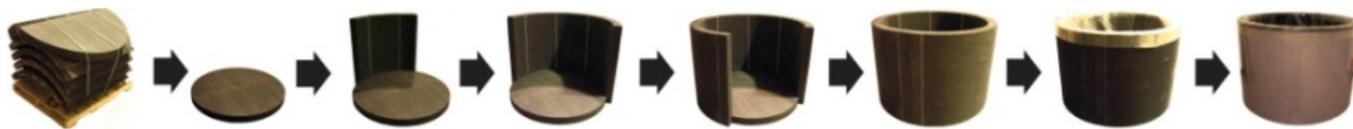




# Skasgé Power, LLC



One Panel . . . Dual Energy Output . . . Power Panel



- Skasgé Power, LLC: established under the laws of the Nottawaseppi Huron Band of the Potawatomi.
  - Skasgé Power, LLC – 100% Tribal-owned distributor of Power Panel product suite.
  - Joint Venture with Power Panel, Inc. to develop future manufacturing capability to support Skasgé Power sales through majority Tribal-owned (60%) and controlled manufacturing entity.
  - Combination photovoltaic (PV) and thermal power panels for commercial and residential application.
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The decision to form Skasgé Power was the result of internal process to identify opportunities for economic diversification that met the following Tribal goals:

- Passive investment in emerging industry with good potential for growth in value.
  - The desire to pursue economic development that promoted sustainable development strategies.
  - Diversification strategy also wanted to leverage passive investment with the development of manufacturing jobs, specifically manufacturing that would position the Band to pursue 8(a) SBA contracting opportunities.
  - Diversification strategies also wanted to identify opportunities that took advantage of the labor pool of Band citizens (i.e. Job Bank created/managed to employ Band citizens in construction-related; general labor on projects undertaken by the Band).
  - Leverage investment by utilizing Joint Venture to promote development of Skasgé Power to serve as a wholly NHBP-owned distributor/installer of Skasgé Power Panel Product Suite to provide additional employment opportunities to NHBP citizens and spouses.
- 

The Skasgé Power/Power Panel Joint Venture provides opportunities to leverage the Band's investment in Power Panel in a number of ways:

- Skasgé Power's PV/Thermal Power Panels would be marketed, distributed and installed under arrangement that gives Skasgé Power exclusive distribution rights within Indian Country; Skasgé Power also given non-exclusive rights to market Power Panel Suite in other markets;
  - Skasgé Power would develop experience necessary to become North American Board of Certified Energy Practitioner (NABCEP) certified as retail/installer of Power Panel Product Suite manufactured by Skasgé Power (focusing on Michigan) and identify network of NABCEP certified installers in other jurisdictions;
  - Establishment jointly-owned (60% Tribal ownership) manufacturing facility near the Pine Creek Reservation to provide additional manufacturing jobs.
- 

- Power Panel was formed in 2007 to bring to market a unique solar system that combines both photovoltaic (PV) and solar thermal capabilities.
  - Traditional solar systems focus on only one of the two forms of energy produced by sunlight: either using the photons from the sun to create electricity (PV) or capturing the heat (Thermal).
  - This limits the overall energy generation and cost effectiveness of the solar systems.
  - By utilizing both PV and solar thermal, Power Panel's system is able to produce 5-6 times more energy than a pure PV system at a lower cost per watt hour.
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- Skasgé Power possesses exclusive marketing and distribution rights for Power Panel's product suite in Indian Country.
- Skasgé and Power Panel have entered into a Strategic Marketing Alliance Agreement under which Power Panel will assist the Skasgé develop additional revenues and employment opportunities through Skasgé Power through on-site installation, quality control and system maintenance services;
- As sales volumes increase/warrant, Skasgé Power will jointly develop/operate an assembly facility for the Power Panel Product Suite at a joint Skasgé-Power Panel owned facility (with Skasgé having a 60% ownership interest).

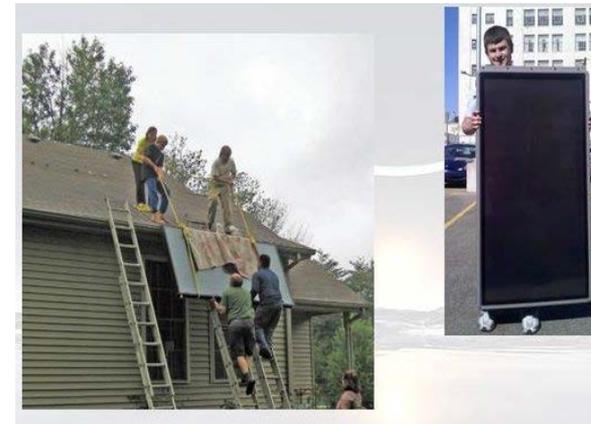


## INDIAN COUNTRY ENERGY PROBLEMS

- Many areas of Indian country still lack electrical power altogether.
  - Where electricity is available, Native Americans pay the highest rates in the nation—usually totaling a disproportionately high amount of their income.
  - Proportionately more residences/buildings in Indian Country rely on electricity/propane and other expensive fuels for space heating.
  - As time progresses, renewable energy technologies are getting less expensive, while fossil fuels generally get more expensive.
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## COMMON LIMITATIONS OF SOLAR TECHNOLOGIES

- Poor utilization of limited south facing roof space ...
- PV production decreases with higher ambient temperature ...
- Existing solar thermal panels are heavy, difficult to handle ...
- Existing PV and thermal panels cover with snow ...

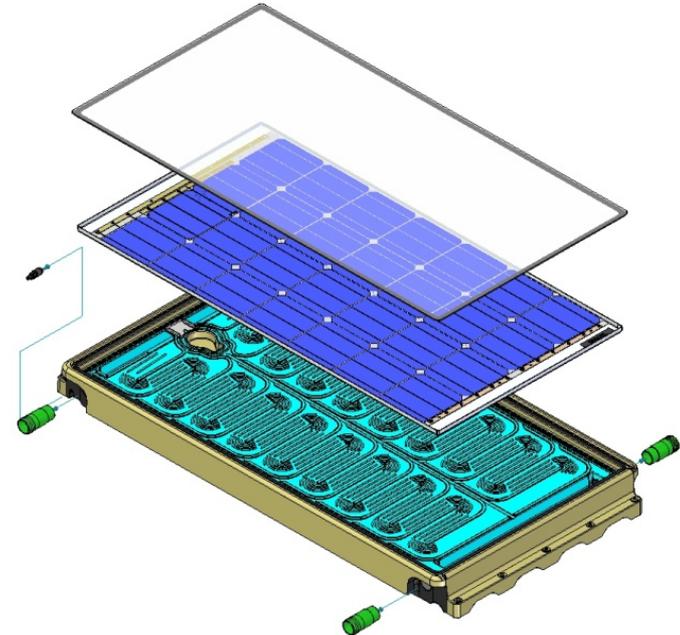


## **SOLVING THE PROBLEMS**

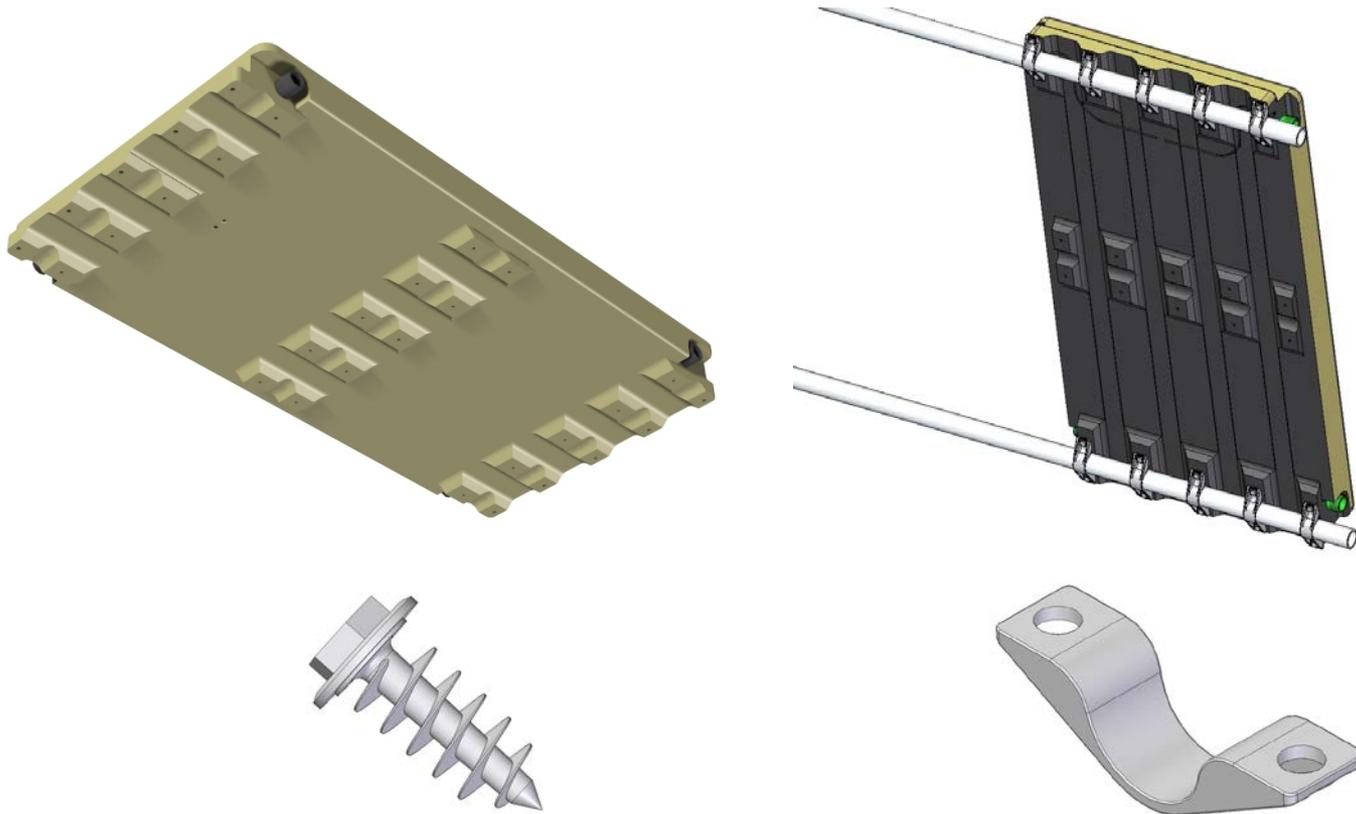
Utilizing Power Panel Co-Generating Panels Permits:

- Smaller footprint to better adapt to roof top space.
- Higher efficiencies and improved aesthetics.
- Ability to cool PV cells for higher production efficiency.
- Lightweight but durable materials for easy handling.
- Elimination of metals (copper, steel, etc.) that can corrode.
- Drain back system (no glycol) eliminates freeze potential.
- Maintenance mode circulates warm water to melt snow from panels.

# POWER PANEL CO-GENERATING SYSTEM

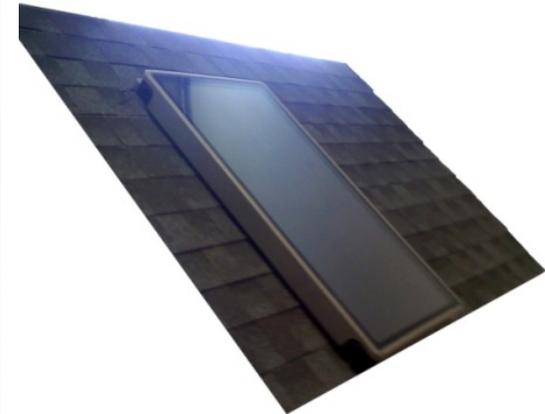
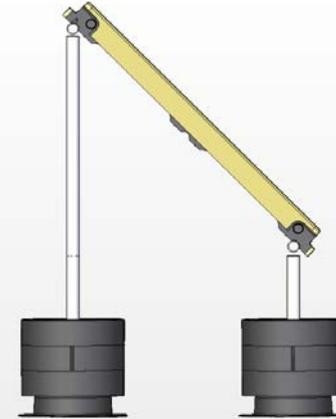
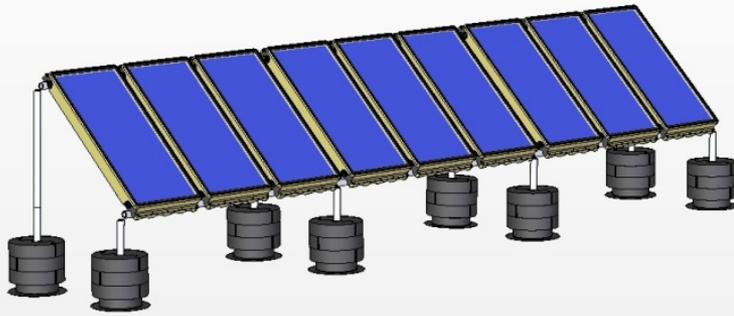


## FLEXIBLE MOUNTING



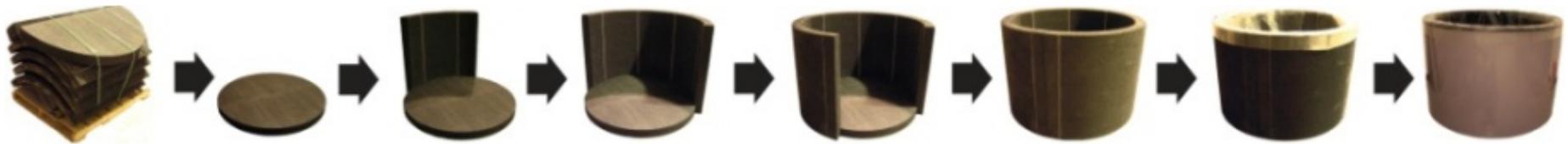
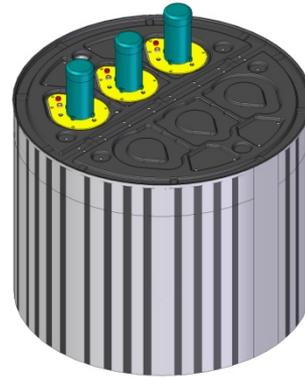
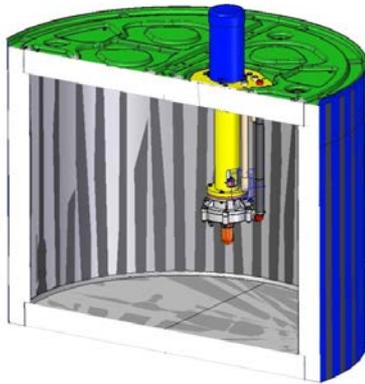


## SLOPED, FLAT, SHINGLE OR TILE ROOFS

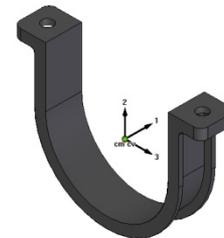
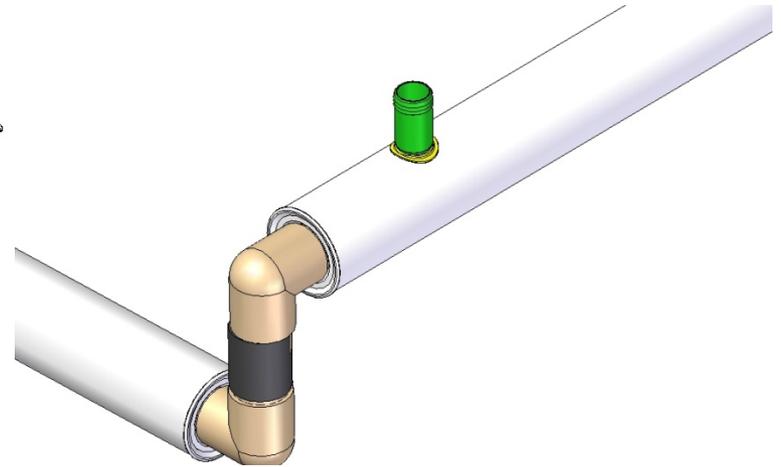
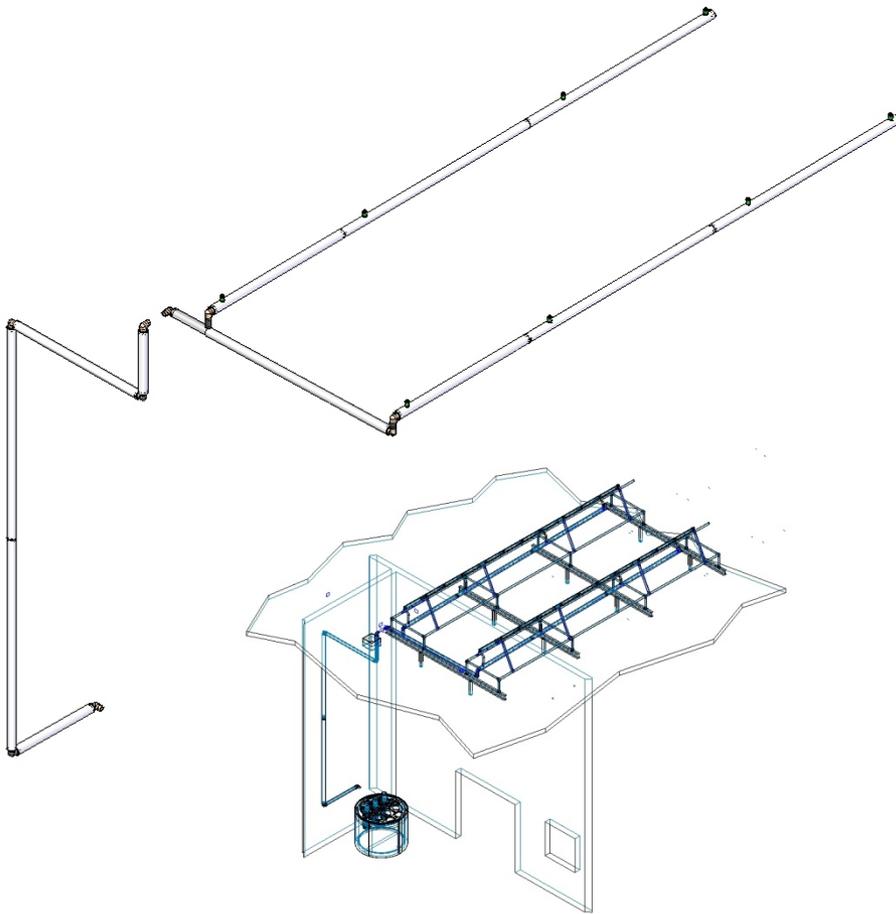




## INTEGRATED THERMAL STORAGE



## COMPLETE SYSTEM PLUMBING

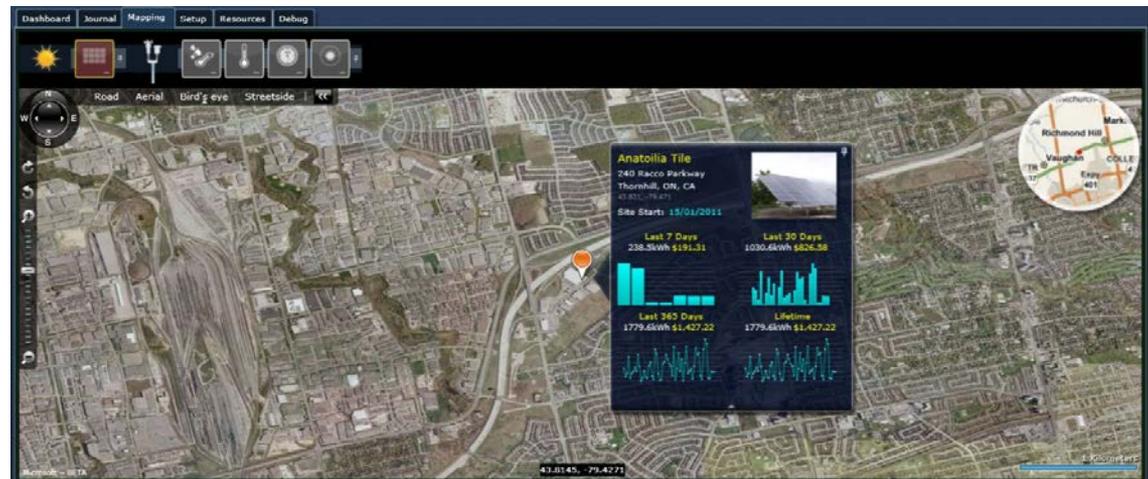


## WEB ACCESS MONITORING

Web Access monitoring of external temperature & humidity, amount of sun, rain, – weather station hardware integrated to measurement and analytics



Monitor & compare multiple sites (buildings) through GIS mapping





## 240 PANEL SYSTEM





<b>Power Panel Business Case</b>		<b>Marina Del Mar Condominiums Oceanside, CA</b>	
<b>Purchase Information</b>			
<b>Number of Power Panels Installed</b>	240	29.2 kW PV and 144 kW Thermal	
<b>System Purchase cost before incentives and credits</b>	\$300,000	\$1,250.00 per panel installed	
<b>State or Utility Incentives ( Electrical)</b>	\$0.3500	per watt PV installed	
<b>Electrical Incentives</b>	<b>\$10,206</b>		
<b>State or Utility Incentives ( Thermal)</b>	\$12.82	per Therm saved (one year)	
<b>Thermal Incentive</b>	<b>\$118,993</b>		
<b>Total Of State or Utility Incentives</b>	\$129,199		
<b>Applicable amount for Federal ITC</b>	\$170,801		
<b>Federal ITC</b>	30.00%		
<b>Value of Federal ITC</b>	\$51,240		
<b>Net Purchase Cost for Owner</b>	<b>\$119,561</b>		





Electrical Savings From Power Panel		
Electricity used per year	62,352	kWh
Current Electricity Cost per year	\$10,680	per 2010 Bills
Current Electricity Rate	\$0.1713	\$/kWh per 2010 Bills
Electricity Generated per year from Power Panel	46,506	kWh AC
Percentage of Electrical Requirement Offset by PP	<b>74.6%</b>	
Electrical savings per year (Bill Reduction)	\$7,966	
New Electricity Cost per year	<b>\$2,714</b>	

Thermal Savings From Power Panel		
Thermal Energy used per year	16,418	Therms Natural Gas
Thermal Energy Cost per year	<b>\$17,685</b>	per 2010 Bills
Thermal Energy Cost Rate	<b>\$1.0772</b>	\$/Therm natural gas
Thermal Energy used per year (kWh equivalent)	481,043	kWh Thermal equivalent
Usable Thermal Energy Generated per year	271,956	kWh Thermal
Thermal Energy Generated per Year (Therms)	9,282	Therms Natural Gas Saved
Percentage of Thermal Requirement Offset by Power Panel	<b>56.5%</b>	
Value of Thermal Energy Generated per year	\$9,998	
New Thermal Cost per year	<b>\$7,687</b>	





Straightline Payback and ROI (Considers No Cost Increase in Energy Prices)			
Straightline Payback	6.66	years	
25 year REC payments	\$0.00		
25 year electrical savings	\$199,140	\$0.1713	\$/kWh Current Electrical Rate
25 year thermal savings	\$249,949	\$1.0772	\$/Therm natural Gas
25 year total (savings + RECs)	\$449,089		
Straightline ROI	<b>15.02%</b>		
Payback and ROI with Cost Escalation of Energy over 25 year period			
Cost Escalation Factor	2.50%		Increase per year in Energy prices
Payback with Cost Escalation	4.87	years	
25 year REC payments	\$0.00		
25 Year Electrical savings	\$272,087	\$0.2340	per kWh 25 Yr Avg Cost
25 Year Thermal Savings	\$341,508	\$1.47	per THERM 25 yr Avg Cost
25 Year Total of all savings and RECs	\$613,595		
25 year average ROI	<b>20.53%</b>		



# Skasgé Power, LLC



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