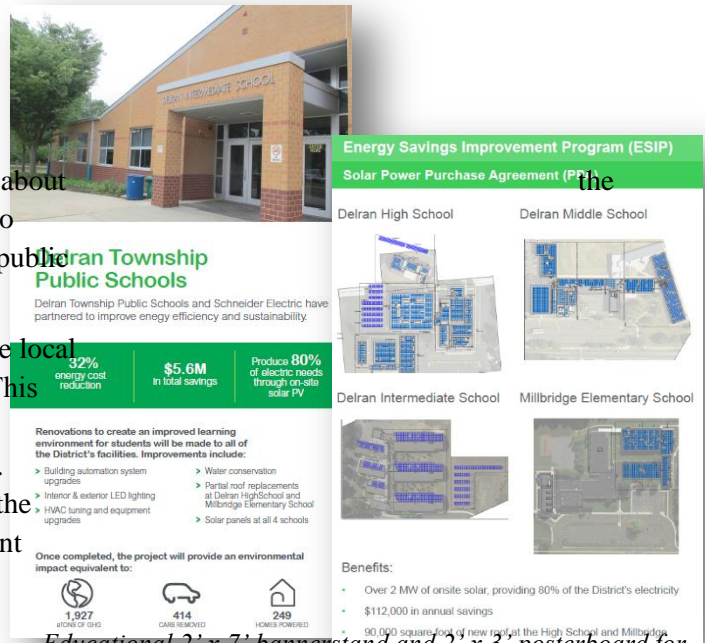
- Board members
- Administration
- Principals
- Facilities staff

Valuing transparency, the District posted periodic updates about the project process at www.delranschools.org. The District also made regular presentations to the Board of Education and public at monthly meetings.

On September 25, 2016, the Municipality of Delran and the local business community hosted the 6th annual "Delran Day." This event included games and activities for children as well as involvement from local community groups and businesses. Delran Public Schools used this opportunity to share with the public its efforts related to the Energy Savings Improvement Program.

On October 19, 2016, Delran will also host an "ESIP Open House" in conjunction with another event, "Delran's Got Talent." This Open House will provide another opportunity to educate the community on the energy and sustainability efforts of the District, and answer any questions that the public may have.

Following the completion of the ESIP Construction, the District will have access to real-time energy monitoring systems and dashboards in each of the 4 schools. These dashboards will allow Delran to improve awareness about energy consumption among building occupants, but will also valuable information that can be used for educational purposes by teachers, students, and green teams at each school.



Educational 2' x 7' bannerstand and 2' x 3' posterboard for public outreach events



Energy Dashboard to be provided in each of the 4 schools