



**INNOVATIVE POWER SYSTEMS**

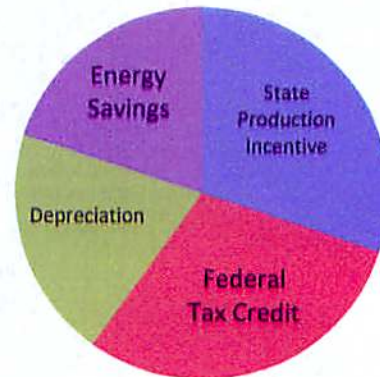
**Government/ Non-Profit  
Solar Financing Program**

# Install a solar electric system with no upfront out-of-pocket expense with IPS Gopher Solar Financing Program!

## How does it work?

Innovative Power Systems' financing partner provides all capital necessary to install the system. This enables your solar project to be cashflow positive from day one! The project will be financed through a combination of the Made in Minnesota solar production incentive, Federal Tax Credit, depreciation, and the execution of a 15-year Power Purchase Agreement (PPA) at a rate not to exceed 80% of the savings from the electricity produced by the solar system. After 15 years, full ownership of the system and the ongoing savings are turned over to you. There is also a 10-year buyout option. Manufactured in Bloomington, MN by tenKsolar, the major components of the system have a 25-year warranty. IPS expects at least 30-40 years of useful life out of the system. With no upfront capital, solar energy has never been easier to access and enjoy. Reduce pollution and operational costs, everyone benefits!

## How systems are financed



## About Innovative Power Systems :



Innovative Power Systems (IPS) designs, installs, and services solar electric, wind electric, solar thermal, and EV charging stations for residential, commercial, and utility-scale applications. IPS has designed and installed hundreds of solar energy systems since 1991, by far more than any other contractor in the state. Ralph Jacobson, owner of Innovative Power Systems, is a NABCEP certified general and electrical contractor for both solar electric and solar thermal systems. IPS has unparalleled experience in the design and implementation of renewable energy systems throughout Minnesota and the Upper Midwest.

651-789-5305  
1413 Hunting Valley Road  
St. Paul, MN 55108

[www.ips-solar.com](http://www.ips-solar.com)  
MN General Contractors License #20101407  
MN Electrical Contractors License # EA06128



# INNOVATIVE POWER SYSTEMS

Renewable Energy Design & Installation  
[www.ips-solar.com](http://www.ips-solar.com)



## About Innovative Power Systems :



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Some of our commercial installations include:

The Science Museum of Minnesota (10kW)  
Great River Energy Headquarters (72kW)  
Splash Products, Inc. (40kW)  
Eichten Farms (40kW)  
Pellco Machine (40kW)  
Quality Bicycle Products (40kW)  
AGA Medical (40kW)  
Waconia Ice Arena (40kW)  
Lessors, Inc. (40kW)  
East Side Glass (40kW)  
Mallard Ink (40kW)

Please see our website at [www.ips-solar.com](http://www.ips-solar.com) to view other projects.

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# INNOVATIVE POWER SYSTEMS

Renewable Energy Design & Installation  
www.ips-solar.com

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## MONTHLY CASHFLOW EXAMPLE

Becker School District #726  
12000 Hancock Street  
Becker, MN 55308

Project Address:  
High School  
12000 Hancock Street SE  
Becker, MN 55308

Credit from Xcel Energy for electricity produced by PV Array	\$ 416
75% Payment (PPA) to JJR Power	\$ 312
<b>Total Monthly Savings</b>	<b>\$ 104</b>
<b>Total Yearly Savings</b>	<b>\$1,250</b>

THIS IS AN EXAMPLE ONLY. MONTHLY SOLAR PRODUCTION AND SAVINGS WILL VARY.

# Solar PV System Cash Flow Analysis



Innovative Power Systems

ips-solar.com

Prepared for: Independent School District #726  
 Date: 2/5/2014  
 System Size: 39.36kW

## Assumptions (Inputs)

Total Installed Cost (\$):	\$0
Annual Energy Output (kWh):	50,000
Electricity Cost (\$/kWh)*:	\$0.1000
Electricity Inflation Rate (%):	2
Loan Downpayment (%):	100
Down Payment (\$):	\$0

## Annual Cash Flow Model

Year	Upfront Cost	Reduced Energy Bill	Annual Cash Flow	Cumulative Cash Flow
0	\$0		\$0	\$0
1		\$1,250	\$1,250	\$1,250
2		\$1,275	\$1,275	\$2,525
3		\$1,301	\$1,301	\$3,826
4		\$1,327	\$1,327	\$5,152
5		\$1,353	\$1,353	\$6,505
6		\$1,380	\$1,380	\$7,885
7		\$1,408	\$1,408	\$9,293
8		\$1,436	\$1,436	\$10,729
9		\$1,465	\$1,465	\$12,193
10		\$1,494	\$1,494	\$13,687
11		\$1,524	\$1,524	\$15,211
12		\$1,554	\$1,554	\$16,765
13		\$1,585	\$1,585	\$18,350
14		\$1,617	\$1,617	\$19,967
15		\$1,649	\$1,649	\$21,617
16		\$6,729	\$6,729	\$28,346
17		\$6,864	\$6,864	\$35,210
18		\$7,001	\$7,001	\$42,211
19		\$7,141	\$7,141	\$49,352
20		\$7,284	\$7,284	\$56,637
21		\$7,430	\$7,430	\$64,066
22		\$7,578	\$7,578	\$71,645
23		\$7,730	\$7,730	\$79,375
24		\$7,884	\$7,884	\$87,259
25		\$8,042	\$8,042	\$95,301
26		\$8,203	\$8,203	\$103,504
27		\$8,367	\$8,367	\$111,871
28		\$8,534	\$8,534	\$120,406
29		\$8,705	\$8,705	\$129,111
30		\$8,879	\$8,879	\$137,990

## Results

### Ave. Monthly Savings on Bill

Year 1 (\$):	\$104
Year 10 (\$):	\$124
Year 20 (\$):	\$607
Year 30 (\$):	\$740

Becker High School

PV Array Layout

12000 Hancock Street NE  
Becker, MN 55308

Bi-directional meter  
Production meter  
Disconnect

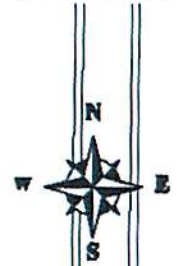
Underground service line

**PV System:**

(96) tenKsolar 410-watt modules

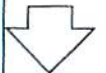
(72) APS 500-watt micro-inverters

**Total Output:  
39.36 kilowatts**



Sherburne Ave

Hancock St NE



# RAIS<sup>®</sup> XT PV System



## » **More Energy, More Reliable**

Solar's most productive commercial flat roof PV system delivers up to 44% more energy and the highest return on investment.



### **20% More Watts per Roof than Leading 10° Tilt Rooftop Systems**

- » Shade tolerant design allows for denser packing of solar array and for installation near obstructions

### **20% More Energy per Watt**

- » High efficiency DC-AC conversion plus added light from reflectors boost energy production

### **Maximum Long Term Production and Reliability**

- » System design, architecture and materials ensure 25 year productive life

### **No Risk of Fires or Arcing**

- » Low voltage and module level ground fault detect circuits eliminate any lethal shock and fire hazard

### **Non-Penetrating Roof Installation**

- » Simple and robust racking design resists high winds at low installed weights

### **Easy to Deploy**

- » Racking attachments integrated into module lowers installation times

### **Streamlined Electrical Connection and Commissioning**

- » Integrated electrical connection devices simplify system design and commissioning

### **Best Warranty in the Solar Industry**

- » 25 Year Power Warranty: Linear 0.2% degradation per year after Year 1.

### **Module integrated electronics drive unmatched rooftop system performance**

- » Enables use of simple, static reflection to utilize all available sun resource <and enhances safety and reliability

### **Tilt Options**

- » XT 26°: Maximum output per roof
- » XT 28°: More energy per watt

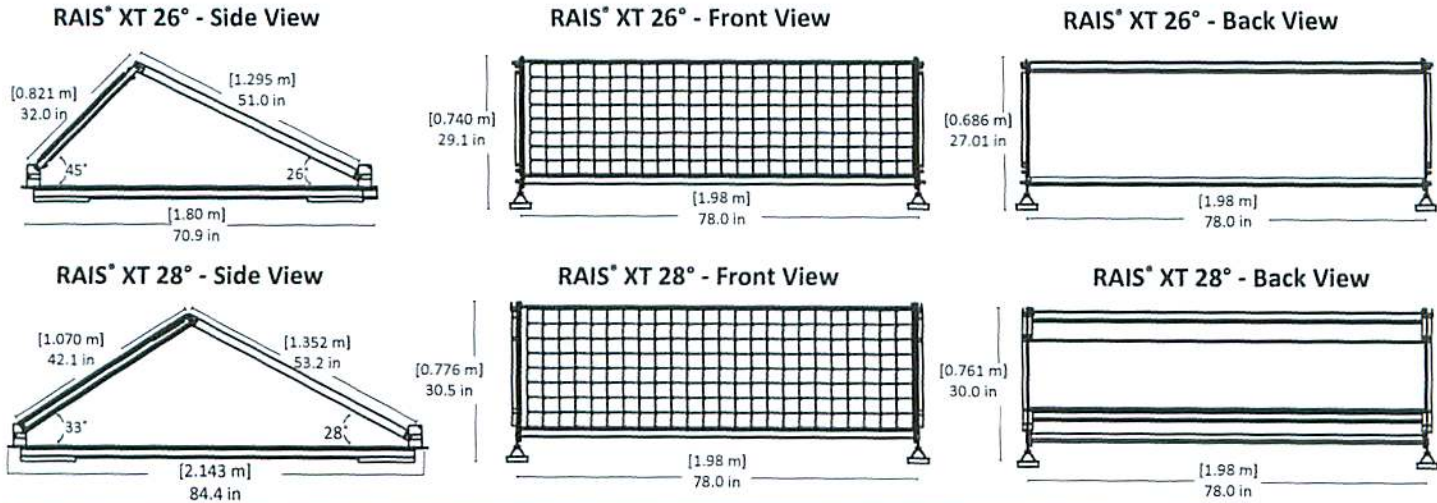
952.303.7600  
www.tenKsolar.com  
info@tenKsolar.com

9549 Penn Avenue South  
Minneapolis, MN 55431

fundamentally better solar

# RAIS® XT PV System

System Performance		
Tilt Configuration	RAIS® XT 26°	RAIS® XT 28°
Module Model	RAIS® XT-A 410W <sub>p</sub>	
Peak Watts/Area	10.82 W <sub>p</sub> /ft <sup>2</sup> (116.5 W <sub>p</sub> /m <sup>2</sup> )	9.0 W <sub>p</sub> /ft <sup>2</sup> (96.7 W <sub>p</sub> /m <sup>2</sup> )
Average Array Weight	3.2 lbs/ft <sup>2</sup> (15.6 kg/m <sup>2</sup> )	2.6 lbs/ft <sup>2</sup> (12.7 kg/m <sup>2</sup> )
Wind Resistance	Up to 120 miles per hour	



Specifications		
Module + Reflector Dimensions when assembled	5.91 ft North-South x 6.5 ft East-West 1.80 m North-South x 1.98 m East-West	7.03 ft North-South x 6.5 ft East-West 2.14 m North-South x 1.98 m East-West
System Weight	Module:	71 lbs (32.2 kg)
	Reflector:	28 lbs (12.7 kg)
	Rail & Assoc. Hardware:	8 lbs (3.6 kg)   9 lbs (4.1 kg)
	Inverter & Mounting Bracket:	208V: 178 lbs (80.74 kg), 277/480V: 243 lbs (110.22 kg), 230V (50 Hz), 240V: 188 lbs (85.3 kg)
Application	Flat roof (max slope: 5 degrees)	
Installation Speed	10kW per day typical (three-person crew)	
Service Voltage Options	120/208, 120/240, 230/400 (50 Hz), 240/416, 277/480	
Inverter Power Rating	5000W Low Voltage Operation	
RAIS® Reflector Materials	3M™ Cool Mirror Film	
Racking Materials	High strength structural-grade aluminum alloys	
Conductor	#2 USE-2 90C Rated (included)	

Warranties and Certifications	
Module Certifications	UL 1703/UL 1741 IEC 61215 EN 61730 pending
Warranty	12 Year Limited Product Warranty, 25 Year Linear Power Warranty: 3% Power Degradation First Year, 0.2% Linear Degradation per year after First Year

Specifications and design are subject to change without notice. Read operating instructions carefully before using this product.

Patents Pending  
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XT051513EN





March 31, 2014

Joe Prom  
Becker High School, 12000 Hancock Street  
Becker, MN 55308

**Made in Minnesota Solar Incentive Program  
Solar Photovoltaic (PV)  
RESERVATION NOTICE**

**Date of Reservation:** March 31, 2014  
**Application Number:** MIM14-00044  
**Host Customer:** Joe Prom  
**Installation Address:** Becker High School, 12000 Hancock Street, Becker, MN 55308  
**Expiration of Reservation:** November 30, 2014  
**Maximum Kilowatt Capacity (DC) of Project:** 39.36  
**Solar Incentive Amount:** \$0.20 per kWh

**Confirmation of Incentive Reservation**

This letter confirms that Joe Prom has received an incentive reservation in the Made in Minnesota Solar Incentive Program for application number MIM14-00044 and may begin construction on the project as described in the application.

To receive the incentive, the project payee must obtain a State of Minnesota Vendor Identification (ID) Number. Vendor IDs can be obtained from the State of Minnesota Supplier Portal. Please submit a Vendor ID to [Solar.help@state.mn.us](mailto:Solar.help@state.mn.us) by *April 30, 2014 to confirm your solar incentive reservation.*

**How to Comply with Program Guidelines**

Upon project completion, the applicant must submit a notice of completion package by the expiration date listed in this notice or file an extension request. Extension requests will be considered on a case by case basis.

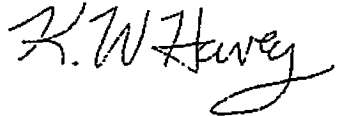
Incentives are paid in accordance with Minnesota State Statute [§216C.414] "Made in Minnesota" Solar Energy Production Incentive. The payment of an incentive is conditional on the project's compliance with program rules.



**Questions**

If you have any questions, please send an email to [solar.help@state.mn.us](mailto:solar.help@state.mn.us) or review the [Made in Minnesota Solar Incentive Program Guidelines](#).

Thank you for your interest in expanding Minnesota solar resources,



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Made in Minnesota Solar Program Coordinator  
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[Kim.Havey@state.mn.us](mailto:Kim.Havey@state.mn.us) | [mn.gov/made-in-minnesota](http://mn.gov/made-in-minnesota)