Town of Atherton: Solar Financing Overview

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Types of Financing

Overview

- Four primary ways to finance a solar system;
  - (1) Power Purchase Agreements
  - (2) Clean Renewable Energy Bonds
  - (3) Tax Exempt Municipal Leases
  - (4) General Obligation Bonds
- We'll ignore GO Bonds as they are the least common type of financing mechanism and most cities/towns are much more versed in their workings than solar companies
- All three options are good options and have pros/cons; the benefits and costs of each are laid out later in the presentation

Power Purchase Agreements (PPAs)

Overview

- Developer finances 100% of the system with no out of pocket expenses for the District; most popular financing option available
- Build area is leased for a period of typically 20 years and energy produced is sold to customer at an agreed upon rate; customer has access to lease area (if needed)
- Customer pays for all kWh's produced and a variety of term lengths (15-30 years) and price escalators (0 – 3%) are available; production guarantees are usually included
- Once the project is about to begin construction, the developer will "sell" the project to another entity (the financier) who will maintain the project over the term of the contract
- Normally there are provisions in the PPA contract for "assignment" which allows the system owner to sell the system to another party
- There are three primary ways the project is financed; (1) multiple financier partners will bid on the project or (2) some developers have in-house financing arms that allow them to hold the projects on their balance sheet or (3) developer has one major source of funding for all projects

Clean Renewable Energy Bonds (CREBs)

Low Interest Bond Program for Renewable Energy Projects

- Authorized under ARRA in 2009 – Approximately $200 million issued by 2012, another $600 million was allocated in 2012, as of January 2017, $212 million remains
- Bond investor can claim a Federal tax credit on the interest earned or bond issuer can receive a cash subsidy each year; either option significant reduces the interest rate making this an attractive option. Typically the effective interest rate is close to 1.5%
- Limited funding available; allocated on a first-come, first-served basis
- Once IRS notifies issuer that they have received approval, issuer must issue bond within 180 days
- The interest rate changes daily but is locked for the term of the loan; maximum term is 30 years
- O&M is the responsibility of the customer; nearly all developers can provide this for the long term

Clean Renewable Energy Bonds (CREBs)

Application Requirements

- First step is to submit an application to the IRS, most developers can help fill out a number of sections including;
  - Detailed description of project
  - Cost estimates
  - Schedule
  - Permitting plan
- Other sections will require a bond counsel who can provide assistance in submitting the application and other required sections including;
  - Plan of financing
  - Compliance with federal tax laws
  - Independent engineer's certificate (Developers can typically help with this as well)
- The cost of issuance can be capitalized meaning minimal out of pocket expenses
- Most developers can recommend bond counsel partners and a number of CA towns and school districts have issued CREBs so they could provide guidance as well

Tax-Exempt Municipal Lease (TEML)

A Tax-Exempt Municipal Lease

- Under a Tax-Exempt Municipal Lease, financiers (typically larger banks) pays for 100% of the system and is repaid through annual lease payments
- The lease payments are not taxed yielding higher returns for investors and subsequently lower lease payments
- One of our partners, Bank of America, annually funds over $1.5B in tax-exempt leases
- The lease can be paid off early with no penalty allowing for a purchase of the system (i.e. issue a bond to buy off the system)
- Lease documentation is very short; minimal legal reviews/cost and faster project timelines
- Legally not a “debt” because no multi-year obligation is created; customer must appropriate lease payments into the budget each year and if none can be found, lessee must return the asset but no further obligations under the financing
- O&M is the responsibility of the customer; nearly all developers can provide this for the long term
- Customer will own the project at the end of the lease

All Financing Options

Benefits and Costs

Financing Type	Benefits	Costs
Power Purchase Agreement	• No out of pocket O&M expenses • Most common solar financing mechanism • Tax credits can be utilized	• No guaranteed ownership at the end of term • Long-term commitment with required buy-out provisions • Negotiation of complex PPA agreement • Developer is typically not the system owner
Clean Renewable Energy Bonds	• Issuance fees can be capitalized • Ownership at end of term • Very common public sector instrument • Very low interest rates	• Slightly lower returns in the earlier years • Out of pocket O&M expenses • Requires bond counsel and issuance • Negotiation of EPC, O&M and Production Guarantee Contracts
Tax Exempt Municipal Lease	• Low financing costs • Not considered “debt” • Can cancel at anytime • Short contract • Quick financing (3+ weeks) • Ownership at the end of term	• Requires credit approval • Slightly lower returns in the earlier years • Out of pocket O&M expenses • Negotiation of EPC, O&M and Production Guarantee Contracts

All Financing Options

Sample Economics

	PPA (20 Year Term)	TEML (15 Year Term)	CREBs (16 Year Term)
Year One Net Savings	$19,360	$5,891	$7,612
Year 10 Cumulative Net Savings	$262,550	$183,732	$200,942
Year 20 Cumulative Net Savings	$715,097	$1,131,784	$2,956,895
Year 30 Cumulative Net Savings	$1,429,142	$3,026,055	$2,956,895

- Assumes 2% escalator, 20 Year term for PPA, re-upped in Year 20 for 10 more years at same PPA rate
- Assumes O&M expenses commiserate with a 95% production guarantee
- Assumes creditworthiness and current interest rates

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