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

Kathleen Costello, MAA
Matthew J. Thomas, Esq.

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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	$ 876,140
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			Capitalization	
O & M	3.50 x EPC	$6,251	Pre Tax Cash Flow	$ 1,157,792
Admin & General	2.00 x EPC	$3,572	Tax Rate	$13.02
Insurance	12.00 X EPC	$21,432	Capitalization Rate	20.00%
Land Lease		$0.00	Cap Rate (Loaded)	21.30%
Total Expenses		$31,255	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

<u>Personal Property Cost Method</u>

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 1st Year's Payment ?

- Normally the PILOT provides that the value is established as of December 31st .
- Benefit of pro-rating the 1st year's payment.
  - Pick up portion of new growth;
- Drawbacks of pro-rating the 1st 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 1st 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 **S**olar **Ma**ssachusetts **R**enewable **T**arget.
- 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 subtractor.
- 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
  - Sunlight Reduction Limits
  - Growing Season
  - 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

MATTHEW J. THOMAS, ESQ.

Attorney at Law