

How to Pay for Your School's Solar System

Thursday June 29

9:30-11:00 AM

Solar finance experts will describe new and existing options, and how these incentives create opportunities for greater financial savings!

Presented in partnership with



PHILADELPHIA
SOLAR ENERGY ASSOCIATION



PENNSYLVANIA
SOLAR CENTER



Generation180



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REGIONAL
PLANNING COMMISSION



Solar Schools Toolkit

Webinar #3

How to Pay for Your School's Solar System

June 29, 2023



Speakers

- Roger Clark, Reinvestment Fund/SDF (retired)
- Andrea Swiatocha, Schools & Nonprofits Team, US DOE
- Maryrose Myrtetus, Philadelphia Green Capital Corporation
- Matthew Brown, National Energy Improvement Fund

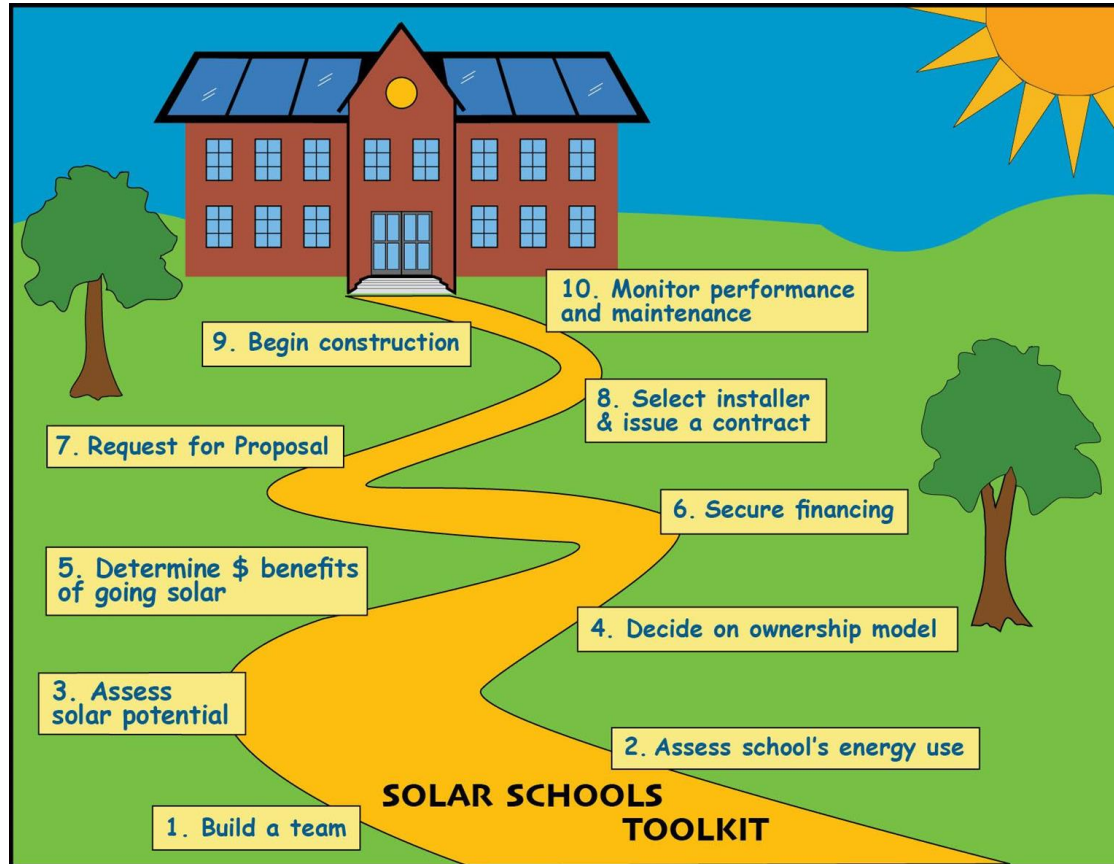
Philadelphia Solar Energy Association



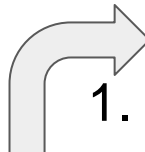
Toolkit supported by PA Department of Environmental Protection

In cooperation with: PHENND, PA Solar Center, Generation 180,
Delaware Valley Regional Planning Commission

10 Steps to Become a Solar School



Sources of Capital to Pay for Your System if You are Going the “Direct Ownership” Option

- 
1. Your Own Cash
 2. Elective Payments under the federal Solar Investment Tax Credit
 3. Grants
 - a. Utility Act 129 Solar Programs
 - b. DOE's *Renew America's Schools* grants
 - c. Other grants (coming soon)
 4. Green Banks and other Non-Profit Lenders
 5. Private Lending for solar



3.b. DOE's *Renew America's Schools* Program

Andrea Swiatocha
Schools & Nonprofits Team
US DOE



DOE Renew America's Schools (BIL 40541)

June 29, 2023

Renew America's Schools (BIL Provision 40541)

New competitive grant program for energy improvements at public school facilities

Funding: \$500M (\$100M over five years), until expended, through competitive grants. Initial FOA release announced \$80M in available funding with award sizes between \$500,000 and \$15,000,000.

Qualifying Energy Improvements: Improvements, repairs, or renovations that reduce energy costs or lead to improved teacher and student health and achieve energy savings, installation of renewable energy, installation of alternative fueled vehicle (AFV) infrastructure, and purchases or leases of AFV.

Eligible Entities: Consortia of 1 local educational agency (LEA) and one or more schools, non-profits, for-profits, or community partners. LEA Definitions include School Board, Bureau of Indian Education Schools, Educational Service Agencies.

Prioritization: Schools with improvement funding needs, high free and reduced-price lunch percentage or rural locale, and leverage private sector funding through performance contracting.

First FOA, "Renew America's Schools",
released November 2022. Selection
announcement expected late June 2023.



Renew America's Schools – Innovation



Renew America's Schools – Grants Overview (FY22/23)

Total Amount to be Awarded

- Approximately \$80,000,000*

Average Award Amount

- SCEP anticipates making awards that range from \$500,000 to \$15,000,000

Types of Funding Agreements

- Cooperative Agreement (a type of grant)

Anticipated Period of Performance

- 24 to 60 months

Cost Share Requirement

- At least 5% of Total Project Costs

First FOA released
November 29,
2022.

* As initially announced

Renew America's Schools – Topic Areas



Topic Area 1

High-Impact
Energy
Efficiency and
Health
Improvements

Topic Area 2

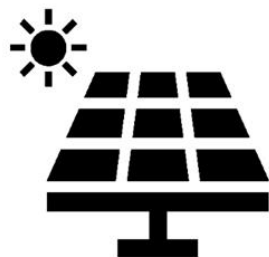
Innovative
Energy
Technology
Packages

Renew America's Schools – Topic Area 2



Proposals contemplated under this topic include innovative energy technology packages. Applicants may include any improvement, repair, or renovation to a school that incorporates two or more of the following energy improvements:

- Energy efficiency measures, e.g., HVAC, building envelope improvements, lighting retrofits, sensors and controls
- **Installation of renewable energy technologies, e.g., rooftop solar or micro wind turbines**
- Alternative fueled vehicle infrastructure on school grounds
- Purchase or lease of alternative fueled vehicles to be used by a school



Renew America's Schools – Topic Areas



Topic Area 1

High-Impact
Energy
Efficiency and
Health
Improvements

Topic Area 2

Innovative
Energy
Technology
Packages



Energy Champions Leading the Advancement of Sustainable Schools (CLASS) Prize

- Created in response to **overwhelming need for staff and training** around energy management in schools.
- Technical assistance programming meant to **complement Renew America's Schools FOA** funding for capital improvements.
- Seeks to build capacity within local educational agencies (LEAs) to **identify and implement energy and health improvements** in their facilities and classrooms.
- Provides resources to staff and **train personnel on operations and maintenance, strategic energy management, project development, funding pathways, and related topics** to deepen bandwidth and knowledge for advancing the fiscal and environmental sustainability of their schools.

Inaugural Winner Cohort Announced May 5th



18 Winners have schools located in a **DAC**



8 Winners are “Large” School Districts with **44,000+ students**



The Winners have a combined Free & Reduced-Price Lunch average of **73%**



8 Winners are in a **Rural Locale**



7 Winners are “Small” School Districts with less than **3,000 students**



Energy CLASS Prize

PHASE 1 WINNERS



Efficient and Healthy Schools Campaign



The Campaign . . .

aims to improve energy performance, reduce carbon emissions, and promote a healthy learning environment in schools.

engages K-12 schools especially those serving low-income student populations and in rural areas.

is led by the U.S. Department of Energy with technical support from Lawrence Berkeley National Laboratory. Organizing partners:





We provide **technical assistance**, **tools and resources** to K-12 schools maximizing energy, health, and resilience benefits through facilities improvements.

Direct expert consultation:

- Review of design documents on building retrofits
- Recommendations on IAQ monitoring
- Proven approaches to improve indoor air quality through ventilation, filtration, and air cleaning
- Energy analysis of systems, e.g. changes to HVAC operation, PV production
- Assist participants on creating plans to improve energy efficiency, health, and resilience
- Energy benchmarking using EnergyStar Portfolio Manager
- Connections with other DOE efforts, e.g., Integrated Lighting Campaign, Better Climate Challenge

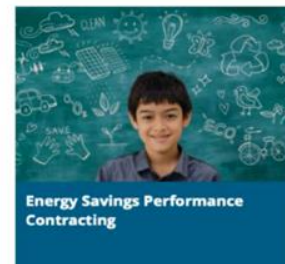
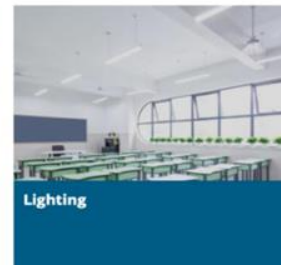
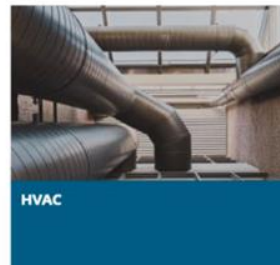


Connected with tailored resources

- Energy savings data on technology and approaches
- Energy use and life cycle cost for cooling and ventilation
- Integrating air cleaning with smart ventilation
- Information on energy analysis tools
- Literature on how energy efficiency and school facilities upgrades can impact health and learning

Access to Full Resource Hub

- Retrofit approaches, financing, and case studies



School Updates

Sign-up for updates for about the Renew America's School program

<https://www.energy.gov/scep/renew-americas-schools>

Campaign

Join the Efficient and Healthy Schools Campaign as a Participant or Supporter

[2022/2023 Recognition | Healthy Schools \(lbl.gov\)](https://www.lbl.gov/2022/2023-Recognition-Healthy-Schools)



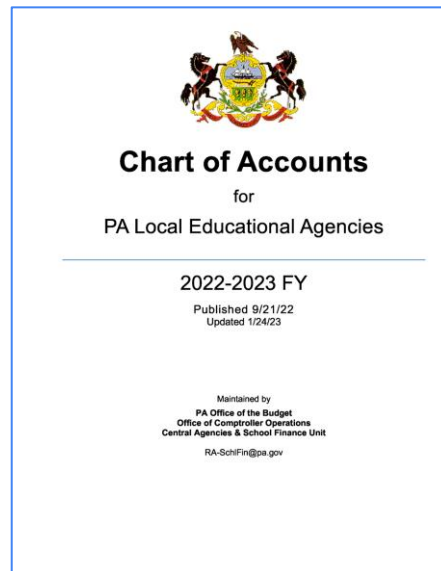
1. Your Own Cash

Public schools in Pennsylvania use the uniform [Chart of Accounts for PA Local Educational Agencies](#) to report their financial picture to the Commonwealth and the public. Pages D-6 to D-8 describes how to report their fund balance and net position.

Most relevant categories:

- Code 0793 - Restricted for Capital Projects
- Code 0850 - Unassigned Fund Balance

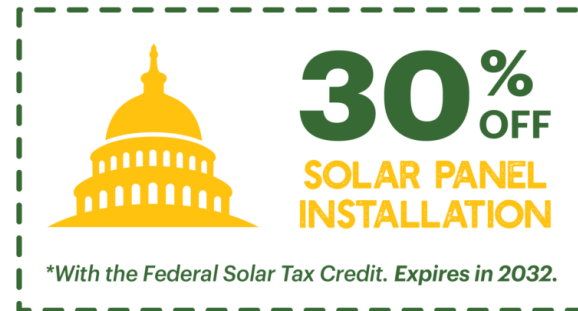
Check with your CFO



2. Elective Payments Under the Solar ITC

- The federal Investment Tax Credit (“ITC”) for alternative energy has been around since 1978 - but the most significant changes to the ITC, especially for schools and other nonprofits, were made by the Inflation Reduction Act (“IRA”) in 2022.
- The IRA made the ITC applicable to tax-exempt entities like schools by directing the IRS to issue cash incentives - called **“Elective Payments”** (earlier name was “Direct Payments”) - to entities that do not pay federal income taxes.
- The IRA also increased the level of the solar investment tax credit to **30% through 2032** and providing for several **“adders”** that can further increase the percentage that can be claimed.

a. The 30% Base Credit



Two threshold requirements:

1. The project must have have an Alternating Current (“AC”) generating capacity of less than 1 megawatt (“MW_{AC}”); or
2. For projects 1 MW_{AC} and larger, the project must satisfy prevailing wage and apprenticeship requirements.

30% Base Credit (cont.)

Prevailing Wage requirements:

1. Federal Davis-Bacon Act prevailing wage levels and filing/verification process
2. Since public schools in Pennsylvania are mandated to pay prevailing wages for all their capital projects, this requirement should not add to the project costs.

30% Base Credit (cont.)

Apprenticeship requirements:

1. Depending on when the solar project construction begins, 10%, 12.5% or 15% of the total labor hours must be performed by qualified apprentices (the Apprenticeship Labor Hours Requirement).
2. Projects must also adhere to required apprentice/journeyworker ratios (the Apprenticeship Ratio Requirements).
3. Any participating contractor and subcontractor who employs four or more individuals to perform construction, alteration, or repair work with respect to the construction of a qualified facility must employ one or more qualified apprentices to perform such work (Apprenticeship Participation Requirements).

Situations that reduce the 30% credit

- If a project is 1MW_{AC} or larger and the solar installer fails to pay prevailing wages for construction or satisfy the apprenticeship requirements, the ITC 30% percentage is reduced to **6%**.
- If schools (and other tax-exempt entities) finance their project with tax-exempt financing, the ITC 30% percentage is reduced to **10%** on that portion of the total project cost that was financed by tax exempt financing.

30% Base Credit - Key Links

General:

- The White House - Clean Energy Updates page - <https://www.whitehouse.gov/cleanenergy/clean-energy-updates/>
- The White House - *Building a Clean Energy Economy: A Guidebook To The Inflation Reduction Act's Investments In Clean Energy And Climate Action* - <https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf>

Prevailing Wage / Apprenticeship Requirements:

- IRS Guidance 2022–61 - Prevailing Wage and Apprenticeship Initial Guidance Under Section 45(b)(6)(B)(ii) and Other Substantially Similar Provisions - <https://www.govinfo.gov/content/pkg/FR-2022-11-30/pdf/2022-26108.pdf>
- PA Department of Labor - Bureau of Labor Law Compliance - Prevailing Wage Projects website - <https://www.dli.pa.gov/Individuals/Labor-Management-Relations/Ilc/prevailing-wage/Pages/default.aspx>

b. The 10% Adder for Domestic Content

Two specified domestic content thresholds:

1. **100% of any iron/steel** products that are components of the project must be produced in the US.
2. **40% of the total cost of all “manufactured products”** that are components of the entire “facility” must be produced in the US.

Domestic Content Adder (cont.)

Three caveats:

1. If a project does not qualify for the 30% tax credit level, the 10% domestic content adder is reduced to **2%**.
2. The domestic content requirement for manufactured components under this adder is scheduled to increase from 40% to 55% in 2027.
3. Biggest hurdle is getting manufacturers to disclose the cost breakout of domestic and imported components.

Domestic Content Adder - Key Links

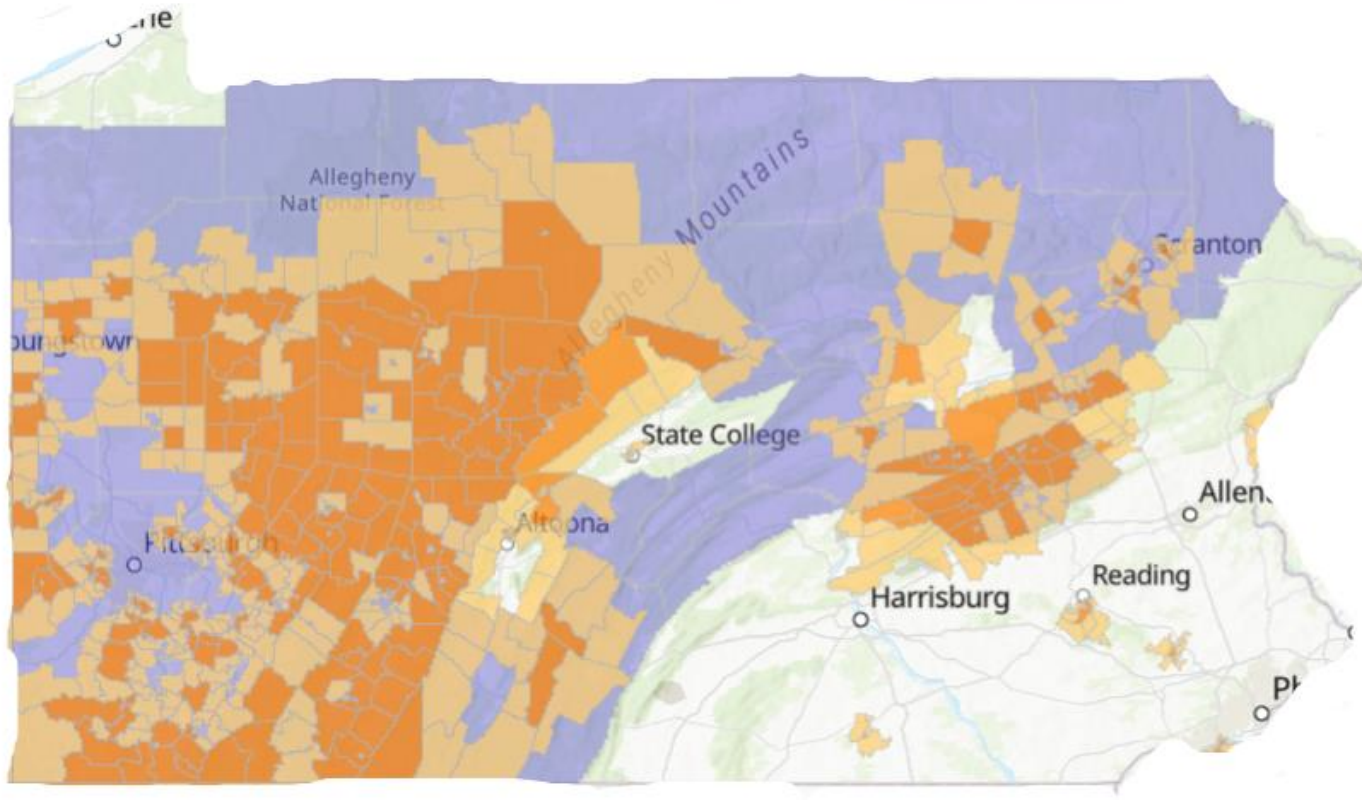
- IRS Notice 2023-39 - Domestic Content Bonus Credit Guidance under Sections 45, 45Y, 48, and 48E -
<https://www.irs.gov/pub/irs-drop/n-23-38.pdf>

c. The 10% Adder for Energy Communities

An energy community is defined as:

- A Census tract — and any adjacent census tracts — in which any **coal mine** has closed after December 31, 1999 or in which any **coal power plant** has been retired after December 31, 2009.
- Metropolitan Statistical Areas (“MSAs”) and non-MSAs where, after December 31, 2009, **industries tied to fossil fuels** have accounted for (a) at least 0.17% of direct employment or 25% of local tax revenue; and (b) where the **unemployment rate is above the national average** for the previous year.
- **Brownfield sites** (as defined by 42 U.S.C. § 9601(39)(A)).

NETL Energy Community Tax Credit Bonus Map



LEGEND

al Closure Energy Communities

act Status

Orange square: Census tract directly adjoining a census tract with a coal closure

Dark orange square: Census tract with a coal closure

A/Non-MSAs that are Energy Communities

atus

Blue square: MSAs/non-MSAs that meet both the Fossil Fuel Employment (FEE) threshold and the unemployment rate requirement

NOTE: Brownfields not shown on map.

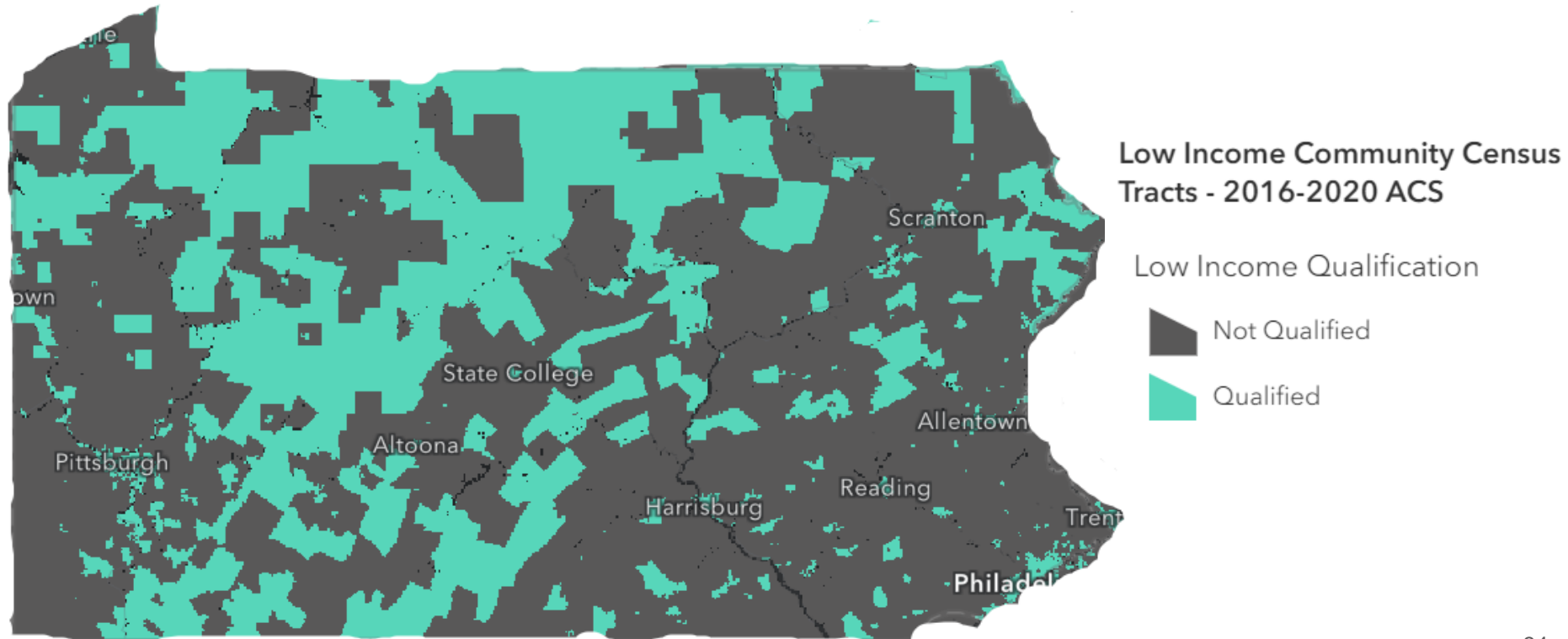
Energy Communities Adder - Key Links

- IRS Notice 2023-29 - Administrative, Procedural, and Miscellaneous Energy Community Bonus Credit Amounts under the Inflation Reduction Act of 2022 - <https://www.irs.gov/pub/irs-drop/n-23-29.pdf>
- National Energy Technology Lab map of Energy Communities - <https://energycommunities.gov/energy-community-tax-credit-bonus>
- PA Department of Environmental Protection inventory of 1,091 brownfield sites in PA - <https://properties.zoomprospector.com/pa?page=1&s%5BSortDirection%5D=false&s%5BradiusLat%5D=0&s%5Bradius%5D=0&s%5BradiusLng%5D=0&s%5BSortBy%5D=name&s%5BSizeUnits%5D=1>

d. The 10% Competitive Adder for Low Income Communities

- A low-income community is defined as those census tracts where:
 - a. the poverty rate is at least 20 percent, or
 - b. the median family income does not exceed 80 percent of statewide median family income.
- Unlike the other adders which can be claimed as of right if the requirements are satisfied, the Low Income Community adder is limited to two years and is awarded through a **competitive process**.
- The total credits awarded are capped at **700 MW** of project awards in 2023 and again in 2024 (and 0 MW thereafter).
- The application period for the 2023 awards is likely to take place late 2023.

Low Income Communities - PA



Low Income Community Adder - Key Links

- IRS Proposed Rulemaking: Additional Guidance on Low-Income Communities Bonus Credit Program - <https://www.federalregister.gov/documents/2023/06/01/2023-11718/additional-guidance-on-low-income-communities-bonus-credit-program>
- Low Income Communities map - <https://www.esri.com/arcgis-blog/products/arcgis-living-atlas/decision-support/mapping-low-income-communities-in-the-us/>

e. The Process for Claiming an Elective Payment

1. The elective payment is treated as an **overpayment of the taxes** owed by the school. Learn your School District's Tax Year, applicable federal Tax Form and filing date.
2. Complete a pre-filing registration for each project on-line through an IRS electronic portal prior to filing your tax return. Provide specific information about the school, its tax status, the credit being claimed, the project (including its beginning of construction date and its placed-in- service date) and other information.
3. Complete construction and place the project in service.

Process (cont.)

4. Make the elective payment election in the federal tax return for the tax year during which the project was completed and was placed in service.
5. After the return is processed, the IRS will issue a tax refund equal to the amount the school is entitled to under the federal solar investment tax credit.
6. IRS reserves the right to audit all claims for elective payments. If a school is found to have received an elective payment larger than what it can legally claim, the Proposed Regulations require repayment of the excess payment plus a **penalty equal to 20%** of the excess payment.

Elective Payment - Key Links

- IRS Proposed Regulations - ITC elective payment – Fed Register – 06/21/23 - <https://www.govinfo.gov/content/pkg/FR-2023-06-21/pdf/2023-12798.pdf>

3. Grants

a. Utility Act 129 Commercial Solar Grants

EDC	Rebate per kWh (first year only)
PECO	\$0.10 / kWh
Duquesne Light	\$0.05 / kWh
First Energy (Met-Ed, Penelec, Penn Power, West Penn Power)	\$0.03 / kWh
PPL	\$0.03 / kWh

3.c. Other Possible Grants

- Coming soon - PA is developing a comprehensive plan on deploying grant dollars it receives (and can compete for) under the Infrastructure Investment and Jobs Act (“IIJA”) and the Inflation Reduction Act (“IRA”)
- Possible PA legislation - Rep. Elizabeth Fiedler’s Solar for Schools Grant Program bill - HB1032

4. Green Banks and Non-profit Lenders

Maryrose Myrtetus
Executive Director
Philadelphia Green Capital Corp.

PHILADELPHIA GREEN CAPITAL CORP





PHILADELPHIA GREEN CAPITAL CORP

ACCELERATING OUR CLEAN ENERGY FUTURE

**Solar, energy efficiency & resiliency financing tools
and programs for:**

- ✓ **Businesses (large & small)**
- ✓ **Non-profits**
- ✓ **Multifamily properties**
- ✓ **Homeowners**

*PGCC is the green bank affiliate of
the Philadelphia Energy Authority*



**PHILADELPHIA
ENERGY AUTHORITY**



What Do Green Banks Do?

*PGCC empowers businesses, developers, and everyday residents
to build a clean energy future by...*



Leveraging Capital from Multiple Sources



Building Pipeline of Local Projects via Strategic Partnerships



Providing Financing Products



Mitigating Investment Risk & Remove Barriers for Investors



Green Banks: Proven Models of Success Nationwide

National Green Bank Impact to Date:

\$4.2B Capital Deployed since 2011

3.54x Mobilization Ratio

Every dollar invested by a green bank
creates **\$3.54** of overall investment in a
clean energy economy

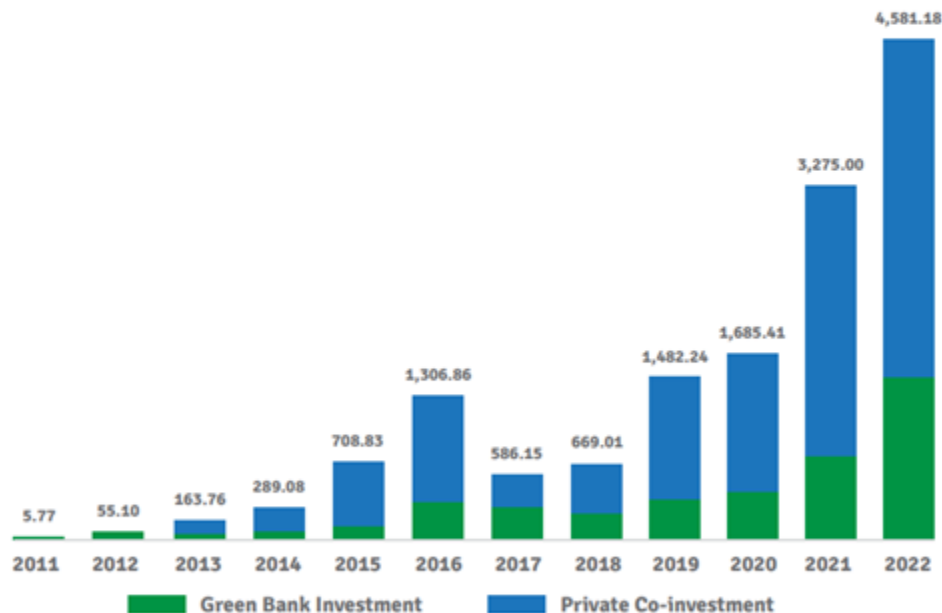
*PGCC uses best practices from 20+
green banks across the country*



Michigan Saves™



American Green Bank Consortium Investment by Year
(\$, in millions)



Tracking Green Bank Investment (2011-2022)
Source: Coalition for Green Capital

The IRA includes

\$369 Billion

in federal climate-related funding

with a focus on equity.

What's Different About the IRA?

- Capacity and expertise challenge for local and state governments
 - 2/3 of the IRA flows through the tax code, not just competitive grants for public projects
 - Immediately follows a traditional federal spending bill (BIL)
 - Funds available on short timetable and in the midst of state and local leadership change
 - Capacity issues for the federal government too
- Pennsylvania has an existing network of programs and partners to unlock the full potential of the IRA

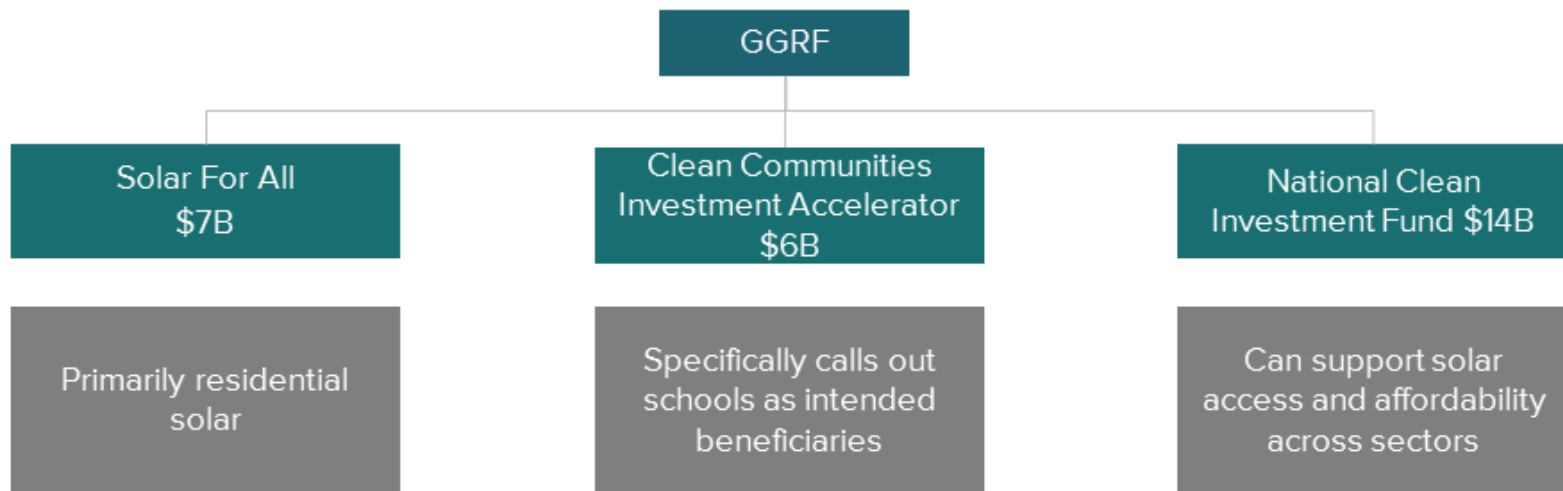


Under the IRA, schools became eligible for solar tax credits via direct payment!

IRA gives schools the opportunity to scale their clean energy efforts



Greenhouse Gas Reduction Fund (GGRF)

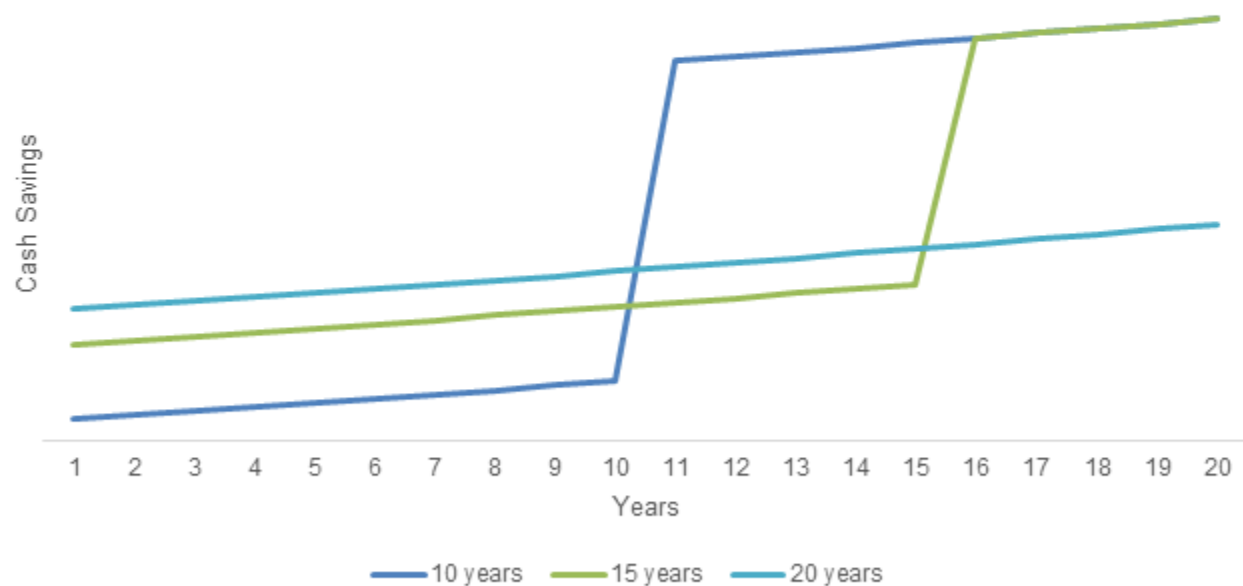


All provide the opportunity to make solar more affordable and accessible across sectors, and to provide capital to organizations like PGCC and PEDAC



Key to Unlocking Near-Term Cash Flow: Term Length!

Cash Savings Net of Debt Service by Term Length



**Other key levers
you can use to
optimize your
financing:**

- Interest rate
- Debt service coverage ratio
- Amount financed



PHILADELPHIA GREEN CAPITAL CORP

ACCELERATING OUR CLEAN ENERGY FUTURE



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5. Private Capital Lending

Matthew Brown
Co-Chair and Co-Founder
National Energy Improvement Fund



Using Financing to Boost Efficiency & Electrification Markets

June 29, 2023

Go Greener. Affordably.

About the National Energy Improvement Fund

- With a management and lending heritage dating to 1947, NEIF is organized as a for-profit Benefit Corporation.
- Providing fair, transparent financing for essential energy resilience improvements like HVAC, roofing, lighting & battery storage.
- Led by a seasoned team of energy financing innovators responsible for over \$900 million in financing.
- Delivered through partnerships with contractors, distributors, manufacturers, utilities, and governments.

About the National Energy Improvement Fund

- Supervised as a consumer lender and servicer in 22 states and operating a commercial financing platform (including government and commercial finance) nationally in partnership with multiple utilities.
- Offers commercial, residential and contractor advance funding.
- Earned Certified B Corporation® status and was named a Home Improvement Expert Partner by the U.S, Department of Energy in 2019.

Solar for Schools: Underwriting and Product Considerations

The Finance Product



Tax Exempt Lease Purchase

- Standard tax exempt financing
- Viewed as debt, but because it is re-authorized each year, is viewed as single-year, short term debt (not long term).
- Provided at tax exempt rates
 - Typically 20% lower than commercial finance
- Terms typically to 20 years
- Potential reduced direct pay amount

Commercial Taxable Financing

- At commercial, taxable rates (higher than tax exempt)
- Terms can still be long
- Unusual for schools, and may be relevant only if the direct pay amount is reduced



The Finance Product

Financing generally structured as:

- Long term amortization (15-20 years is common)
- Funded in to an escrow account
- Draws from that escrow account based on consent of the borrower, with payments made to contractor
- Payments begin upon loan funding in to that escrow account
- Generally, advance payments of loan can be accommodated but far preferable to know about such advance payments at time of loan documentation Exempt Lease Purchase

Data Needed

- Financials for the borrower entity, typically publicly available
 - In some cases, data may be sparse if school district has not taken out debt in recent years
- Project equipment description (panel type, inverters, size, output, degradation assumptions)
- Installing contractor information
 - Experience in industry and with similar installations
 - Proper licensing

Primary Underwriting Questions

- **Borrower Credit Quality**

- In most cases, school credit quality is good to excellent
- Concerns may arise in cases where enrollment is steadily declining, local governments have experienced major credit issues etc.
- In some cases, credit quality may not be publicly available if, for instance, school has no recent debt issuances.
- Credit information is generally publicly available

- **Contractor Quality**

- Does the contractor have experience in installing solar (just electrical license is not typically sufficient)
- Does contractor have proper licensing
- Are there credit issues with the contractor (NEIF will pull contractor credit)
 - Tax liens, other liens
 - Bankruptcy

Underwriting Questions (cont.)



- **Project Information**

- Is equipment that is to be installed manufactured by a reputable installer
- Are warranties to industry standard
- Are project pro-formas reasonable, given equipment efficiencies, degradation, etc.



NATIONAL ENERGY IMPROVEMENT FUND

Stumbling Blocks and Other Considerations



- Overall, school financing for solar is available at long terms and non-taxable rates.
- If the direct pay subsidy is reduced for tax exempt financing, then schools will have to consider the economics of tax exempt vs. taxable rate financing, with a different subsidy level.
 - Taxable financing for schools would be unusual.
- The direct pay subsidy may come in substantially after project construction, and therefore schools may need some type of capital to bridge that gap.
 - NEIF is able to provide that short-term bridge capital.

Working with NEIF



For More Information: www.neifund.org

or contact Matthew Brown:

mbrown@neifund.org





NEIF

NATIONAL ENERGY IMPROVEMENT FUND

A Certified B Corp™

National Energy Improvement Fund LLC
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Suite 200
Allentown, PA 18106

Denver, CO
484-838-5460
888-961-6343

neifund.org

Contracting and Procurement

- Direct ownership of solar projects by public K-12 schools is not as simple as we once thought. The IRA is a game changer for school solar projects, but PPAs will continue to be an important option.
 - Direct ownership may feel like a big, unnecessary risk, especially in light of other school challenges, staff shortages, lack of familiarity with solar, etc.
 - PA law and other budget priorities limits how much debt a school district can take on, even for projects that have a cash-positive return.
 - PA law (Separations Act, PA Procurement Code and PA School Code) make procuring capital projects like solar quite complicated.

Procurement

- But procurement solutions are feasible:
 - Your RFP-selected solar contractor can do the system design work but must secure separate bids for different trades - electrical and general construction (of the racking systems).
 - Use the PA **Guaranteed Energy Savings Act (“GESA”)** as an alternative procurement approach. Follow the GESA rules for RFPs and competitive sealed proposals to select your “qualified provider”; require an audit showing project payback is 20 years or less; include the energy savings guarantee, the performance bond, the reporting requirements and the other GESA terms in the contract.

Financing Recommendations

- Work with your CFO to understand school district's capacity to take on additional debt.
- Work with your solicitor to ensure comfort with your procurement plan in light of the Separations Act, the PA Procurement Code and the PA School Code.
- Request bidders quote pricing for both a PPA and Direct Ownership so you can see cost of both ownership models.

Questions and Discussion