

The background of the slide features a stylized sun with bright yellow rays emanating from a semi-circular sun disk positioned at the horizon. The sky is a gradient of yellow and orange, while the ground below the horizon is a solid green. The text is overlaid on this background.

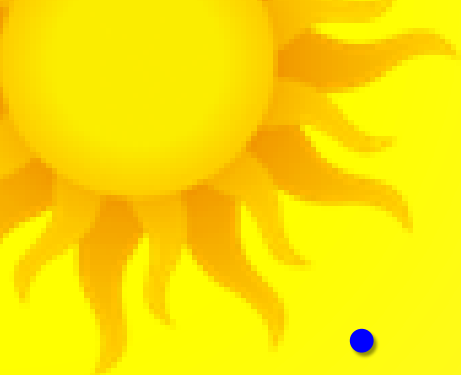
*Solar....Solar....Solar:  
Just Give Me the Warm Power of the Sun....*

Kathleen Costello, MAA  
Matthew J. Thomas, Esq.



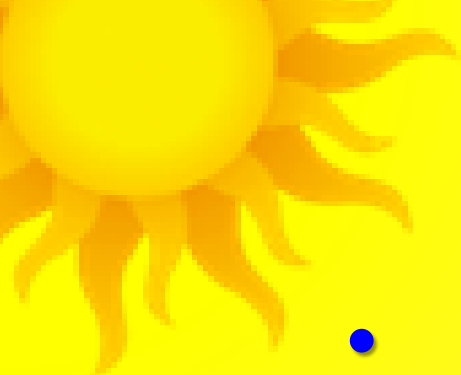
# A QUICK SOLAR PILOT PRIMER

- In the beginning, there was SREC I
  - SREC I was a market based program that was designed to support 400 MW(DC).
- Then there was SREC II
  - SREC II was a market based program that was designed to get the Commonwealth to 1,600 MW (DC) by 2020.
- Now we've gotten SMART



# DEVELOPER'S SOLAR PILOT GOALS

- Developers have three basic goals when negotiating Solar PILOTs
  - Addressing the fear of the unknown – future assessments;
  - Reducing the potential volatility of future assessments;
  - Equalizing tax payments for the life of the project.



# MUNICIPALITY'S SOLAR PILOT GOALS

- Municipalities have three basic goals when negotiating Solar PILOTs
  - Equitably taxing the project at its full and fair cash value;
  - Providing a definite and sustainable revenue for future budgetary planning;
  - Reducing future costs of ATB cases and future impacts on overlay.



# VALUATION OF THE SOLAR ARRAY

Really, there are 3 possible methods

## Direct Cap Method

Direct  
capitalization or  
discounted cash  
flow (DCF)  
Application  
(Property Tax Rate  
added to DCF).

## Central Valuation

Value of Solar  
Arrays is  
established by  
DOR.

## Cost Hybrid

Typical PP Cost  
Approach (incl.  
inverter  
replacement),  
accounts for specific  
project costs, then  
annualized over 20  
years.



# LET'S LOOK AT AN EXAMPLE

- First, let's look at the impact on real estate tax
  - Solar PILOTs should only apply to personal property tax

Lease /Year     \$47,500

12.34 Acres

$\$47,500/12.34$

\$ 3,849.27

Vacancy 3% 115.48

\$ 3,733.79

Expenses 5% 186.69

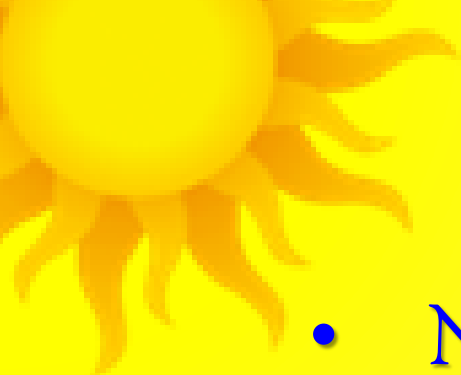
\$ 3,547.10

NNN Cap 8.5%

$\$3,547.10/.085 =$  \$ 41,730.59

Rounded

\$ 42,000/AC



# LET'S LOOK AT AN EXAMPLE

- Now, let's look at the impact on personal property tax:

Project Size: 2.5 MW(DC)      Project Cost: \$ 4 Million

## Direct Cap Method

Project Size/kW/AC	1,786
Est. Project Cost \$/kW/AC	\$ 2,240
Annual Generation kWh	\$ 3,129,072
Capacity Factor	20%

## Revenue Assumptions

Contract Rate for Elec. \$/kWh	0.10	\$ 312,907
SREC Price	\$280	<u>\$ 876,140</u>
Gross Income		\$1,189,047



# LET'S LOOK AT AN EXAMPLE

- Now, let's look at the impact on personal property tax:

Project Size: 2.5 MW(DC)      Project Cost: \$ 4 Million

## Direct Cap Method

### Expense Assumptions

O & M	3.50 x EPC	\$6,251
Admin & General	2.00 x EPC	\$3,572
Insurance	12.00 X EPC	\$21,432
Land Lease		<u>\$0.00</u>
Total Expenses		\$31,255

### Capitalization

Pre Tax Cash Flow	\$ 1,157,792
Tax Rate	\$13.02
Capitalization Rate	20.00%
Cap Rate (Loaded)	<u>21.30%</u>
Estimated Value By Income	\$ 5,435,643

If SREC is at \$200-299 value should be 58-79% of cost new

Initial Value: \$3,800,608

Initial Tax Load: \$ 49,483.92



# LET'S LOOK AT AN EXAMPLE

- Now, let's look at the impact on personal property tax:

Project Size: 2.5 MW (DC)      Project Cost: \$ 4 Million

## Personal Property Cost Method

Project Cost: \$ 4 Million

Depreciation: 5%/Year

Inverter Replacement in Year 11 results in recalculation of cost

Depreciated to 30% of Gross and remains there while project in service

Initial Value: \$4,000,000.00

Initial Tax Load      \$      52,080



# LET'S LOOK AT AN EXAMPLE

- Initial Value per Direct Cap Method    \$ 3,800,608
- Initial Value per Cost Method                \$ 4,000,000
- Cost Method is easier and less impacted by Income deviations even though cost of arrays has declined due to technology advances.
- Regardless of the valuation method, PILOT should include an escalation factor of 2.5%.
- In SREC II we used \$13,500/MW (DC) and due to the escalation still will collect more over 20 years than if taxed.



# SHOULD I PRORATE THE 1<sup>ST</sup> YEAR'S PAYMENT ?

- Normally the PILOT provides that the value is established as of December 31<sup>st</sup> .
- Benefit of pro-rating the 1<sup>st</sup> year's payment.
  - Pick up portion of new growth;
- Drawbacks of pro-rating the 1<sup>st</sup> year's payment.
  - Added complication to assessment/billing
  - Less confusion in collection



# IMPORTANT PILOT PROVISIONS

- Be very clear as to when the PILOT payments begin and when they are due .
  - Consider the issue of construction delays
- Be very clear regarding changes to inventory .
  - Improvements & Additions after completion of construction
  - Reductions after completion of construction
  - Annual Inventory Reports



# IMPORTANT PILOT PROVISIONS

- Be very clear as to the municipalities collection remedies .
  - Collection pursuant to Chapter 60
    - Agreement to collect as if real estate tax;
    - Offset pursuant to Chapter 60, § 93;
    - Permit Denial/Revocation – Chapter 40, § 57.
- Include “Good Taxpayer” Provisions.
- Include “Clawback” Provisions .



# IMPORTANT PILOT PROVISIONS

- Try to anticipate the impact of pending legislation.
  - Legislation will be prospective and will most likely include language grandfathering existing PILOTs
  - However, this will create two classes of Solar PILOTs – one class under Chapter 59, § 38H and one class under Chapter 59, § 5, cl.



# SOLAR ARRAY DECOMMISSIONING ISSUES

- Solar Array decommissioning is usually addressed in the municipality's Zoning Bylaw or the ground lease between the property owner and developer.
  - Decommissioning process and costs usually secured by a "Decommissioning Bond" or similar financial surety.
  - Be careful if your municipality does not have a Solar Zoning Bylaw and the owner and developer are the same entity.



# SOLAR PILOTs AND NEW GROWTH

- In much the same way as TIF Agreements, Solar PILOTs provide for phased & reliable New Growth.
- Amount of 1<sup>st</sup> payment added to new growth.
- Subsequently, the increased payment due to the escalator provisions becomes new growth.



## IS IT REALLY A “SMART” PROGRAM?

- SMART stands for Solar Massachusetts Renewable Target.
- The SMART Program is a much more technical and segmented program than the SREC Programs were.
- The SMART Program is a fixed subsidy program whereas SREC was a variable subsidy program.



## IS IT REALLY A “SMART” PROGRAM?

- The SMART program steers development away from “Greenfields” through use of a Greenfield subcontractor.
- The SMART program created tranches (or slices) and “capacity blocks” based on distribution company service areas.
- While the subsidy on the solar panels is fixed, the adder on energy storage is variable.



# IS IT REALLY A “SMART” PROGRAM?

- Two Important Features
  - A Greenfield Subtractor will be applied to the Base Compensation Rate of any facility sited on open space that does not meet the criteria to receive the full incentive.
  - The use of “Adders” to increase the compensation rate.
    - Location Based
    - Energy Storage
    - Off-Taker Based
    - Solar Tracker



# IS IT REALLY A “SMART” PROGRAM?

- Agricultural Land Can Remain Chapterland if:
  - The Solar Facility produces energy for the exclusive use of the of the land and farm upon which it is located, which shall include contiguous or non-contiguous land owned or leased by the owner or in which the owner otherwise holds an interest.
  - Does not produce more than 125 per cent of the annual energy needs.

*Chapter 61A, Section 2A*



# IS IT REALLY A “SMART” PROGRAM?

- Agricultural Solar Tariff Generation Units:
  - A Solar Tariff Generation Unit located on Land in Agricultural Use or Prime Agricultural Farmland that allows the continued use of the land for agriculture.
  - Panel Height Requirements
  - Growing Season
  - Sunlight Reduction Limits
  - Maximum Size – 2 MWAC



# IS IT REALLY A “SMART” PROGRAM?

- Energy Storage Adder:
  - “Energy Storage System” - A commercially available technology that is capable of absorbing energy, storing it for a period of time and thereafter dispatching the energy.
  - Essentially a battery.
  - Energy Storage System can be co-located with a Solar Generating Unit.



# QUESTIONS & ANSWERS



*Thank You!*



Town of  
*Mattapoisett*  
Massachusetts



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MATTHEW J. THOMAS, Esq.

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Attorney at Law