

# **SOLAR PV PROPOSAL**

Prepared for:

# **Merton School District - Combined**

N68w28460 Sussex Rd Merton, WI



**Primary School** 

**Intermediate School** 

Date: 5/24/2019 Prepared by: Catie Malcheski

N27 W24025 Paul Ct | Suite 100 | Pewaukee, WI 53072

UNVEST SOLAR INC

262-547-1200

SunVest.com



N68w28460 Sussex Rd Merton, WI

# Date: 5/24/2019 Prepared by: Catie Malcheski

#### **ARRAY SUMMARY**

System Size: 389.435 kW-DC Estimated Year 1 Production: 491,120 kWh

1,261 kWh/kW

#### **Proposed Solar Equipment:**

Solar Modules: (1097) 72 Cell Tier 1 355W
Inverter: SolarEdge + DC Optimizers
Racking: Ballasted Non Penetrating
Monitoring: Inverter-integrated



#### **FINANCIAL SUMMARY**

System Economics						
Total System Price	(\$1459/kW)	\$	568,185.67			

Payback Period (in years)	10.1
5-Year Internal Rate of Return	-20.7%
10-Year Internal Rate of Return	-0.1%
20-Year Internal Rate of Return	8.5%
30-Year Internal Rate of Return	10.3%
Cumulative cashflow yrs 1-30	\$1,419,921

Net Year 1 System Cost \$ 568,185.67

Cost of solar-produced energy over 30 years (Net Year 1 Cost plus Long-Term Maintenance Cost):	Cost of same amount of energy purchased from Utility:				
\$732,488	\$2,152,409				
Solar Saves \$1,419,921					

\*Cost of buying electricity from utility company using assumed initial (Blended) utility rate of \$0.09176/kWh and an inflation rate of 3% per year over the next 30 years. The rate is a blend between the Primary School's CG3 rate and the Intermediate School's two CG2 rates

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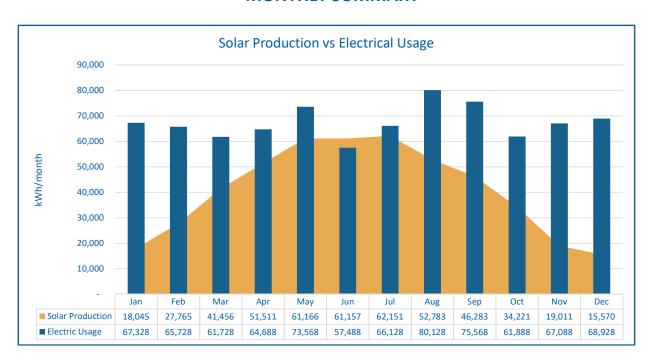
**Financial Highlights** 



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#### **MONTHLY SUMMARY**



#### **ENVIRONMENTAL BENEFITS**

## Clean energy generation of 491120 kWh per year:



Electrical usage of 41 average homes offset



291640 miles not driven (based on greenhouse gas emissions)



654830 pounds of coal not burned (based on CO2 emissions)

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## FINANCIAL PROFORMA

<b>Total System Price</b>	(\$1459/kW)	\$ 56	58,186	Payback Period (yrs)	10.1	System Size:	389.435 kW-DC
				5-Yr IRR	-20.7%	Solar production value:	\$0.106/kWh
				10-Yr IRR	-0.1%	Blended utility rate:	\$0.092/kWh
				20-Yr IRR	8.5%	Effective tax rate:	30%
				30-Yr IRR	10.3%	Utility Rate escalator:	3.0%
						Annual solar degradation	ı: 0.7%
Net Price		\$ 56	58,186	30-Yr cashflow	\$ 1,419,921	Est Year 1 Production:	491,120

Year	Net Price	*Long-Term Maintenance	So	Value of olar (Self-	*Value of Solar verproduced)	1	otal Value of Solar	Annual cashflow	umulative cashflow
1 \$	(568,186)		\$	51,564	\$ 388.14	\$	51,952	\$ (516,233)	\$ (516,233)
2			\$	51,518	\$ 387.79	\$	51,906	\$ 51,906	\$ (464,328)
3			\$	52,692	\$ 396.63	\$	53,088	\$ 53,088	\$ (411,239)
4			\$	53,893	\$ 405.67	\$	54,298	\$ 54,298	\$ (356,941)
5			\$	55,121	\$ 414.91	\$	55,536	\$ 55,536	\$ (301,405)
6			\$	56,377	\$ 424.37	\$	56,802	\$ 56,802	\$ (244,604)
7			\$	57,662	\$ 434.04	\$	58,096	\$ 58,096	\$ (186,508)
8			\$	58,976	\$ 443.93	\$	59,420	\$ 59,420	\$ (127,088)
9			\$	60,320	\$ 454.05	\$	60,774	\$ 60,774	\$ (66,313)
10			\$	61,695	\$ 464.40	\$	62,159	\$ 62,159	\$ (4,154)
11			\$	63,101	\$ 474.98	\$	63,576	\$ 63,576	\$ 59,422
12			\$	64,539	\$ 485.81	\$	65,025	\$ 65,025	\$ 124,447
13			\$	66,010	\$ 496.88	\$	66,507	\$ 66,507	\$ 190,953
14			\$	67,514	\$ 508.20	\$	68,022	\$ 68,022	\$ 258,976
15		-\$164,302	\$	69,053	\$ 519.78	\$	69,573	\$ (94,730)	\$ 164,246
16			\$	70,627	\$ 531.63	\$	71,158	\$ 71,158	\$ 235,404
17			\$	72,236	\$ 543.74	\$	72,780	\$ 72,780	\$ 308,184
18			\$	73,882	\$ 556.14	\$	74,438	\$ 74,438	\$ 382,622
19			\$	75,566	\$ 568.81	\$	76,135	\$ 76,135	\$ 458,757
20			\$	77,288	\$ 581.77	\$	77,870	\$ 77,870	\$ 536,627
21			\$	79,050	\$ 595.03	\$	79,645	\$ 79,645	\$ 616,272
22			\$	80,851	\$ 608.59	\$	81,460	\$ 81,460	\$ 697,732
23			\$	82,694	\$ 622.46	\$	83,316	\$ 83,316	\$ 781,048
24			\$	84,578	\$ 636.65	\$	85,215	\$ 85,215	\$ 866,263
25			\$	86,506	\$ 651.16	\$	87,157	\$ 87,157	\$ 953,420
26			\$	88,477	\$ 666.00	\$	89,143	\$ 89,143	\$ 1,042,564
27			\$	90,494	\$ 681.18	\$	91,175	\$ 91,175	\$ 1,133,739
28			\$	92,556	\$ 696.70	\$	93,253	\$ 93,253	\$ 1,226,992
29			\$	94,666	\$ 712.58	\$	95,378	\$ 95,378	\$ 1,322,370
30			\$	96,823	\$ 728.82	\$	97,552	\$ 97,552	\$ 1,419,921
Total			\$	2,136,329	\$ 16,080.83	\$	2,152,409		\$ 1,419,921

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\*Replace Inverters, Remove/Reinstall Panels upon roof replacements, & "Fluff" (best guess at future pricing)

consumed overproduced

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### **Attachment A**

System Size: 389.435 kW-DC **Estimated Year 1 Production:** 491,120 kWh

	Material:	Services:			
Solar Modules:	(1097) 355W 72 Cell Tier 1	System Design:	in accordance with local and state codes, including shade analysis if applicable		
Inverter(s):	SolarEdge + DC Optimizers				
Racking:	Ballasted Non Penetrating	Submittals:	applicable permits, utility/interconnection and any		
Monitoring:	Inverter-integrated		incentive paperwork		
		Installation:	all necessary labor including a 5-year Limited		
			Workmanship Warranty		

Total System Price	\$ 568,185.67
Payment Terms:	
Cash to Contractor upon contract execution	\$ 170,455.70
Cash to Contractor at material order	\$ 170,455.70
Cash to Contractor at construction completion	\$ 170,455.70
Cash to Contractor at system commissioning	\$ 56,818.57

Au	uthorized By (SunVest Solar, Inc.)		Accepted By (Building Owner)
Signature:		Signature:	
Name:		Name:	
Title:		Title:	
Date:		Date:	

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