GridParity™ Finance

Open Access to Financing

+

Solar Hosting

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The GridParity™ Finance Era Has Arrived

"The Dawn of Grid Parity"
Stanford GSB Reporter, October 6, 2011
www.solarpvnews.com (Self Authored)

"The Dawn of Grid Parity means that solar electricity now costs the same as traditional electricity, in select markets like California with both high sunlight and high electricity prices."

GridParity™ Finance: funding the system capital expenditure with operational cash flows alone, without the use of any government subsidies

Core Product:

Affordable solar electricity to California homeowners from both sides of the meter. (net metering & wholesale)

"Self Shelter" business model allows affordable residential solar electricity production

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Self Shelter Business Requirements

1. GridParity™ Cost Structure:

Installation costs must be low enough that the system pays for itself through the sale of electricity production alone

- Minimize install costs with best in class EPC and lean operating team
- To manage site development & marketing expenses, maximize the PV system size and adopt "residential solar utility" generation model
- Mitigate declining fuel prices with focus on retail market not wholesale

2. Stable Low-Cost Financing:

Must obtain non-recourse debt at 4-6% (LIBOR+300bps)

- To satisfy investor sentiment, establish solar PV as a mainstream investment class and establish a "GridParity™ Finance" public bond
- Ensure investor confidence of project capital providers through establishment of a secondary project electricity sales channel via wholesale markets in case of site owner default

The Self Shelter business model allows affordable residential solar electricity production without the need for any government subsidies.

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Customer Segmentation

Customers have roofs of differing sizes, varying income levels and green appetites
Installation and investment products need to be match customers and their needs

	Customer Need	Stable Investment		Extra Income or Savings		Green Environment	
	Roof Size	Large	Small	Large	Small	Large	Small
	Income Level	High	Mid	Mid	Low	Low	High
Product Offering	Stable Investment 7-9% Return	++	++	–	–	––	+
	Offset Site Usage Behind the Meter	–	–	+	–	++	+
	Rent Out Excess Roof Space	+	––	++	–	++	+
Joint Product	Combined Bond & Install	++	–	+	–	++	++

Joint Bond + Install

Legend: + connotes product attractiveness to customer
– connotes product not suitable for customer

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1 **Solar Host Sites**

Customers with roofs they can rent to produce electricity upon and sell to others

Demand Sites

Customers who will purchase electricity from the solar host sites

2 **Residential Investors**

Retail investors who want a stable return and to contribute to green energy

3 **Self Usage Customers (Behind the Meter)**

Customers who purchase electricity on site at 0% discount to retail but receive a bond cash payment - cash inflow each month provides incentive not to default on the lease or PPA

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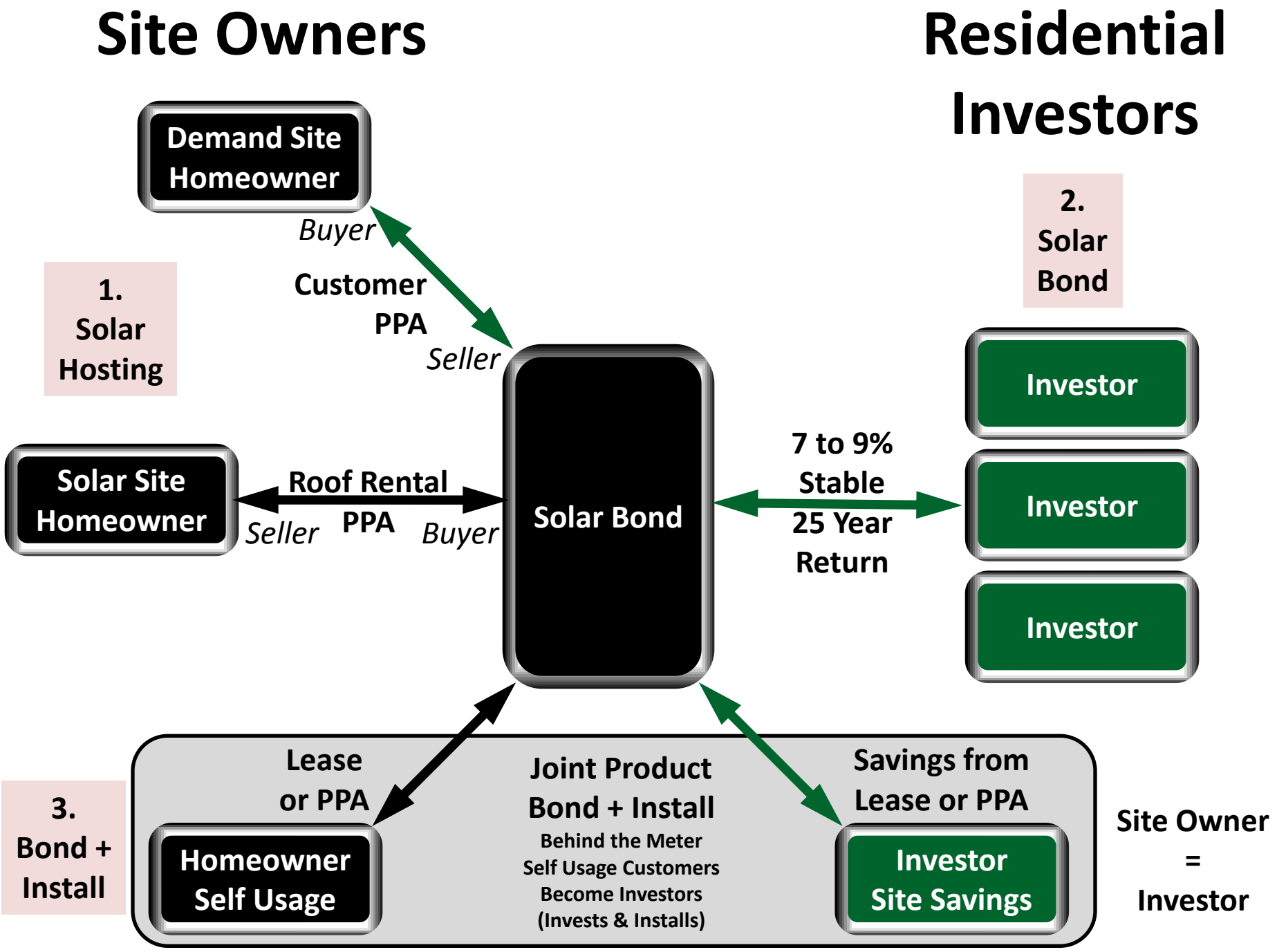
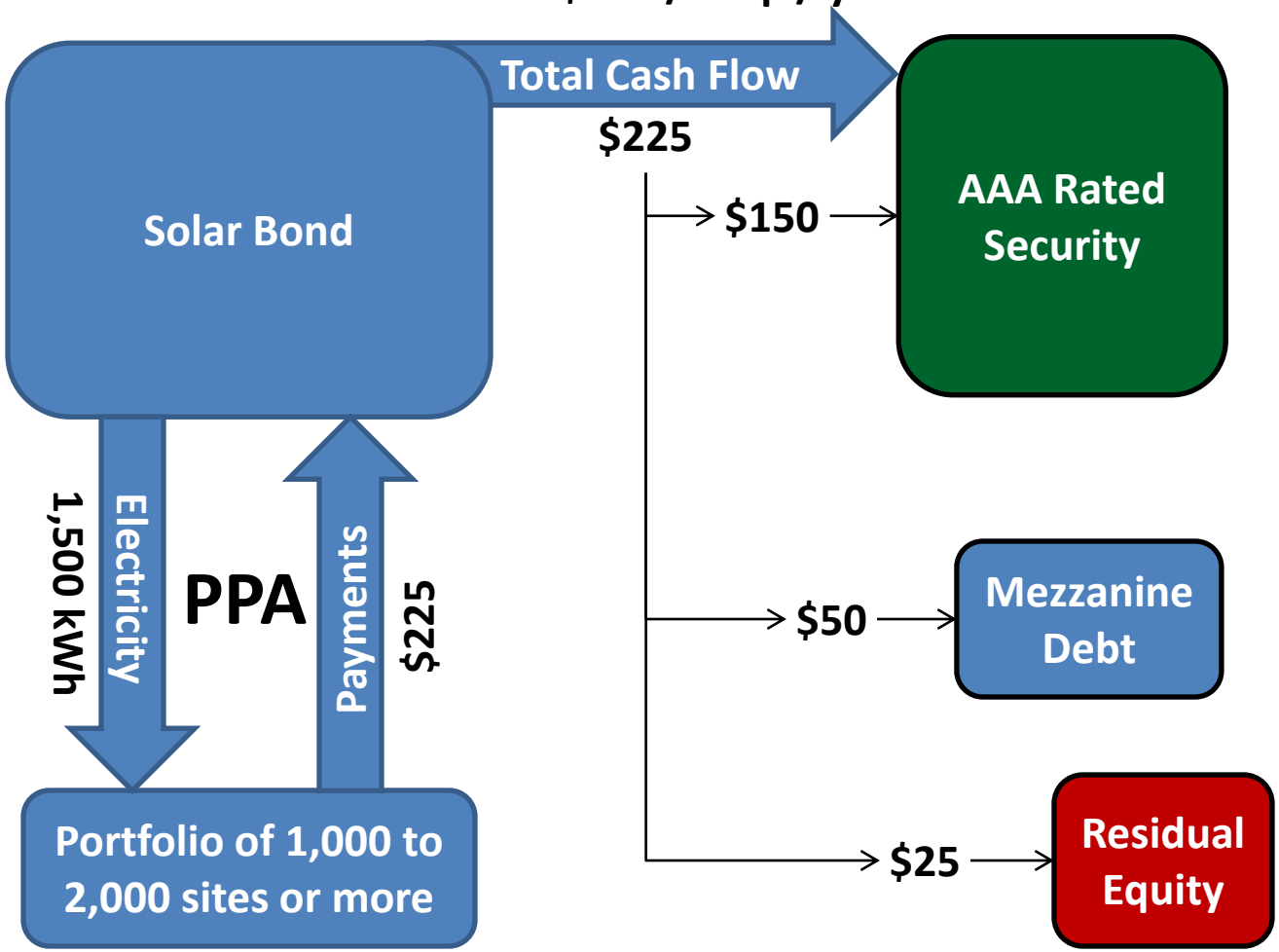

Site Owners
Residential Investors
Demand Site Homeowner
Buyer
Customer PPA
Seller
1. Solar Hosting
2. Solar Bond
Investor
Investor
Investor
Solar Site Homeowner
Roof Rental PPA
Seller
Buyer
Solar Bond
7 to 9% Stable 25 Year Return
3. Bond + Install
Lease or PPA
Joint Product Bond + Install
Behind the Meter Self Usage Customers Become Investors (Invests & Installs)
Savings from Lease or PPA
Homeowner Self Usage
Investor Site Savings
Site Owner = Investor

$2.73 / W Solar Bond with 6.6% WACC (Pre-Tax)

Assume 1,500 kWh / kWp per year of solar production
PPA Pricing - $0.15 / kWh PPA (residential pricing)
Total Portfolio Cash Flow = $225 / kWp / year



	Rate	NPV
AAA Rated Bond	5%	$2.11
Mezz	10%	$0.45
Equity	15%	$0.16
Total	6.6%	$2.73

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Grid Parity Verification

Founding Premise:

- **Residential Costs Sub $3.00 / Watt**
- **$2.00 / W barrier within reach**

	Residential Cost per Watt		% Composition		
	Site 001	Target	Tot	BoS	BBL
Solar Modules	$1.60	$1.00	46%		
Inverter	$0.44	$0.35	16%	30%	60%
Rack-Rails	$0.12	$0.10	5%	8%	17%
Rack-Clamps	$0.02	$0.01	0%	1%	2%
Rack-Feet	$0.03	$0.01	0%	1%	2%
Rack-Grounding	$0.02	$0.01	0%	1%	2%
Racking	$0.18	$0.13	6%	11%	22%
Mounts	$0.14	$0.10	5%	8%	17%
Racking & Mounting	$0.32	$0.23	11%	19%	40%
BoS Before LIO	$0.76	$0.58	27%	49%	100%
Labor	$0.75	$0.50	23%	42%	
Insurance	$0.05	$0.05	2%	4%	
Other	$0.05	$0.05	2%	4%	
Balance of System	$1.61	$1.18	54%	100%	
Total Installation Cost	**$3.21**	**$2.18**	**100%**		

SunPower Founder, Richard Swanson – Definition of Grid Parity

"A Vision for Crystalline Silicon Photovoltaics" 2006 Wiley InterScience

A module price of $1.50 /W, coupled with a system price of twice that, or $3.00, should result in a cost-effective grid-connected market in many areas without the need for subsidies.

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Connect with us on LinkedIn!
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