



Solar for Schools

Amanda Schienebeck, Solar For Schools Program Manager

MN Department of Commerce

Solar for Schools: Two Programs.

- 216C.<u>375</u>: For schools **outside of** Xcel territory
 - The Department of Commerce manages this program
 - Learn more at: <u>Solar for Schools / Minnesota.gov (mn.gov)</u>

- · 216C.<u>376</u>: for schools located **within** Xcel territory
 - · Xcel Energy manages the Xcel program
 - · Proposed plan filing due from Xcel October 1
 - Hoping to begin program in Quarter 2, 2022



mn.gov/solar4schools

Public K-12 Schools:

- Available Funding \$7,200,000
- Limit 10% / \$720,000
- Max. Grant 95% / \$114,000

Colleges and Universities:

- Available Funding \$2,142,000
- Limit 10% / \$214,200
- Max. Grant 40% / \$48,000

Solar for Schools Grant Program



About the Grant

Solar for Schools awards grants up to 95% of the installation cost for solar energy systems on Minnesota caolic schools. The Minnesota caolic of Commerce is managing the grant program for schools outside of Xcel Energy Territory.*

Schools are encouraged to visit Commerce to learn about the grant, eligibility, and application process.



<u>Free Technical</u> Assistance

Commerce has partnered with Clean Energy Resource Teams (CERTs) to help schools develop projects and meet the grant's <u>Readiness</u> <u>Assessment requirements</u>.

Schools desiring assistance are encouraged to reach out to CERTs for unbiased technical and general guidance.



Apply for a Grant

There will be at least two funding rounds annually. The 2022 rounds are as follows:

Round 1

Readiness Assessment: Jan. 5 – Jan 31 Full Grant Application: due May 3

Round 2

Readiness Assessment: July 1–July 31 Full Grant Application: due Nov. 30

*This program is for schools located **outside of Xcel Energy territory only**. Xcel Energy has developed their own program for schools and colleges. <u>Contact Xcel</u> to learn more.

Grant Funding Metrics

Adjusted Net Tax Capacity (ANTC): The net tax capacity of a school district as divided by the sales ratio. The purpose of the sales ratio adjustment is to neutralize the effect of different assessment practices among the taxing jurisdictions of the state.

Adjusted Pupils Units: Beginning in fiscal year 2015, adjusted pupil units, or adjusted weighted average daily membership, is the primary pupil count used in school-funding formulas. The count is weighted by grade level (.55 for half-day kindergarten, 1.0 for full-day kindergarten and elementary grades, and 1.2 for secondary grades) and "adjusted" to reflect students served

MAXIMUM ALLOWABLE GRANT				
Public School ANTC/APU	% System Cost	Not to Exceed		
under \$5,000	95%	\$114,000		
> \$5,000	85%	\$102,000		
> \$9,250	70%	\$84,000		
> \$13,500	55%	\$66,000		
> \$17,750	40%	\$48,000		
over \$22,000	25%	\$30,000		
Colleges & Universities	40%	\$48,000		

Round 1 Application Stages

Number of Applications	Fun	ding Implication (Million \$)
122	Readiness Assessment Submissions	\$11.8
80	Approved to Apply for a Full Grant	\$7.5
64	Full Grant Application Submissions	\$6.2
60	On Track to Move into Negotiations	\$5,814,270

Solar for Schools Grant Reservation Updates

As of September 2022

K12 Grant Reservations				
Program Total	Reserved	Available		
\$7,518,000*	\$5,814,270 (77.3%)	\$1,703,730 (22.7%)		

*Increased from \$7.2M in February 2022

College and University Grant Reservations				
Program Total	Reserved	Available		
\$1,117,800**	\$96,000 (8.6%)	\$1,021,800 (91.4%)		

**An additional \$1,024,200 will become available July 1, 2023, totaling \$2,142,00

Round 1 Grant Allocation Distribution



Grant Recipient Breakdown



State Rankings for Solar Schools

Rank	Cumulative Solar Capacity on K-12 schools (kW)		Cumulative Solar Capacity on K-12 schools (kW)		Number of School with Solar	S	Number of Stud Attending a Sol	lents ar School
	STATE	TOTAL kW	STATE	TOTAL	STATE	TOTAL		
01	CA	703,507	CA	2,819	CA	2,394,896		
02	NJ	194,388	NJ	662	NJ	421,399		
03	AZ	127,225	IL	508	IL	309,972		
04	MA	77,629	AZ	411	FL	300,990		
05	IL	56,237	MA	309	AZ	255,906		
06	IN	50,809	NY	281	MA	208,621		
07	СТ	49,731	FL	281	NY	200,372		
08	NY	44,975	СТ	279	СТ	174,336		
09	VA	43,845	WI	225	MD	138,248		
10	WA	29,415	MD	188	WI	136,285		
11	PA	28,830	MN	177	ТХ	126,068		
12	OH	28,297	NV	174	MN	114,446		
13	MN	23,159	VA	154	VA	106,094		
14	NV	20,578	ТХ	136	NV	94,273		
15	MD	19,652	CO	129	PA	88,614		
16	WI	14,231	HI	118	CO	87,101		

Brighter Future 2022 Report Page - Generation 180 9

12/19/2022

Minnesota Solar School Trends



Minnesota Solar School Trends



2023 Funding Schedule

	Readiness Assessment*	Full Grant Application
Round 1 (K-12 & Colleges)	January 9 – February 6	Due May 31
Round 2: <i>(TBD)</i>	TBD	TBD

*Schools must email <u>SolarForSchools@state.mn.us</u> to request a unique Solar for Schools ID number *prior* to submitting a Readiness Assessment. See <u>Solar for Schools / Minnesota.gov (mn.gov)</u> for details.

Solar for Schools – Program Updates

Utility Memorandum of Understanding

Memorandum of Understanding (MOU): [Grantee] Solar for Schools Project SFS22-XXXX)

This MOU establishes a mutual understanding between potential Solar for Schools grant recipient, finsert school and district name or state college or university namel, ("Grantee") and [electric utility serving (grantee] ("Utility) regarding Grantee's installation of a solar photovoltais system ("System") made possible, in part, by the Solar for Schools grant program ("SSS") under <u>Minnesota Statutes 5 216C 375</u>. The intent of this MOU is to allow Utility the opportunity to provide input and clarity related to the below listed topics, assisting with the accuracy, and streamlining of the System procurement and installation process. This MOU does not create or replace any existing rates or tariffs currently in effect as established by Utility.

SFS was established by the State Legislature in 2021 and designed to provide grants to stimulate the installation of solar energy systems on or adjacent to school buildings by reducing the cost, and to enable schools to use the solar energy system as a teaching tool that can be integrated into the school's curriculum. The Minnesota Department of Commerce developed and administers SFS for schools outside of Xcel Energy Tenritory (Minn. State § 216C.375).

Utility and Grantee mutually understand that:

- the intent of financial information submitted here is to inform Grantee's financial modeling of the <u>System</u>;
- the assumptions utilized in financial modeling of the System have significant impact on the projected lifetime cashflow and subsequent overall value of the <u>System</u>;
- Utility rates are regulated, and customers, including Grantee, have the ability to provide inputs
 future changes to Grantee's electric rate and tariff cannot be precisely predicted, however, Utility
 may be able to improve financial modeling due to knowledge about its power supply and other
- utility costs which influence Grantee's electric rate; and the information submitted here is true and accurate to the best of Utility's knowledge.

[Check All] System Interconnection:

□ Utility has reviewed the SFS System contract with Grantee selected solar developer and/or has engaged in discussion(s) with Grantee pertaining to the SFS System contract with Grantee selected solar developer. As the SFS System is shown to be designed and financed, Utility, as of the date under Utility's signature below, does not foresee any issues that would prevent System interconnection from proceeding.

[Check One or More] Electric Rate Escalator Assumption:

□ Utility submits the Following Average Historical Commercial Electric Rate Increase: [Insert the <u>average</u> annual commercial \$/Wh rate per year for a minimum of 10 years) □ Utility Submits the Following Future Forecasted Commercial Electric Rate Increase: [Insert, for a 10year future forecast, the expected <u>average</u> annual commercial \$/Wh rate Increase: □ Based on the above submitted historical and/or future forecasted Commercial increase; □ Based on the above submitted historical and/or future forecasted commercial electric rate escalations, Utility recommencial framese use the following average annual \$/Wh rate increase to inform the financial modeling of the System for the next 25 years of energy production: [Insert Utility recommended annual \$/Wh commercial rate escalation for a 25-year period, with additional seplanation as necessary]

Page 1 of 2

Applicant	II Applicant Aver	ag 🛛 All Ap	olicant Range		
\$116	1,080 \$1.32,45	17	\$102,000 - \$174,640		
	ltem	Details	¥alue (\$)		
	School Install		\$114.080		
Enoncor	Replace Inverter	Estimate	\$8.200		
Capenses	Insurance / ClkAI	Estimate	\$3,372		
	Removal/Disposal	Estimate	\$8,550		
	Total Applicant 25	Y Expenses	\$136,702		
Department	of Item	Details	Value (\$)		
Commerce	 Solarior Schools 	Grant	\$96,968		
Income/Sav	in Electric Sevings	Savings	\$228,087		
qs	Total Applica	nt 25Y	\$323,055		
- Developer	ltem	Details	¥alue (\$)		
Income/Sau	in Galar for Schools	Grant	\$96,968		
ac	Electric Savings	Electric Savings Savings			
32	Total Applica	nt 25Y	\$339,452		
System 25	Y İtem	merce	¥alue (\$)		
Cashflow	Cachillow	037571-12	\$186,353		
Analysis	Developer Cashilov	2	\$202,750		
Compariso	n Difference		(\$18,397)		
×					
School Auth	orized Representative	Name			
ECK ONE]					
	l Representative, I understand n as designed. My digital sign	I <i>Commerce Casi</i> ature indicates A as originally subr	iflow represents a potenti pplicant's authorization ir nitted.		
As Applicant Authorized cashflow for the Syster ring forward with the Sy	ystem based on the proposal :				

Financial Analysis

Metrics

Evaluation and Priority Rubrics

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	ubie z. keda	mess As	5855	menti	vanua	uon	KUDI	ĸ	
	Finan	cial Contril	oution	n Value (12 point	s)			
Description	Applicant's fina	ncial contri	butio	n toward	is cost to	purc	hase an	d ins	stall System.
Amount (\$)	\$60k+ Up to				Up to \$	30k		\$0	
Points Awarded	12	8			4			0	
	Financial Cont	ribution in	Exces	s of Syste	em Cost	(12 p	oints)		
Description	The amount by (\$120k) when c	which the ombined w	Applic ith th	ant's fin eir maxir	ancial co mum allo	ntribu wable	ution ex e Solar 1	ceed for S	ds System cost chools grant.
Amount (\$)	\$30,000+	Up to	\$30,0	000	Up to \$	5,000)	Les	s than \$0
Points Awarded	12	8			4			0	
	Proc	urement Co	ommi	tment (1	2 points)			
Description	tion Applicant's willingness and ability to commit to solar procurement best practices when seeking proposals from Developers.								
Commitment	Public RFP		2+ P	roposals	:		No Co	mmi	itment
Points Awarded	12		6	6 0		0			
	CERTs Pr	e-Applicati	on Co	nsultatio	on (12 pc	oints)			
Description	Applicant met v	vith the CEI	RTs fo	r a pre-a	pplicatio	n con	sultatio	n.	
Commitment	Yes				No				
Points Awarded	12				0				
		Existing	5olar	(12 point	ts)				
Description	The type and ar	mount of A	pplica	nt's exist	ting solar	r (at D	istrict-l	evel).
Commitment	No Solar		1+ S	ystem / :	Subscrip	tion	Previo	us G	Grant Recipient
Points Awarded	12		6				0		
	Number of SF	S Applicatio	ons in	Current	Round (24 po	ints)		
Description	Applicant's self	-prioritizati	on ou	t of all cu	urrent fu	nding	round	appl	ications.
Rank	First	Second		Third		Four	rth		Fifth+
Points Awarded	24	18		12		6			0

Readiness Assessment Update: Priority Rubric

т	able 2. Read	iness As	sess	ment	Evalua	tion	Rubi	ic	
	Finar	icial Contril	bution	n Value (12 point	s)			
Description	Applicant's fina	ncial contri	butio	n toward	is cost to	purc	hase an	d in	stall System.
Amount (\$)	\$60k+	\$60k+ Up to \$60k Up to \$30k \$0							
Points Awarded	12	8			4			0	
	Financial Cont	ribution in	Exces	s of Syst	em Cost	(12 p	oints)		
Description	The amount by (\$120k) when c	which the a	Applic ith th	ant's fin eir maxii	ancial co mum allo	ntrib wabl	ution ex e Solar	cee for S	ds System cost Schools grant.
Amount (\$)	\$30,000+	Up to	\$30,0	000	Up to \$	5,000)	Les	is than \$0
Points Awarded	12	8			4			0	
	Proc	urement C	ommi	tment (1	2 points	;)			
Description	Applicant's willingness and ability to commit to solar procurement best practices when seeking proposals from Developers.								
Commitment	Public RFP		2+ F	roposals	;		No Co	mm	itment
Points Awarded	12		6				0		
	CERTs Pr	e-Applicati	on Co	nsultati	on (12 p	oints)			
Description	Applicant met	with the CE	RTs fo	r a pre-a	pplicatio	n cor	sultatio	on.	
Commitment	Yes				No				
Points Awarded	12				0				
		Existing	Solar	(12 poin	ts)				
Description	The type and a	mount of A	pplica	nt's exis	ting sola	r (at D	istrict-l	evel).
Commitment	No Solar		1+ S	ystem /	Subscrip	tion	Previo	ous G	Grant Recipient
Points Awarded	12		6				0		
	Number of SF	S Applicati	ons in	Current	Round	24 pc	ints)		
Description	Applicant's self	-prioritizati	on ou	t of all c	urrent fu	nding	round	appl	lications.
Rank	First	Second		Third		Fou	rth		Fifth+
Points Awarded	24	18		12		6			0

Metric	Maximum Points
Financial Contribution Value	12 points
Financial Contribution in Excess of System Cost	12 points
Procurement Commitment	12 points
CERTs Pre-Application Consultation	12 points
Existing Solar	12 points
Number of SFS Applications in Current Round	24 points
	Total Potential: 84

Full Application Update: Utility MOU

Memorandum of Understanding (MOU): (Grantee) Solar for Schools Project SFS22-XXXX)

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Utility and Grantee mutually understand that:

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- the assumptions utilized in financial modeling of the System have significant impact on the projected lifetime cashflow and subsequent overall value of the <u>System</u>;
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- future changes to Grantee's electric rate and tariff cannot be precisely predicted, however, Utility may be able to improve financial modeling due to knowledge about its power supply and other utility costs which influence Grantee's electric rate; and
- the information submitted here is true and accurate to the best of Utility's knowledge.

[Check All] System Interconnection:

Utility has reviewed the SFS System contract with Grantee selected solar developer and/or has engaged in discussion(s) with Grantee pertaining to the SFS System contract with Grantee selected solar developer. As the SFS System is shown to be designed and financed, Utility, as of the date under Utility's signature below, does not foresee any issues that would prevent System interconnection from proceeding.

[Check One or More] Electric Rate Escalator Assumption: Utility Submits the Following Average Historical Commercial Electric Rate Increase: [Insert the <u>average</u> annual commercial \$/kWh rate increase for a minimum of 10-year historical period; and/or a list of the average commercial \$/kWh rate per year for a minimum of 10 years] Utility Submits the Following Future Forecasted Commercial Electric Rate Increase: [Insert, for a 10+ year future forecast, the expected <u>average</u> annual commercial \$/kWh rate increase]

□ Based on the above submitted historical and/or future forecasted commercial electric rate escalations, Utility recommends Grantee use the following average annual S/kWh rate increase to inform the financial modeling of the System for the next 25 years of energy production: [Insert Utility recommended annual S/kWh commercial rate escalator for a 25-year period, with additional explanation as necessary]

Page 1 of 2

Intent: serves as a clear indicator that utility currently foresees no significant issues or delays on their end that would impact the interconnection of the System as outlined with proposed Developer. It demonstrates communication has occurred between the school and their electric utility, providing the utility the opportunity to provide input and address the PV system's:

System Interconnection Barriers

- Electric Rate Escalator Assumptions
- Electric Tariff Impact

Full Application Update: Financial Analysis Metrics

	Applicant	II Applicant Averad	All Ap	olicant Range
	\$114,080	\$1.32,453		\$102,000 - \$174,640
		ltem	Details	Value (\$)
		School Install	-	\$114,080
	Expanses.	Replace Inverter 🛛 🧹	Estimate	\$6,200
	Lapenses.	Insurance / O&AI	Estimate	13,372
		Removal/Disposal	Estimate	\$2,550
_		Total Applicant 25Y E	Expenses	\$136,702
_				
_	Department of	ltem	Details	¥alue (\$)
_	Commerce.	Salaria Sahads	Grant	\$96,968
_	Income/Savin	Electric Savings	Savings	\$226,087
-	qs	Total Applicant	25Y	\$323,055
a İ		Itom	Detaile	Value (*)
	Developer_	Rem Antor Kor Solvoola	Good	*00 000
	Income/Savin	Electric Couines	Chuinan	400,000
-	gs	Erectric castings	2 assurges	#2792,909 #229.4E2
- 1	1	r otar Applicant	201	\$333,432
-1	Sestem 25Y	ltem		Value (\$)
	Cashflow	Liepariment of Liomm	e70e	\$186.353
	Analysis	Cochillow Reveloper Cochillow		\$202.750
	Comparison	ПіКегепле		(415 297)
- 1		2007070707070		(And the st
- F				
	×			
- 1	School Authoriz	ed Representative N	lame	
	Title			
_				

Intent: To encourage discussions surrounding a PV system's financial cashflow modeling, solar developers must include a completed cashflow template in the contract with a school, including details and justifications behind all assumptions and values used to calculate the system's 25Y cashflow value:

Expenses:

- Installation
- End-of-life Removal and Recycling
- ✓ Inverter Replacement
- ✓ Insurance
- ✓ 0&M
- Other Costs

Savings/Income:

- ✓ Solar for Schools Grant
- ✓ Other Grants / Incentives
- ✓ Total 25Y Value of Electricity
 - ✓ Snow Loss / Total Losses
 - ✓ Y1 kWh Production
 - ✓ DC to AC ratio
 - Electric Rate
 - ✓ Panel Degradation Rate
 - ✓ Electric Rate Escalator
- ✓ Other Savings / Income

Full Grant Application Update: Evaluation Metrics

	Table 4. Full Grant Application Considerations
	Full Application Completeness
Description	Applicant thoroughly answers required components, uploads necessary material, and demonstrates an overall readiness and ability to install the proposed System.
Y/N	Explanation as Necessary
	Readiness Assessment Commitments
Description	Application provides proof of self-identified commitments from Readiness Assessment evaluation, potentially including CERTs pre-application consultation, proof of financial contribution towards System installation costs, and documentations of procurement commitment.
Y/N	Explanation as Necessary
	Financial Benefit to Applicant
Description	Project contract and/or proposal with Developer clearly demonstrates a System lifetime financial benefit to Applicant. All System cashflow assumptions, calculations, and justifications used are reasonable, transparent, thorough, and logical. Uploaded Developer Contract meets all other Full Grant Application guidelines related to financial and production modeling and includes a completed System 25Y Cashflow using the Attachment 3 template, signed by Applicant's Authorized Representative.
Y/N	Explanation as Necessary
	Electric Utility Engagement
Description	Application demonstrates ongoing communication and collaboration with Applicant's electric utility, having addressed any potential issues and/or factors related to System interconnection and financial modeling as outlined in the Developer's contract with Applicant. Also demonstrates communication and collaboration in relation to relevant financial assumptions used in <i>System 25Y</i> <i>Cashflow</i> including electric rate escalators, electric rate, demand charge savings, and any electric tariff changes that may result from installation of System. Application includes completed Utility MOU as part of Full Grant Application, see RFP Attachment 2, <i>Utility MOU</i> Template.
Y/N	Explanation as Necessary
	Thoroughness of Curriculum Plan
Description	Applicant demonstrates sufficient progress in curriculum development plan and/or integration, provides thorough details in how System will be integrated into curriculum including timeline, grades taught, leadership involved, topics covered, real-time monitoring integration, and plan to ensure curriculum remains active throughout the System's lifetime.
Y/N	Explanation as Necessary

Metric	Y/N
Full Application Completeness	
Readiness Assessment Commitments	
Financial Benefits to Applicant	
Electric Utility Engagement	
Thoroughness of Curriculum Plan	

Solar for Schools: Next Steps



- Email <u>SolarForSchools@state.mn.us</u> to request a Unique SFS ID.
- Contact CERTs to Schedule a Pre-Application Consultation.
- Begin to Prepare for the Readiness
 Assessment Using CERTs Checklist
- Download the RFP January 9.
- Submit the Readiness Assessment by February 6.

COMMERCE DEPARTMENT

Amanda Schienebeck, Solar For Schools Program Manager SolarForSchools@state.mn.us MN.gov/solar4schools

Questions?

Clean Energy Resource Teams:

- 1) Project Development
- 2) Technical Assistance
- 3) Solar for Schools Readiness Checklist

Commerce Energy Contracts Department:

- 1) RFP Clarification and Process Questions
- 2) Grant Clarification and Process Questions
- 3) Data Requests

Solar for Schools:

- 1) Submitting Program Public Comment
- 2) Requesting a School Project ID
- 3) Post-Grant Award Inquiries
- 4) General Program Questions

Energy.Contracts@state.mn.us

plindstr@umn.edu

SolarForSchools@state.mn.us



Solar Schools: Building a Brighter Future

Peter Lindstrom

Solar for Schools Webinar

December 20, 2022

What is CERTs Hearing?



Dear CERTS,

I am a teacher at...

Just wanted to make contact with you about a project to build a solar array on our campus.

I am looking for any help and insight as I move forward with the student group working on this. Mr. Lindstrom,

I'm a junior at Roseville Area High School...

Are there any other grants out there that my school could apply for? As with many public schools, I think the main barrier for us will be cost.

I'm a teacher and the leader of of the Environmental Sustainability PLC. We are looking into possibilities for installing a large Solar PV array on our school.

We are at the early stages in our planning but would like to move as quickly as possible with your help.

And, as you know, we get a lot of pressure to install solar panels on our roofs. We need to formulate a strategy around solar that will define at what point solar makes sense and in what form the solar should take (Host and/or subscribe to a CSG? Rooftop solar purchased through a PPA?). - Facilities Manager

Solar School Options





Pine River-Backus – 660 kW





North Minneapolis Community Solar



What Can CERTs Do?



• Technical Assistance

Meet w/ Officials & Students Help with Procurement, Calculate ROI

• Tell Your Story

Ribbon Cutting, Media

Integrate into Curriculum & Empower Students

- YES! (Youth Eco Solutions)
- MRES Solar Boat Regatta
- Climate Generation
- We Share Solar



South St. Paul Kaposia Elementary (453kw)

Technical Assistance



- Solar 101
- Site Selection
- Procurement Best Practices
- Financing/Rebates







Tell Your Story!



Want to follow up?



Peter Lindstrom 651-324-4831 plindstr@umn.edu



CleanEnergyResourceTeams.org/SolarSchools