FISCAL IMPACT REPORT

		LAST UPDATED	2/8/23
SPONSOR	Soules	**ORIGINAL DATE**	1/23/23
SHORT TITLE	Photovoltaic Systems in New Public Schools	**BILL NUMBER**	Senate Bill 60/aSEC
		ANALYST	Liu

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT*
(dollars in thousands)

	FY23	FY24	FY25	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
		$9,486.2 - $28,458.7	$5,459.7 - $16,379.1	$14,945.9 - $44,837.8	Recurring	Public School Capital Outlay Fund
Total						

Parentheses ( ) indicate expenditure decreases.
*Amounts reflect most recent analysis of this legislation.

Relates to SB 131

Sources of Information

LFC Files

Responses Received From
Public School Facilities Authority (PSFA)
Energy, Minerals and Natural Resources Department (EMNRD)

SUMMARY

Synopsis of SEC Amendment to Senate Bill 60

The Senate Education Committee amendment to Senate Bill 60 changes the requirement that photovoltaic (PV) systems provide sufficient energy to meet the majority, rather than all, of the energy needs of new public schools receiving awards from Public School Capital Outlay Council (PSCOC) funds for construction.

Synopsis of the Original Bill

Senate Bill 63 amends the Public School Capital Outlay Act to include PV systems, or power systems designed to supply usable solar power, as a building system eligible for funding from PSCOC. The bill further requires any new public school constructed after July 1, 2023, that uses grant assistance from the public school capital outlay fund to include a PV system sufficient to meet the energy needs of the public school. The effective date of this bill is July 1, 2023.

FISCAL IMPLICATIONS

The bill does not make an appropriation, however, requiring PV systems for new public school construction will increase project costs and, consequently, increased grant assistance from the public school capital outlay fund. This analysis assumes the costs to provide PV systems sufficient to meet the energy needs of new public schools will increase project costs for planned PSCOC standards-based awards between 1 percent and 3 percent of total budgeted appropriations.

According to PSFA, a typical PV array costs approximately $3.00 to $5.00 per watt of produced energy, based on current market rates. The overall design and installation of a PV system typically increases the total project cost to plan, design and construct a public school by 1 percent to 3 percent, depending on the size of the school and type of installation (roof-mount or ground-mount).

School Size	Gross Square Feet (GSF)	Percent of Total Project Cost	Cost for Photovoltaic System
Small	less than 100,000 GSF	0.5% to 1%	Less than $550,000
Medium	100,000 to 200,000 GSF	1% to 3%	$550,000 to $1,500,000
Large	200,000+ GSF	1% to 3%	$1,500,000 to $2,000,000

Source: PSFA

The PSCOC financial plan anticipates $948.6 million in standards-based project awards scheduled for the design and construction phases in FY24 and $546 million in FY25. Most of these projects are currently in the planning phase and may need additional funds for the design and construction phases to accommodate this new requirement, as design and construction funding will be awarded and construction will commence after July 1, 2023. Provisions of this bill may increase the necessary funding per project up to 3 percent, resulting in a potential $28.5 million increase in costs in FY24 and $16.4 million in FY25. Proposed reductions to the local district match rate also will increase the state's share of the costs to implement this bill.

SIGNIFICANT ISSUES

According to PSFA, some PV systems are not designed to meet 100 percent of the electricity needs of a school. School districts implementing large PV systems at school facilities typically plan for production capability to cover 65 percent to 80 percent of annual electricity consumption. PSFA notes the decision to design PV systems to produce slightly less than the annual electricity needs of the school is usually based on two factors: (1) restrictions on maximum allowable permitted PV system size by some utility providers and (2) lower return on investment on large commercial systems due a longer "payback" period for larger systems, which creates less of an incentive to produce more than 1 megawatt. **The SEC amendment reduces this requirement to only the majority of energy needs of the school.**

Utility costs are generally the second largest expenditure for most school districts, behind salaries and benefits for personnel. Schools with PV systems achieve annual savings from producing electricity on-site, receiving credits from the local utility for each watt produced on-site and delivered to the electrical grid, and lowering the amount of electricity that would otherwise be generated off-site and purchased from utility providers. Districts that have installed PV systems typically recuperate the cost of installation in 10 years to 15 years of annual credits and savings from lower monthly utility bills.

PERFORMANCE IMPLICATIONS

Provisions of this bill may help the state meet targets established in the Energy Transition Act of 2019 which increases the share of electricity produced by renewable sources in the next 10 years and requires publicly regulated utilities to be completely carbon-free by 2045. Reducing fossil-fuel-based energy production and consumption will also reduce emissions of carbon dioxide (CO_2), methane, nitrous oxide, and fluorinated gases – collectively known as greenhouse gases.

Data from the National Renewable Energy Laboratory (NREL) shows New Mexico has some of the best renewable energy potential in the nation due to its high solar irradiance and average wind speeds. The total developable solar land area is 68 thousand square miles, with 49 thousand square miles on state trust and private lands for a potential 824 thousand megawatts available.

ADMINISTRATIVE IMPLICATIONS

PSFA would need to include PV system installation as an applicable request for systems awards and ensure new public school construction beginning in FY22 includes a PV system sufficient to meet the energy needs of the public school.

The bill proposes that "any new school proposed to be constructed after July 1, 2023 with grant assistance from the fund shall include a photovoltaic system." PSFA notes adding a PV system to a project design that is complete or nearing completion would require redesign. This redesign effort would require additional funding and time. PSFA proposes changing the language to "any new school awarded after July 1, 2023 with grant assistance from the fund shall include a photovoltaic system," which would only apply to future standards-based awards that have not yet started the planning and design phase, negating the need to redesign. **The SEC amendment changes this language to reflect awarded schools.**

RELATIONSHIP

This bill relates to Senate Bill 131, which reduces the local match rate by 33 percent to 50 percent for school districts applying for PSCOC funding for three years. Costs of implementation for this bill would increase for the state if the local match rate was reduced, as the share of costs for PV system installation would increase alongside the state match.

TECHNICAL ISSUES

PSFA notes PV systems often do not fully produce the total annual energy needs of a school facility and suggests amending the requirement of "shall include a photovoltaic system sufficient to meet the energy needs of the public school," with "shall include a photovoltaic system sufficient to meet the majority of the energy needs of the public school."

Similarly, EMNRD notes the bill does not provide a definition for what is considered sufficient, implying that all the energy needs of the school would have to be met by the PV system. Accomplishing this would require a very large PV system in nearly every public school, and such a system would need to be accompanied with appropriate energy storage. Currently, industry best practice is to install a PV system which is expected to meet half the energy needs of a large facility. Otherwise, the system will be providing electricity to the electric utility grid

when the school is closed or during minimum operation, and the economics of such a PV system are unfavorable for a school district. **The SEC amendment reduces this requirement to only the majority of energy needs of the school.**

OTHER SUBSTANTIVE ISSUES

In 2000, the 11th Judicial District Court ruled in the *Zuni Public District v. State of New Mexico* lawsuit that New Mexico's public school capital outlay system violated constitutional requirements, and ordered the state to establish and implement a uniform funding system for capital improvements and for correcting past inequities. Since the *Zuni* lawsuit, the state has spent $2.7 billion to build school facilities up to the approved statewide adequacy standards. Despite significant improvements in statewide facility conditions, the *Zuni* lawsuit was never closed and, in December 2020, the court ruled in favor of plaintiff school districts on new claims of inequity. Provisions of this bill may divert immediate capital resources away from facility needs directly relating to educational adequacy.

A 2011 NREL study on PV system installation at schools noted the primary disadvantage of school districts directly owning PV systems is the capital commitment involved. Additionally, schools would be responsible for additional maintenance of the system and could not leverage federal tax credits as public entities.

EMNRD notes sustainable buildings require not only renewable energy but energy efficiency. New Mexico's Public Facilities Energy Efficiency and Water Conservation (PFEEWC) Act could support public schools in improving energy efficiency. The PFEEWC Act allows private-public partnership agreements to fund energy efficiency and renewable energy projects in public facilities where the energy and maintenance savings are used to pay back the investment. The act has been successfully used by higher education institutions, New Mexico cities and counties, and state agencies to implement over $300 million of energy efficiency and renewable energy projects in the past few years. However, very few public schools have participated in using the PFEEWC Act.

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