

Solar Panel Make & MODEL	String SIZE # Panels	System Voltage VDC	Power Output Watts	GROUND Mounting KIT PART NUMBER	KIT PRICE (w/out PV) Retail
Kaneka <i>G-SA060</i>	8	368	480	TCS-G1-2-14	\$799
Sanyo <i>HIT Power 200</i>	6	414	1200	TCS-G1-2-10	\$799
Solar World <i>SW175</i>	8	352	1400	TCS-G1-2-12	\$799
Sun Power <i>SPR-210-BLK</i>	8	384	1680	TCS-G1-2-12	\$799
Trina Solar <i>180-DC01</i>	8	352	1440	TCS-G1-2-12	\$799
Others (8) <i>Medium Voc</i>	10	352	2100	TCS-G1-2-16	\$999
Others (4) <i>Low Voc</i>	16	352	Varies	TCS-G1-2-18	\$1099

Solar Panel Make & MODEL	String SIZE # Panels	Power Output Watts	PV (String) PRICE Estimated CALL to confirm	KIT PRICE (w/out PV) Retail	TOTAL PV + Mount \$/Watt
Kaneka <i>G-SA060</i>	8	480	\$960	\$799	\$3.66
Sanyo <i>HIT Power 200</i>	6	1200	\$3200	\$799	\$3.33
Solar World <i>SW175</i>	8	1400	\$3380	\$799	\$2.99
Sun Power <i>SPR-210-BLK</i>	8	1680	CALL	\$799	CALL
Trina Solar <i>180-DC01</i>	8	1440	CALL	\$799	CALL
Others (8) <i>Medium Voc</i>	10	2100	CALL	\$999	CALL
Others (4) <i>Low Voc</i>	16	Varies	CALL	\$1099	CALL



OES-TCS-G1-2-12 (Patent Pending) – installs a string of PV for Grid-Tie

Strategy for Achieving a Total Installed Price of less than \$4 per watt

(Ground Mount Solar PV Grid-Tied System)

ADD Strings + INCREASE Inverter Size

4.2KW System with Solar World PV = \$15,037 Hardware + \$3,000 Labor (Electrical Contractor) = \$18,037

NOTE: Hardware includes PV, Mount, and Inverter (The System); Labor includes Installation and Wiring

\$4.29 per Watt, installed, as of February 18, 2011

\$0.29 per Watt reduction may come from volume purchasing and labor discounts.

Economics of a Ground System at \$4.29 per Watt, Installed – Doable Today!

A 4.2KW system produces 5,050 KWh per year, typical, with a 25 year service lifetime.

Initial Upfront Cost = \$18,037

Less 30% Federal Tax Credit (\$5,411) = \$12,626

Less Sum of Annual Production Payments [WA State through 2020] (\$6,804) = \$5,822

Less Sum of Annual Energy Savings [at \$0.085 per KWh] (\$10,710) = **(\$4,888)...a Net Savings!**

Thus, there is a Positive Return of **\$4,888** in Washington State. The system literally produces profit, largely possible because of the low cost – in both materials and labor - of the *Tensioned Cable System* developed by Olympic Energy Systems, Inc. for mounting PV on the ground.

For Ohio, removing the Production Payments (which are NOT available in Ohio), but factoring in a utility cost of \$0.10 per KWh (versus the historically lower \$0.085 per KWh in Washington State), leaves a Return near **Zero**, actually a slight Premium Price Paid of \$26 for **Energy Security** - 25 years of risk-free energy locked in at 2011 prices! Thus, in Ohio, a system installed today pays back, with only the use of the 30% Federal Tax Credit, which is guaranteed. With the availability of even lower cost thin film PV in the future, the economics for solar in Ohio will continue to improve, even without utility rate increases.

An implementation approach NOW consists of an investment in existing state of the art (framed, crystalline PV panels and the *Tensioned Cable System*), which allows a hedge against future electricity price hikes. WAITING, then a reliance on lower cost Thin Film PV is required to offset the utility rate increases that are very likely. By waiting, you set yourself up to pay the higher utility costs. SO, going solar NOW or LATER provides similar economic results, but an investment NOW incurs lower risk.

Bottom Line, solar is ripe now and there is little or no reason to wait, as future commodity prices will tend to keep system prices higher in the face of increasing utility costs, canceling any benefit in waiting to invest in a solar electric system. In real terms, there has never been a better time (in terms of price) to buy a solar electric system in the US. [Jonathan A. Clemens, Olympic Energy Systems, Inc.]