McMANIMON & SCOTLAND, L.L.C.

ATTORNEYS AT LAW

TELEPHONE
(973) 622-1800

ONE RIVERFRONT PLAZA, FOURTH FLOOR
NEWARK, NEW JERSEY 07102-5408

FAX (973) 622-7333
FAX (973) 622-3744

Prepared as of 11/17/08

FINANCING SOLAR ENERGY PROJECTS by NEW JERSEY SCHOOL DISTRICTS

Ronald J. Ianoale, Esq.
rianoale@mandslaw.com
973-622-5056

New Jersey school districts are increasingly being asked to find new and innovative ways to save on energy costs. One way is the installation of a solar energy system. A brief description of how solar energy works and a strategy for financing these systems is explored here.

Solar Energy

Solar energy converts sunlight or solar radiation into electricity. It is considered a renewable energy technology and is considered one of the cleanest and quietest electric technologies available. An investment in a solar electric system offers several benefits:

- Reduces a school district's electric bills because it will purchase less power from its utility company
- Further reduces a school district's electric bills through net metering,[1] which credits it for any surplus electricity generated by its system
- Stabilizes a school district's electric costs once the upfront cost for the system is purchased because energy from the sun is free. The cost of generating electricity will not vary significantly during the life of the system.

[1] "Net metering" allows the electric meter to spin backwards when excess energy is generated by a solar electric system. The excess energy is stored by the utility until it is required for future use.

- Benefits the environment because solar electricity does not produce any emissions; traditionally, electricity generation facilities are powered with fossil fuels—i.e., coal, oil, natural gas—thus depleting the earth of these resources.

Solar electric systems should not be confused with solar water-heating systems that use the sun's rays to heat water. Solar electric technology produces electricity from electrons that are freed when the sunlight interacts with the semiconductor material in the solar electric cells, or sometimes called photovoltaic cells.[2] These cells are the basic building blocks of the system and are wired together to form modules or panels, which are the system components that are sold commercially.

Power output from a module ranges from 10 to 300 watts. One or more modules are installed as part of a typical solar electric system. The modules are then connected to the electric utility through an inverter that changes Direct Current (DC) into Alternating Current (AC). AC current is the same form of electricity that is received from the utility company and fed into homes and businesses.

New Jersey is one of the leaders in developing renewable energy technologies. The *New Jersey Electric Discount and Energy Competition Act*, N.J.S.A. 48:3-49 *et seq*. requires the New Jersey Board of Public Utilities (BPU) to adopt renewable energy portfolio standards, or RPS.[3] The BPU now requires a steadily increasing requirement for renewable energy—such as solar power—through 2021. In that year, 20% of the electricity supplied to New Jersey customers

[2] A photovoltaic (PV) cell is the basic component of solar technology that converts solar power directly into electricity. Photovoltaic literally means "light generated voltage."

[3] Renewable portfolio standards require electricity suppliers to obtain a certain percentage of the electricity they sell from solar energy systems located in New Jersey.

must be generated by Class I renewal energy[4] systems and of that amount 2.12% must be supplied from solar electric generation systems.

Suppliers of electricity may comply with the 2.12% solar requirement by purchasing solar renewable energy certificates (SRECs), or by making a solar alternative compliance payment (SACP). An SREC represents the solar renewable energy attributes of one megawatt hour (1 MWh) of generation from a solar energy facility. A supplier of electricity who holds too few SRECs to comply with the BPU's regulations can make up the shortfall by paying the SACP for each megawatt hour of the shortfall. Since a supplier of electricity has the option of either paying for the SACP or obtaining SRECs to comply with the BPU's regulations, the cost of the SACP essentially becomes the upper limit on the price of an SREC in the market. The use of SRECs by the BPU helps to reduce the reliance on rebates to finance solar energy projects by transitioning to a more market-based incentive to achieve solar energy objectives.

Financing Strategies for New Jersey School Districts

New Jersey school districts have several strategies for financing a solar energy project. If a school district issues bonds,[5] it will qualify for debt service aid for a solar project.[6] And despite the revisions to the *Educational Facilities Construction and Financing Act* pursuant to Public Laws of 2008, Chapter 39, effective July 9, 2008,[7] a district still receives a minimum of

[4] Class I renewable energy under the *New Jersey Electric Discount and Energy Competition Act* is electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells, geothermal technologies, wave or tidal action, and methane gas from landfills or a biomass facility.

[5] Type I school districts only need the approval of its board of school estimate for the municipal governing body to issue school bonds. Type II school districts need the approval of its voters to issue school bonds. It is anticipated that these bonds would be issued on a tax-exempt basis.

[6] Based on a memo from Lucille E. Davy, Commissioner of Education dated August 22, 2008, solar energy projects are not likely to qualify for grant funds as a result of the New Jersey Legislature authorizing an additional $3.9 billion of school construction funds on July 9, 2009. Nonetheless, solar energy projects so far are eligible costs under the *Educational Facilities Construction and Financing Act* and qualify for debt service aid.

40% of debt service aid on these projects. The use of debt service aid when combined with the sale of SRECs and energy savings makes these projects economically feasible.[8]

SREC. As mentioned, New Jersey's energy public policy is moving toward a market based incentive for achieving its renewable energy objective. The main market driven strategy adopted by the BPU is the use of solar renewal energy certificates. SRECs are a type of clean energy credit that can be bought or sold. An SREC is issued once a solar facility has generated 1 MWh through either estimated or actual metered production. SRECs can be sold separately from the electricity that the solar system saves, thus affording school districts another source of revenue to offset the cost and the payback period for such an installation. School districts can sell their SRECs to an entity that must purchase them in order for that entity to fulfill its renewable portfolio standards as required by the BPU. Currently, the BPU allows the SRECs to be sold for a 15 year period for each solar installation. Some solar installers will offer to purchase all of an installation's SRECs and finance the entire project, thus reducing the up-front capital costs for a solar installation. These agreements are generally known as power purchase agreements and are discussed later.

The price of SRECs is determined primarily by their supply and demand with the upward value of an SREC being influenced by the cost of a solar alternative compliance payment or SACP. The price of a SACP is established by the BPU above the target levels for an SREC so that electric suppliers have an incentive to purchase SRECs instead of SACPs. According to the New Jersey Clean Energy program's web site, SRECs have been trading at about 50% to 75% of

---

[7] This legislation eliminated the ability of school districts with a district aid percentage of more than 40% to receive an additional 15% of state financial assistance in the form of a grant or debt service aid.

[8] School districts can finance a solar project with an equipment lease purchase agreement. But when comparing a lease to the issuance of debt, the disadvantages are as follows: (i) no debt service aid; (ii) the lease term cannot exceed five years; and (iii) lease payments are made from the general fund.

the SACP level. The SACP level was at $300 for the past two years. As of July, 2008, an SREC was trading at a weighted average of $245. On September 12, 2007, the BPU approved the rates for SACP and established an eight year rolling SACP schedule:

Energy Yr. ending 5/31	2009	2010	2011	2012	2013	2014	2015	2016
SACP	$711	$693	$675	$658	$641	$625	$609	$594

These higher values for SACPs are intended to encourage electric suppliers to purchase the excess electricity from solar projects with SRECs. By analogy, the BPU's increase in the cost of SACPs could also result in higher values for each SRECs sold. Nonetheless, the sale of SRECs are dependent on market conditions at the time that they are sold, thus making it difficult to predict with any certainty their economic value in the future. This is particularly true because the private sector has embraced the concept of solar energy more quickly than the public sector. For that reason companies and corporations are already flooding the market with their SRECs, which may bring down the price of SRECs in the future.

Finally, New Jersey school districts benefit from revenue generated by the sale of SRECs as result of the current 4% tax levy growth imposed on general fund budgets. Since SREC revenue will be classified as "miscellaneous revenue," the amount of revenue received will not be subject to any budget restrictions. One potential good use of this new revenue source would be transferring it into a capital reserve account for future capital projects.

CREB. Another solar energy economic incentive is found in the *Energy Policy Act of 2005*, which allows school districts and other public entities to issue "Clean Renewable Energy Bonds" (CREBs). This federal legislation effectively permits school districts to issue zero interest rate

bonds by providing a tax credit to the bondholder instead of the school district paying interest.[9] The purchaser of the CREB applies the tax credits against his regular income tax liability and alternative minimum tax liability. The school district is still obligated to repay the principal on the CREB to the bondholder in equal amounts beginning in the first year of the issuance of the CREB.[10]

Aside from the zero percent interest rate, CREBs under New Jersey law would be entitled to debt service aid. Because CREBs represent debt to the school district, the annual principal payments on these bonds would receive a minimum of 40% debt service aid. And the issuance of CREBs still allows school districts to participate in New Jersey's SREC program.

The CREB program was enacted by Congress for a two year period, beginning January 1, 2006. The legislation permits a maximum of $800 million of CREBs to be issued through December 31, 2008. On October 1, 2008, President Bush signed into law the *Emergency Economic Stabilization Act of 2008*, better known as the economic bail-out bill. One of the many provisions in this legislation was the extension of the CREB program through December 31, 2009 as well as authorizing another $800 million of allocation for these types of bonds.

Energy Savings. Aside from the revenue derived from the SRECs and debt service aid, school districts should not overlook one of the primary reasons to undertake a solar project—i.e., to reduce energy costs. The amount of the reduction in electricity usage and cost savings for any solar energy project depends on several factors—size of the solar installation, interest rate on the bonds, percentage of debt service aid, and price of the SRECs. While these electricity savings

[9] Despite New Jersey school districts not being obligated to pay interest on a CREB, Type II school districts would still need the approval of the voters to issue these types of bonds.

[10] The credit is included in gross income for federal income tax purposes as interest income. Therefore, the value of a CREB to a bondholder for any year is equal to the amount of the credit less the amount of the bondholder's tax liability. For example, if the taxpayer earns a $100 tax credit on a CREB for a year, and the taxpayer is in the 35% tax bracket, the credit provides a $65 benefit to the taxpayer or bondholder.

cannot be allocated toward the reduction in debt service because they represent savings in the current expense fund, these savings should nevertheless be part of any financial plan. Moreover, the greater amount of electricity that can be generated from a solar installation, the more control a school district can have over its electricity costs—especially after the solar installation is fully paid. Since solar energy is essentially free, a school district's electricity costs become less reliant on the costs fluctuations of its utility company, because utility companies are still primarily generating electricity from the use of fossil fuels—cost that will vary with the availability of these resources.

Power Purchase Agreements. The recent passage of the Public Laws of 2008, Chapter 83, effective September 10, 2008, authorize school districts and other public entities to enter into power purchase agreements for a maximum term of 15 years.[11] The new law requires, however, that the BPU first adopt guidelines for establishing the methodology for computing energy savings. As of this date, these regulations have not been adopted.

Power purchase agreements shift the entire responsibility and risk of installing a solar energy installation to another party, or solar investor. The solar investor will finance, install, maintain, and own the solar project, thus providing a true "turn key" operation for a school district. In exchange, a school district agrees to provide space for the solar installation—usually a rooftop surface—and to purchase the electricity generated from the solar installation for a maximum period of 15 years. In general, these agreements usually reduce a school district's

[11] Chapter 83 added a new provision in N.J.S.A. 18A:18A-42(o), which reads:

> Any board of education may award a contract for longer periods of time [if] the . . . performance of goods or services for the purpose of producing Class I renewable energy . . . at, or adjacent to, buildings owned by an local board of education, the entire price of which is to be established as a percentage of the resultant savings in energy costs, for a term of not to exceed 15 years; provided, however, that these contracts shall be entered into . . . in accordance with guidelines promulgated by the Board of Public Utilities establishing the methodology for computing energy costs savings and energy generation costs.

electricity costs by approximately 10% in the first year. These agreements will then provide for a slightly lower increase in electricity costs during their remaining term—approximately 2.00% to 2.50%--as compared to the normal increases charged by a school district's utility company. The solar investor benefits from the ownership of the SRECs and federal tax credits resulting from the installation.

Conclusion

Solar energy installations provide an opportunity for New Jersey school districts to both reduce energy costs and reduce emissions into the environment. Projects financed with the use of school bonds that include debt service aid and SREC ownership result in the largest energy savings of the strategies discussed here. And if all, or a portion of, the bonds issued are CREBs then the savings are even more generous. School districts that want to avoid issuing bonds, owning solar panels, and selling SRECs could benefit from negotiating a power purchase agreement with a solar investor, once the BPU adopts regulations establishing the methodology for computing energy costs savings. While these agreements don't provide the same level of savings as bond-financed projects, they will likely lower a school district's electricity costs during the first year of the agreement and moderate the increases after that. Another advantage is that the power purchase agreement shifts the burdens and risks of these projects to another party.