

Basics Of Community Solar

by
Tom Kacandes Inside Track Solar, Inc.



Residential Solar – directly net metered



Commercial & Megawatt-Scale = More Panels, Bigger Inverters



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First Community Solar Project in Downstate NY (i.e. Central Hudson, Orange & Rockland, ConEd)



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First Community Solar Project in Downstate NY

532 solar panels, 166,500 Watt AC, 235,000 kWh per year output

Approx. Cost \$550,000 + white roof, kWh value less than \$20,000 per year



What is Community Solar? How does it work?

- Single solar array, usually a bigger one
- Output of solar kWh goes directly to Utility Meter and the grid
 - (i.e. *not* directly to a customer)
- Utility credits array Owner with kWh credits to distribute to Subscribers
 - “you made 10,000 kWh last month”
 - “Great: give each of my subscribers 10% of the total each month”
- Utility divides credits by % allocation and converts to a \$ credit on each subscriber’s bill
 - “You get 10% so that’s 1,000 kWh for you, Ma’am. At this month’s rate, that’s \$100 credit on your bill”
 - “But I used 2,000 kWh last month and I have a basic service charge”
 - “OK, so you pay us for the total amount of Basic Service Charge and electricity beyond your \$100 credit / 1,000 solar credits”
- Solar Array Owner (or their Agent) Charges Subscribers for their Solar Credits
 - “Hi, here is your bill for \$100 worth of solar credits: please pay us \$90.”
 - “OK, I don’t love having a separate bill to pay but I got green electricity and saved \$10. I appear to be more rational than some people”
 - Or “What? I already paid Central Hudson! Why did they take so long to fix the black out? Isn’t my solar free?”

Simple, right? What could go wrong?



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POUGHKEEPSIE NY 12601-4839
www.CentralHudson.com

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Questions About Your Bill? See the reverse side for explanations. For further help call a Customer Service Representative at 845-452-2700 or 1-800-527-2714. Our phone lines are busiest Monday and Tuesday mornings. We can better respond to your call if you avoid these times.

Your Bill Summary at a Glance

	CENTRAL HUDSON	VIRIDIAN ENERGY
Previous Charges	\$6.44	\$46.08
Payments	\$-6.44	\$-46.08
Current Charges	\$45.59	\$46.08
Billing Adjustments	\$-45.59	\$-6.85
Account Totals	\$0.00	\$39.23
Total Amount Due Now		\$39.23
Current Billing Period		Mar 09, 2017 - Apr 11, 2017
Late Charges Added After		May 08, 2017
Next Scheduled Reading Date		May 11, 2017
	This Year	Last Year
Heating Degree Days	915	607

Account Number:

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REAL

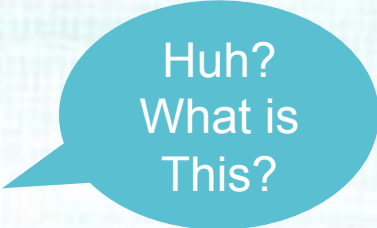
HSE PANEL
KINGSTON NY
12401-5045

Payments and Adjustments - CENTRAL HUDSON Service

TRANS CH ACT CR TO ESCO ACT	APR 12	\$6.85
PAYMENT RECEIVED BY US MAIL	MAR 24	\$-6.44
COMMUNITY DISTRIB GENERATION CREDIT	APR 7	\$-9.39
COMMUNITY DISTRIB GENERATION CREDIT	APR 7	\$-41.66
CUSTOMER CREDIT-CONSOLIDATED BILL	APR 12	\$-1.39

Payments and Adjustments - Electric Supplier: VIRIDIAN ENERGY NY,LLC

PAYMENT RECEIVED BY US MAIL	MAR 24	\$-46.08
TRANS CH ACT CR TO ESCO ACT	APR 12	\$-6.85



Making it Work takes a lot of WORK

- Find the subscribers
 - Who do you accept? Everyone? No matter credit score or bill payment history? No matter use level in kWh?
- EXPLAIN Community Solar to subscribers, answer their questions,
 - answer more questions...
- Explain the contract and TRY to correctly set their expectations
- Organize bill information: how much electricity do they use?
 - set participation level as a % of total array output, project billing cost and savings to subscribers
 - “You will pay \$30 on an average winter month and \$55 on average each summer month and save \$50/year”
- Make sure % allocation to each subscriber is correct and on forms sent to Utility
 - For now, that’s on paper to Central Hudson and sent by mail
 - You, as Sales Agent, do not receive any notice it’s been received or when it will be implemented
 - There is no penalty if the utility takes longer than regulation allows or makes mistakes on your bill or even fails to follow the correct regulation. You get the phone calls, not them. Their bills get paid meanwhile, but yours?
- Audit the Utility accounting of your kWh produced, the rate applied to that and total \$\$
- Collect the money from your subscribers, add new subscribers, retire others

So, You Want to Do Community Solar?

- Where is your site?
- Who owns it?
- Who can lease it? Public bid process?
- Is it any good for solar?

- Who will own your project?
- Who pays the “start up” (development) costs of this project?
 - Plan on about \$400,000 (+ \$3MM construction loan) over 18-24 months for a 2MW site
- Who will be allowed to benefit from your project?
 - 2MW creates about 3.1Million kWh in mid-Hudson valley, serves about 300-350 residential customers
 - Local businesses? Local non-profits? What is your basis for excluding others? Bad credit scores?

- Interconnection process kind of a mess
- Financing,
- Construction,
- Management by Sales Agent

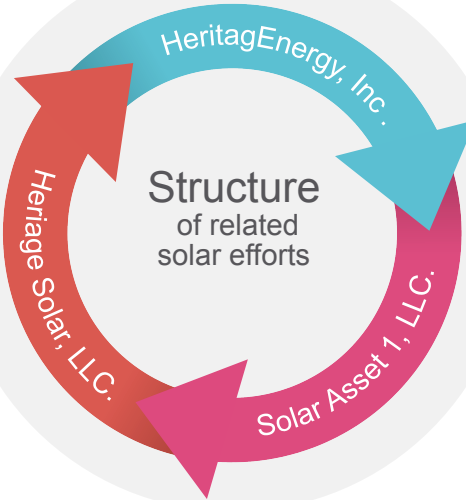


HERITAGE SOLAR

Heritage Solar, LLC.

- 1) Sales Agent of kWh credits to HE customers
- 2) Project Developer for Solar Asset-owning special purpose entities
- 3) Retains ownership % in Solar SPE's it originates
- 4) Offers residential solar installations for HeritagEnergy customers who want to own their solar.

Structure of related solar efforts



Solar Asset 1, LLC.

Example of SPE to own one solar asset
 Gets paid by Heritage Solar for output
 Pays RE tax increase, lease to HeritagEnergy or others
 Pays O&M, accounting & legal managed by HS
 Flows ITC & depreciation to owners

HeritagEnergy, Inc.

Owns Customers & Site

Solar Asset 1, LLC.

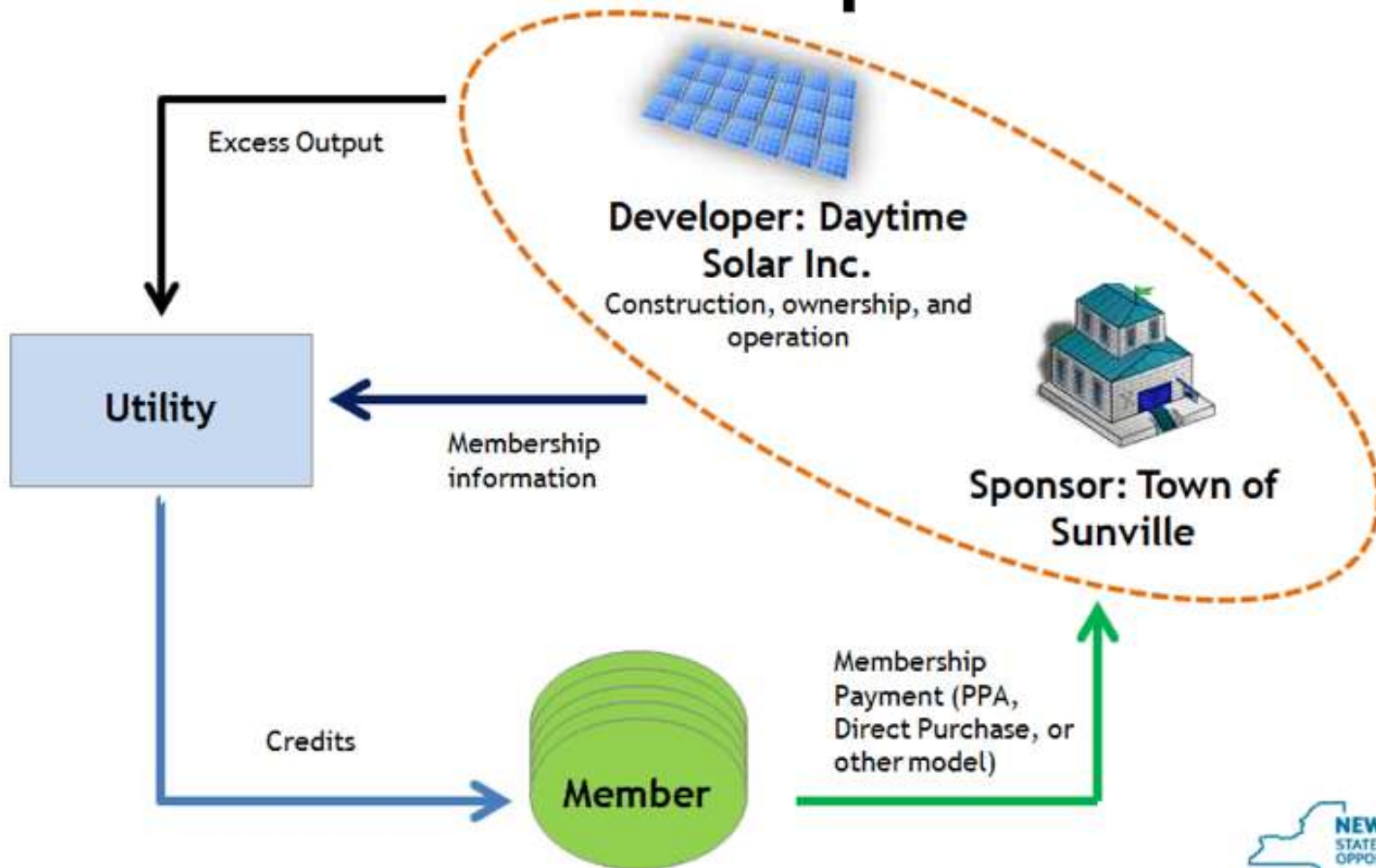
Owns completed Solar Array & Contracts

Heritage Solar, LLC.

Owns kWh sales & % of Solar Asset 1 as Sponsor

It Looks Easy Enough...

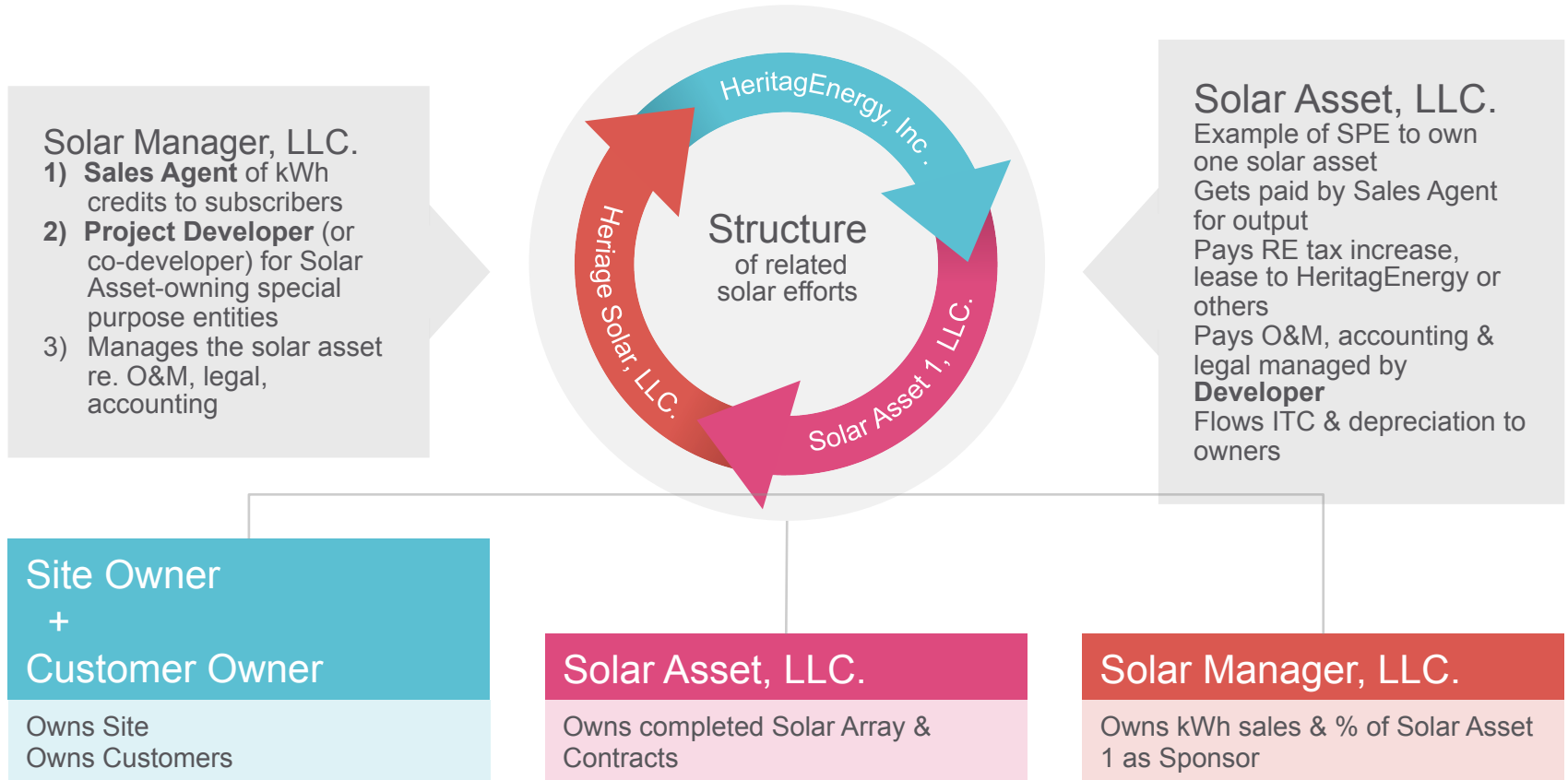
Potential Examples



So, You Want to Do Community Solar?

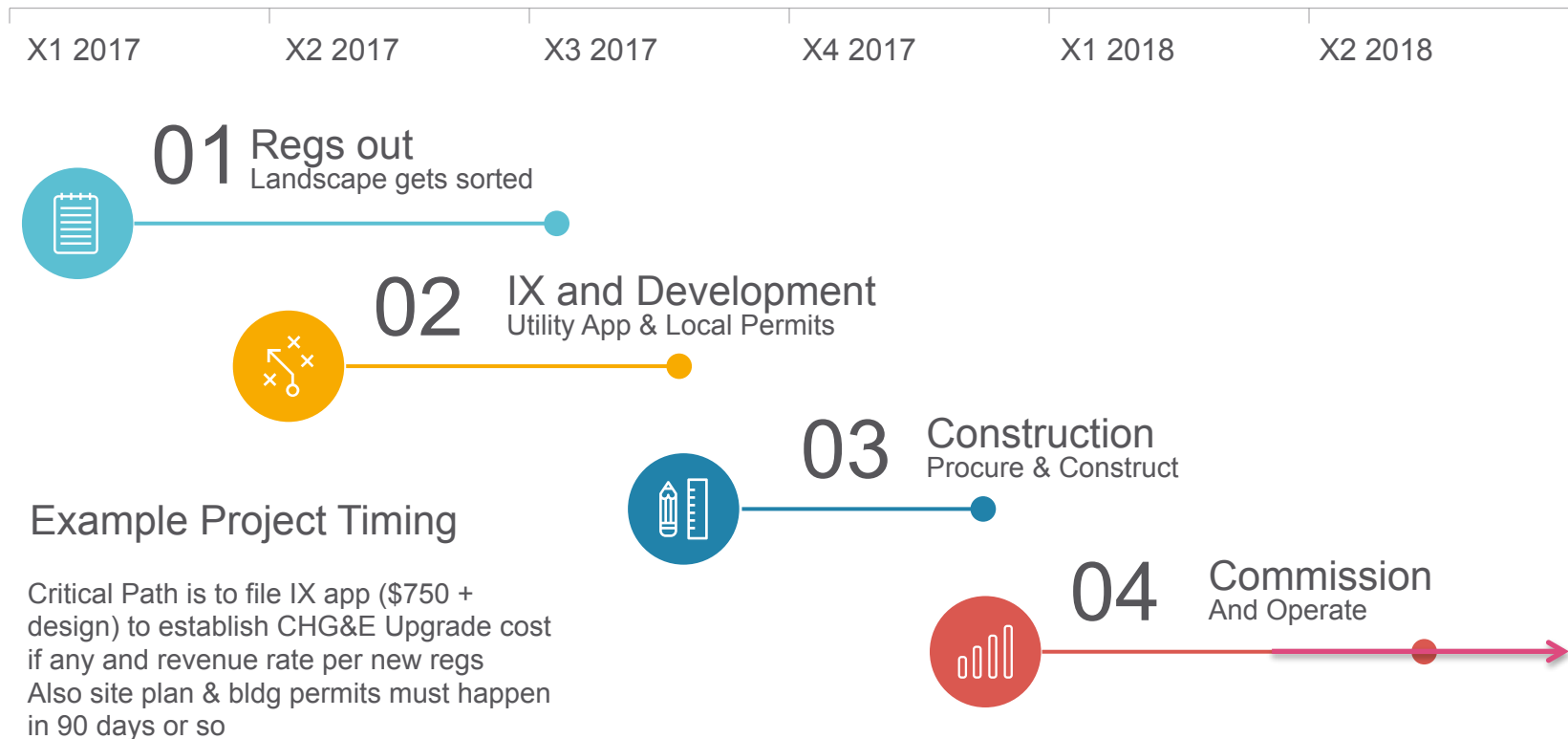
You Need A Place & A Team:

Site, Developer, Financing / Owner, Sales Agent



Example of Fastest Possible Project Timeline

& Notes on Critical Path



Questions & Contact

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