GovEnergy
www.govenergy.gov
The Premier Energy Training Workshop and Trade Show for Federal Agencies

A River of Energy Solutions

Renewable Financing Vehicles in the Federal Sector *(PPA, UESC, ESPC, ESA, EUL)*

Anita P. Molino

August 8, 2011

Bostonia Introduction

- Founded in 1998, Bostonia Partners LLC (BP) is an investment bank headquartered in Boston, Massachusetts.
- Bostonia Partners is a daily market participant through its own broker/dealer, Bostonia Global Securities LLC (BGS), established in 2004.

Investment Banking

The Investment Banking group has expertise in financing unique and highly structured transactions with a primary focus on the following:

- Credit Tenant and GSA Leases, Public/ Private Partnerships, Enhanced Use Leasing, Energy Efficiency Project Financings, Renewable Energy Project Financings.
- Service all sectors (Federal, Private, Large C&I, MUSH).
- Specialize in Energy Finance, Contract Securitization and Project Finance.

Sales & Trading

The Sales & Trading group works with its institutional clients to buy and sell corporate securities.

- Strength in placing traditional and non-traditional structures.
- Deep pool of debt investors for energy efficiency/renewable transactions.
- Placed $2 billion in transactions in 2010.
- Consistently ranked in the top tier in dollar volume of US domestic private placement new issuance in 2008 – 2010 league tables, by Private Placement Monitor ™

Presentation Overview

- **Renewable Energy Financing Overview**
  - RE Market Overview
  - Capital Markets Background
  - Sources of Capital
  - Sources of Project Cashflow

- **Contracting and Financing Options**
  - Renewable Power Purchase Agreements (PPAs)
  - Utility Energy Service Contracts (UESCs)
  - Energy Savings Performance Contracts (ESPCs)
  - Enhanced Use Leases (EULs)

- **Case Studies**

Renewable Energy Financing Overview

Financing Overview – RE Projects

- **The economic downturn had a severe effect on financing**
  - Before crash, most projects could be completed with a rating, (e.g. Ft. Detrick EUL).
  - Credit quality is now imperative for successful financing
- **Banks constrained from lending, particularly long term**
  - Increased use of equity for projects
  - Some projects cannot be leveraged
- **Federal and State Incentives critical drivers for projects**
  - Tax equity appetite beginning to return; pricing is expensive
  - 1603 Cash Grant is set to expire on December 31, 2011.

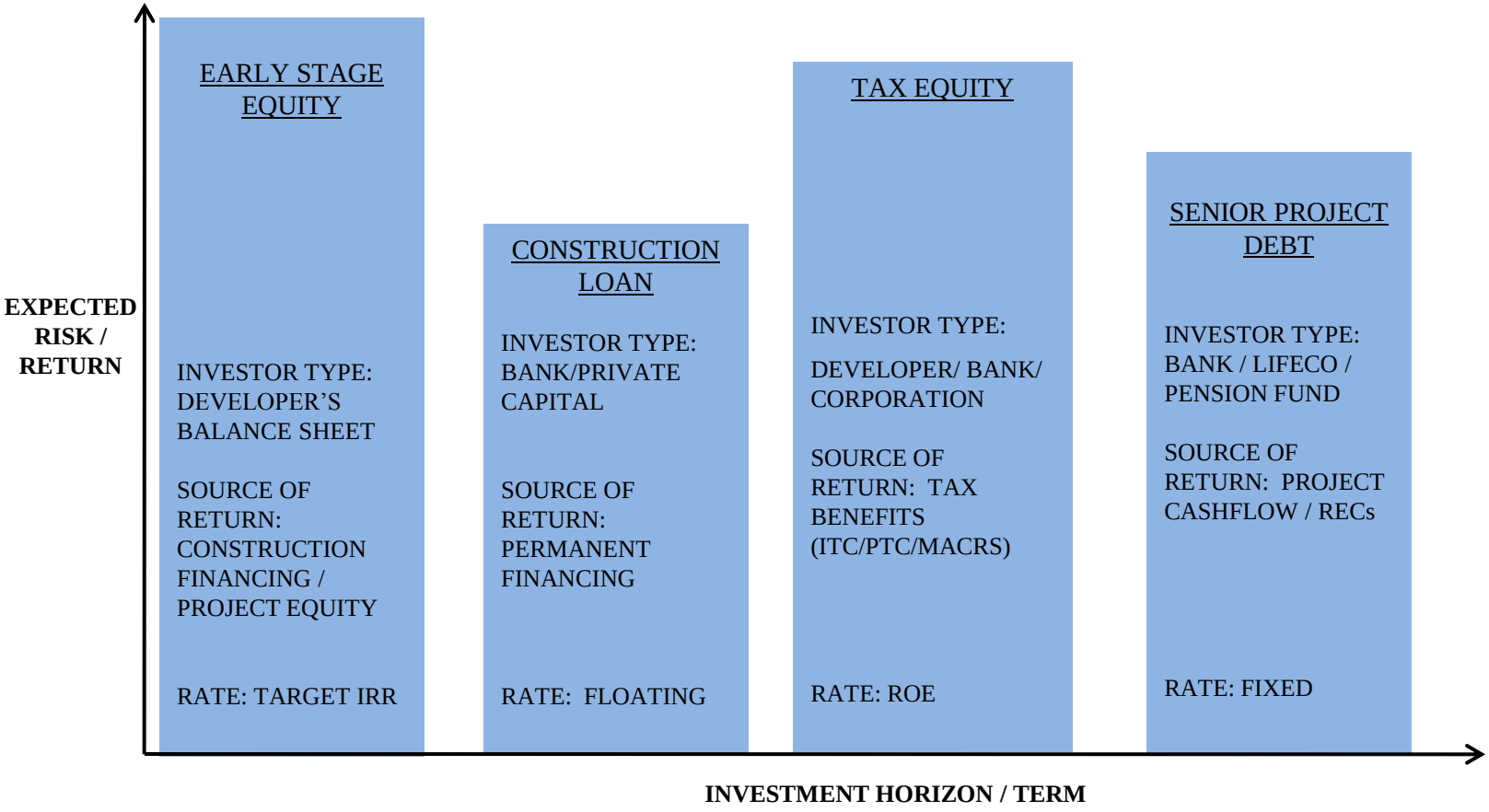
RE Financing Overview – The Basics

- **RE financing is "project finance".**
  - Cashflow driven
  - Non-recourse debt
- **RE projects are capital intensive (low cash flows vs. high project costs) with important requirements:**
  - Investment grade developer and Power Purchase Agreement counter-party
  - Projects need to be large enough to justify tax equity structure and achieve economies of scale
  - Proven technologies
- **Capital stack typically consists of:**
  - Renewable Energy Credits (RECs)
  - Tax Equity (Supported by Tax incentives and Depreciation benefits)
  - Debt (Supported by PPA revenue)
  - Sponsor Equity
  - Other Incentives

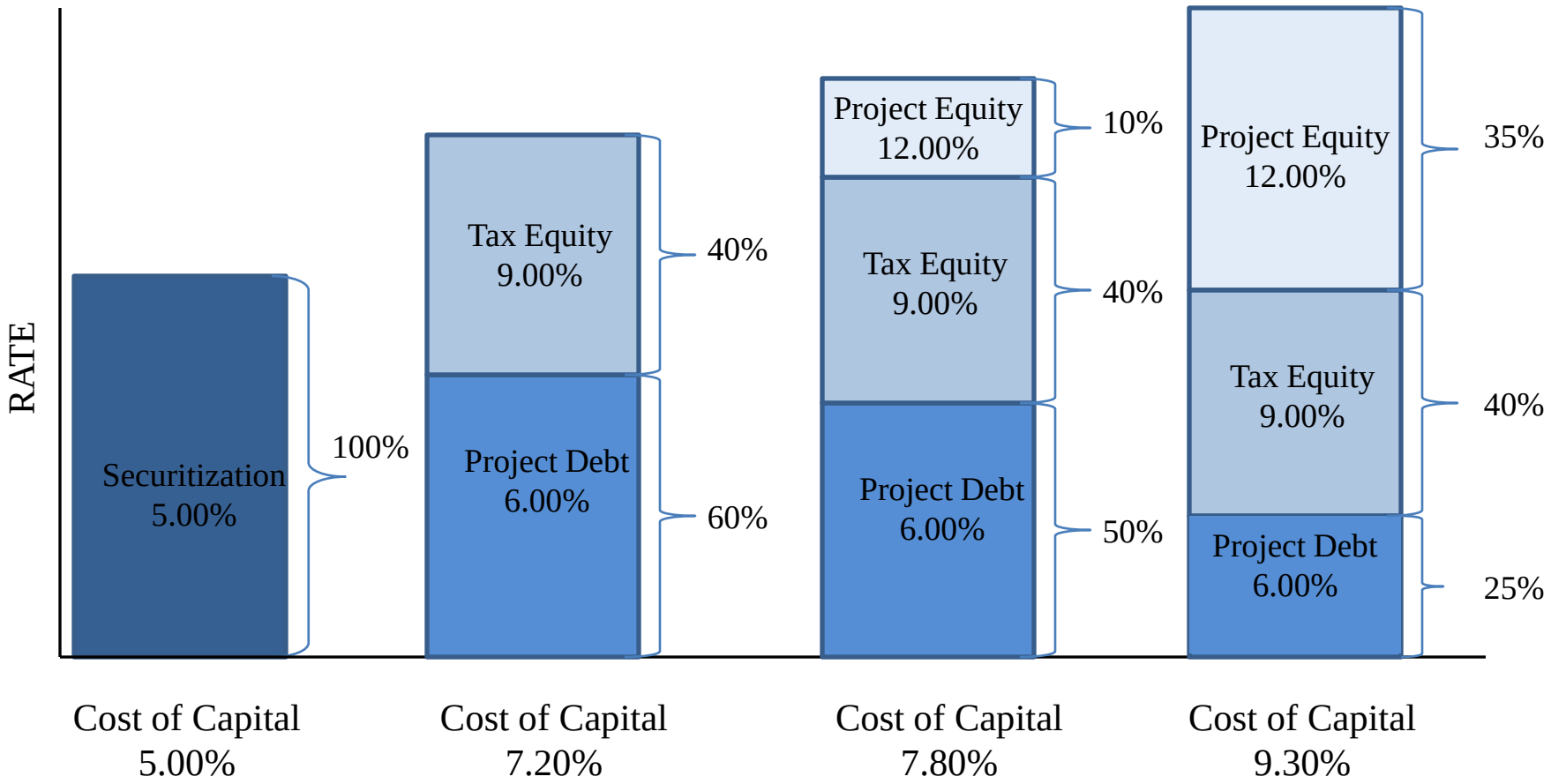
Financing Overview - Silos of Capital

- The capital markets is an all-encompassing term used to describe a market that business enterprises or public institutions can access to raise funds. The Capital Markets refer to both debt and equity markets and offerings can be placed as a primary or secondary transaction.

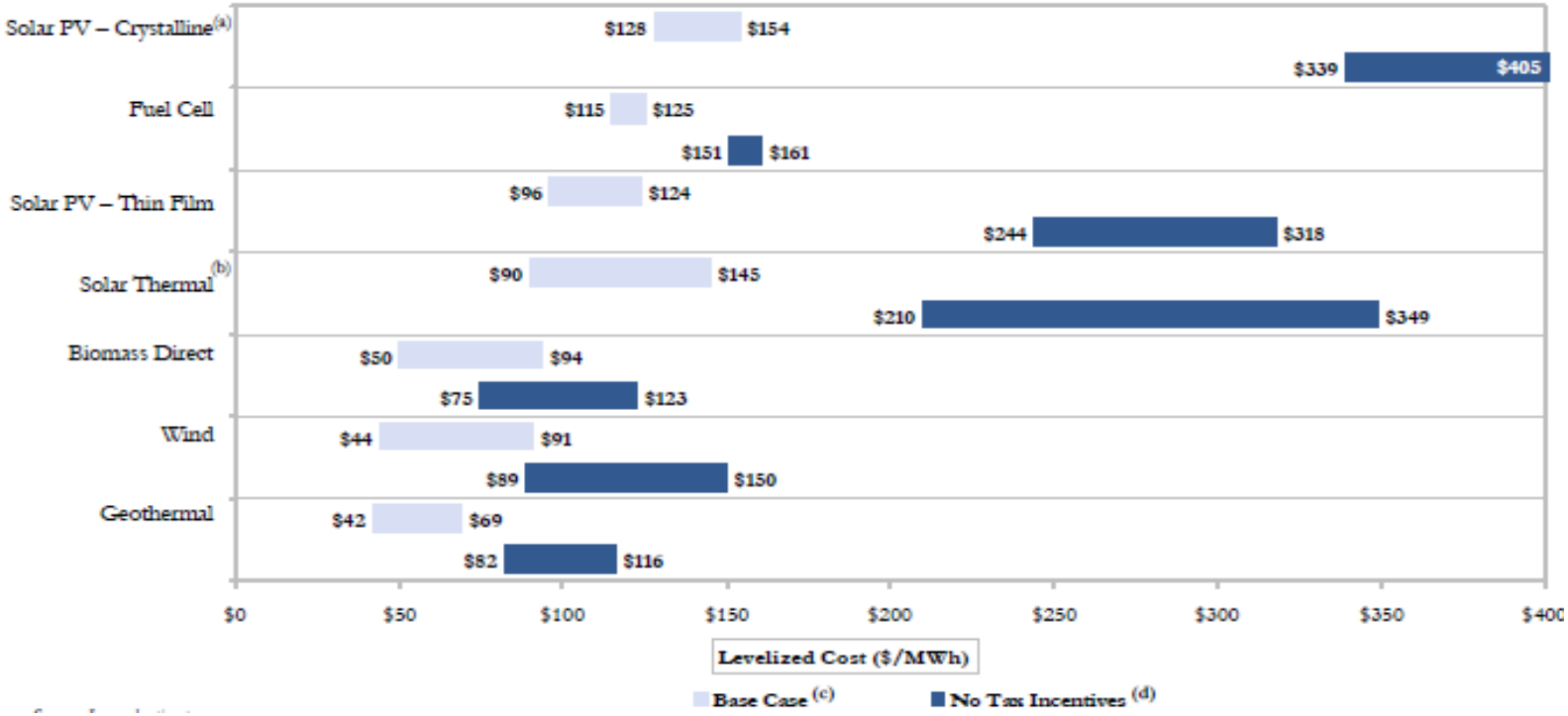
- Here are examples of silos within the capital markets that could be accessed for RE projects.



Financing Overview – Cost of Capital: A Few Scenarios



Contracting and Financing Options - Effects of State and Federal Incentives on Levelized Cost



Source: Lazard, Ltd.

- Federal and state tax incentives can make energy projects affordable.
- Developers and financiers must utilize incentives, lowering the levelized cost.

Financing Overview - Renewable Energy Credit (REC) Markets

What is a REC?

- A REC represents the right to claim attributes and benefits of renewable power – 1 REC = 1 MWh.
- Bought and sold through contractual arrangements.

Why are RECS Important?

- RECs are often critical for the success of RE projects, sometimes comprising up to 70% of the revenue stream year to year.

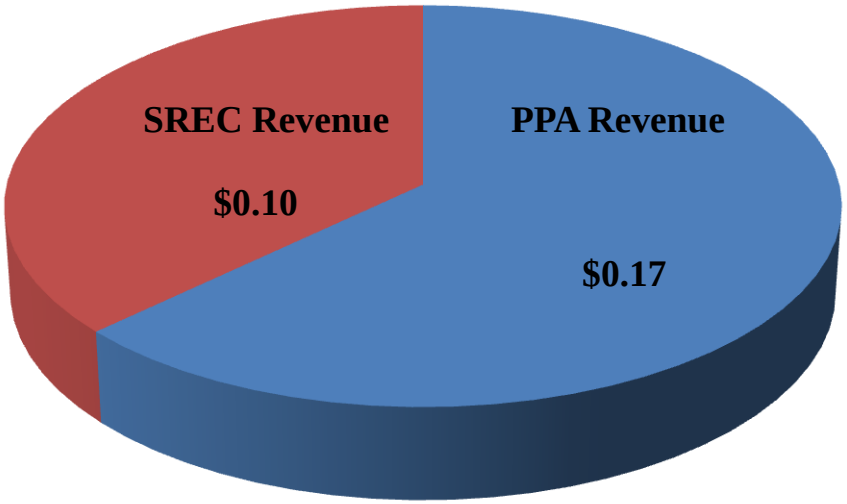
What is the Current State of the REC Markets?

- 2011 has seen oversaturated Solar REC markets in NJ, PA, and OH creating declining value for these important drivers; market not expected to rebound in some areas until 2013.
  - Still difficult to secure long term SREC contracts in excess of 3-7 years.
  - Few entities are willing to take long term SREC risk or guarantee "floor" pricing.
- Despite RPS standards or mandates in 37 states and D.C., still a dearth of viable REC markets due to the lack of enforceable and stipulated Alternative Compliance Payments (ACPs).

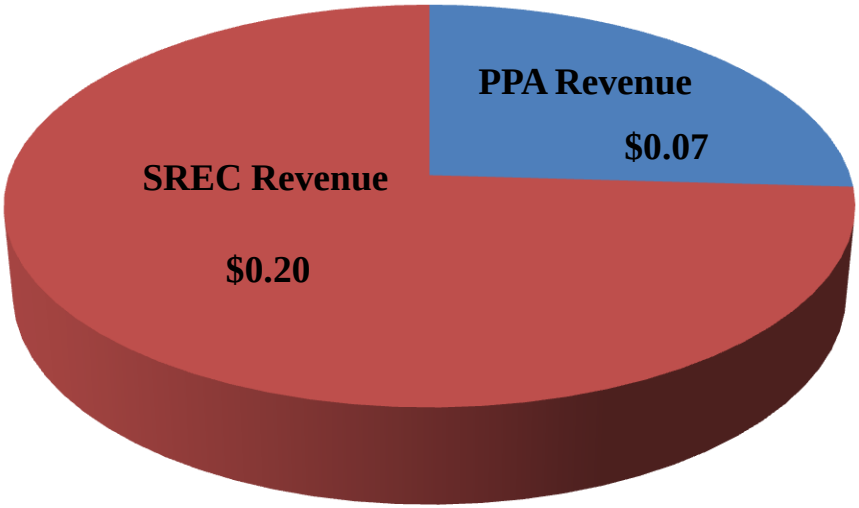
Uncertainty of REC markets further accentuates the role of strong, long term PPAs and tax incentives to generate project revenues to fund projects.

RE Financing Overview – Sources of Cashflow

Total $ / KWH= $.27
For Project to Cashflow

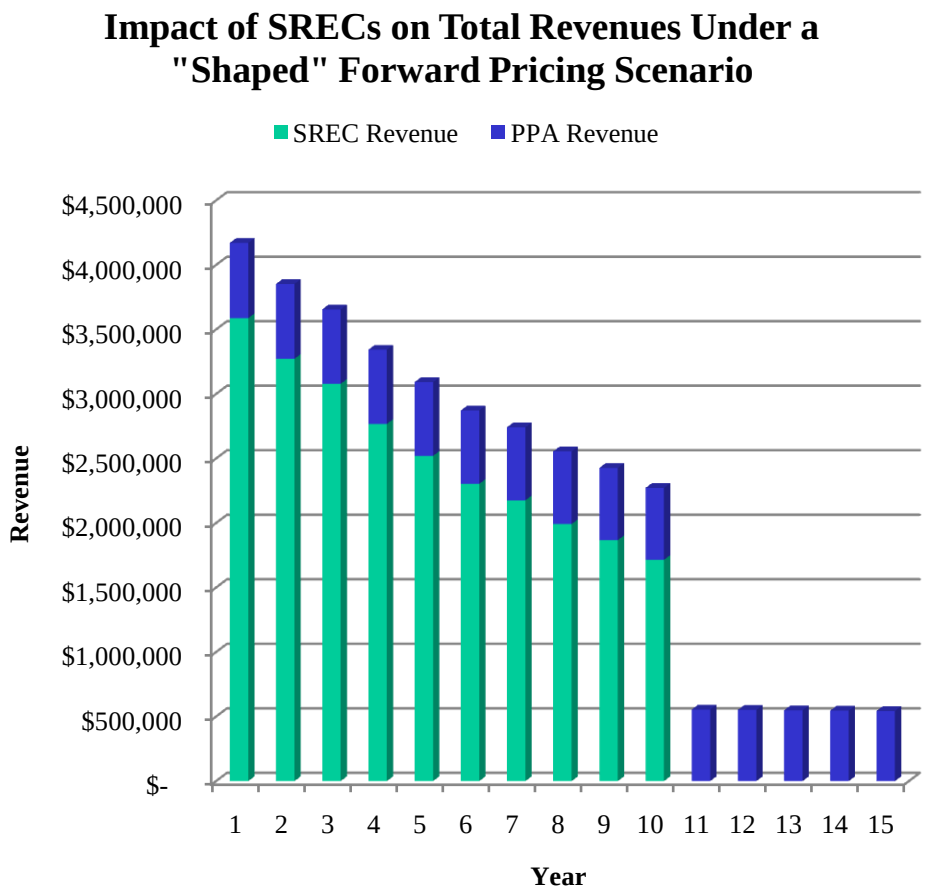


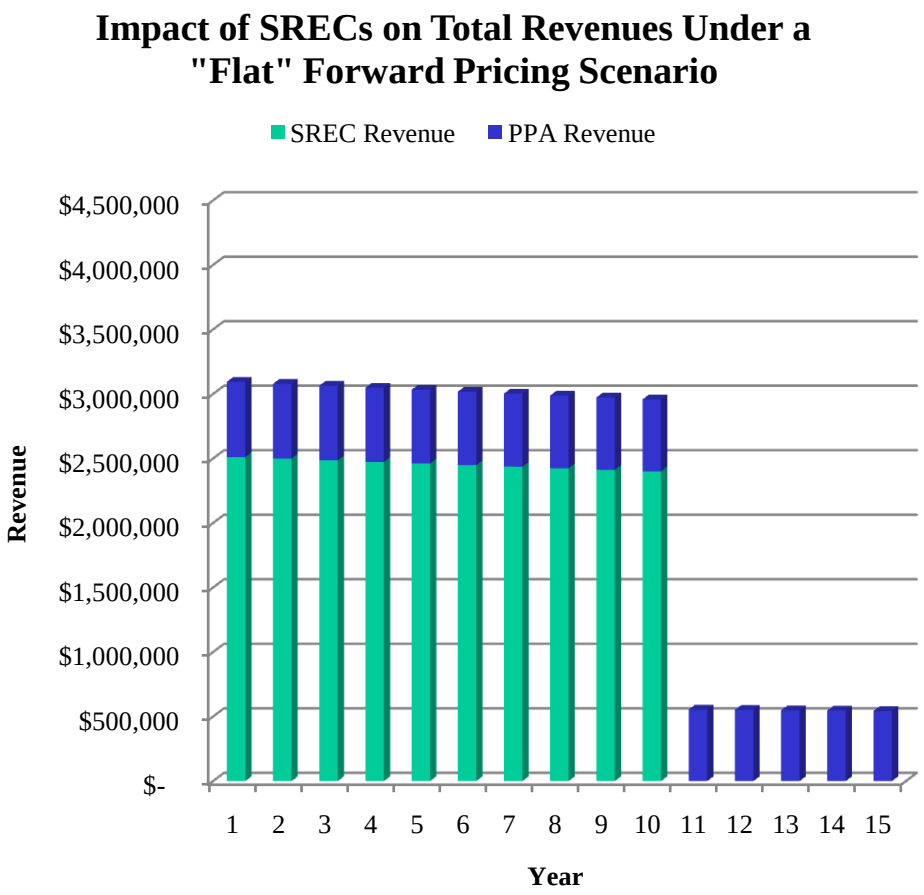
CALIFORNIA



OHIO

Financing Overview – Impact of SRECs





Financing Overview - Debt Market

Project finance differs from securitization in that the loan is based on the cashflows of the project, rather than the credit of the sponsor or off-take. The cost of capital in project finance tends to be greater than securitization.

- Participants: 15 to 20 major lending institutions
- Interest Cost: 5.00% to 6.5%
- Coverage: 1.20x to 1.50x
- Tenor: 7–15 years / Up to max of contract term
- DS Reserve: 6 months
- Structure: Debt repaid from contractual cashflows

Financing Overview -Tax Equity Market

- Participants: Corporations and major financial institutions
- Expected Return: 7.0% to 12.0% after tax
- Horizon 6 – 10 years
- Timing: Takes out construction loan at completion
- Structure: Partnership flip or lease

- Trends
  - Investors hungry for variety of renewable projects (Solar, Wind, Biomass)
  - Cash grant extended, but time is now running out
    - Projects must begin construction in 2011
    - Project must be completed by 2013 (wind), 2014 (other), and 2017 (solar)
  - Expiration of grant will bring more tax credit buyers to the marketplace, who can take advantage of the Investment Tax Credit (ITC)

Contracting and Financing Options

Contracting and Financing Options - Short Term vs. Long Term PPAs

- Short-term PPAs are difficult to finance and are financed at a higher cost of capital.

10 Year PPA
(10 years - FAR Part 41)

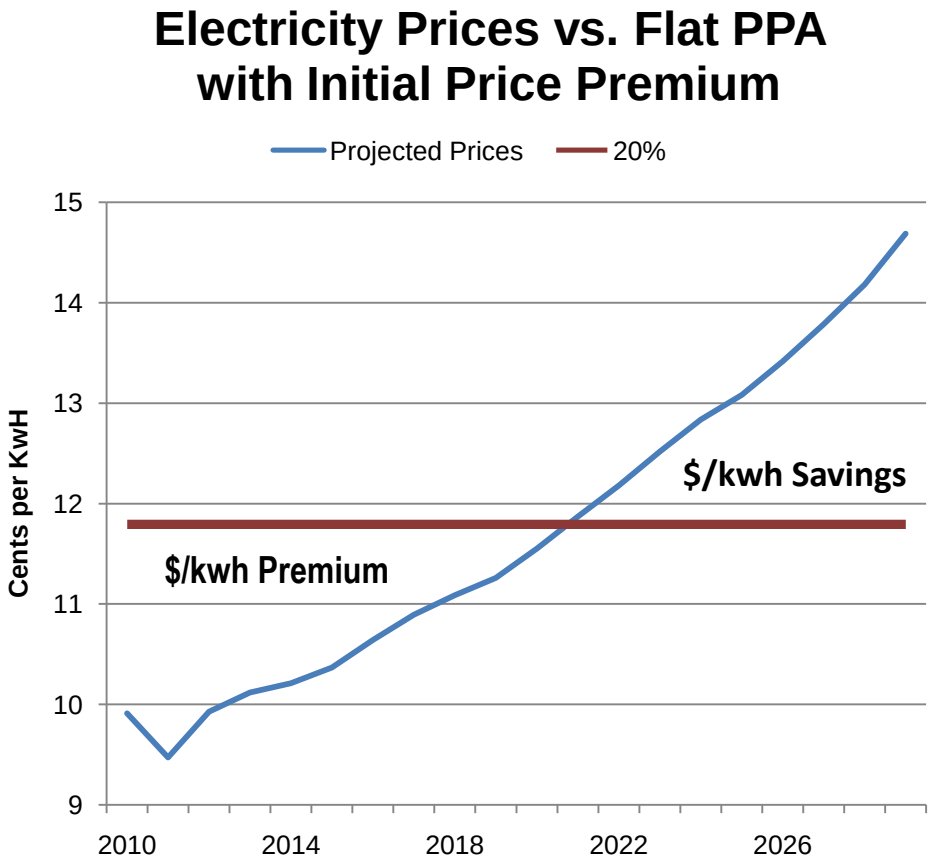
- Sponsor earns returns in later years after Tax equity has exited the transaction, so must take renewal risk.
- Shorter Term PPAs provide little incentive for Sponsor to develop the projects.
- Projects will be funded by more equity, driving cost of capital higher.

Long Term (15-20+) Year PPA
(up to 30 years - 10 USC 2922a)

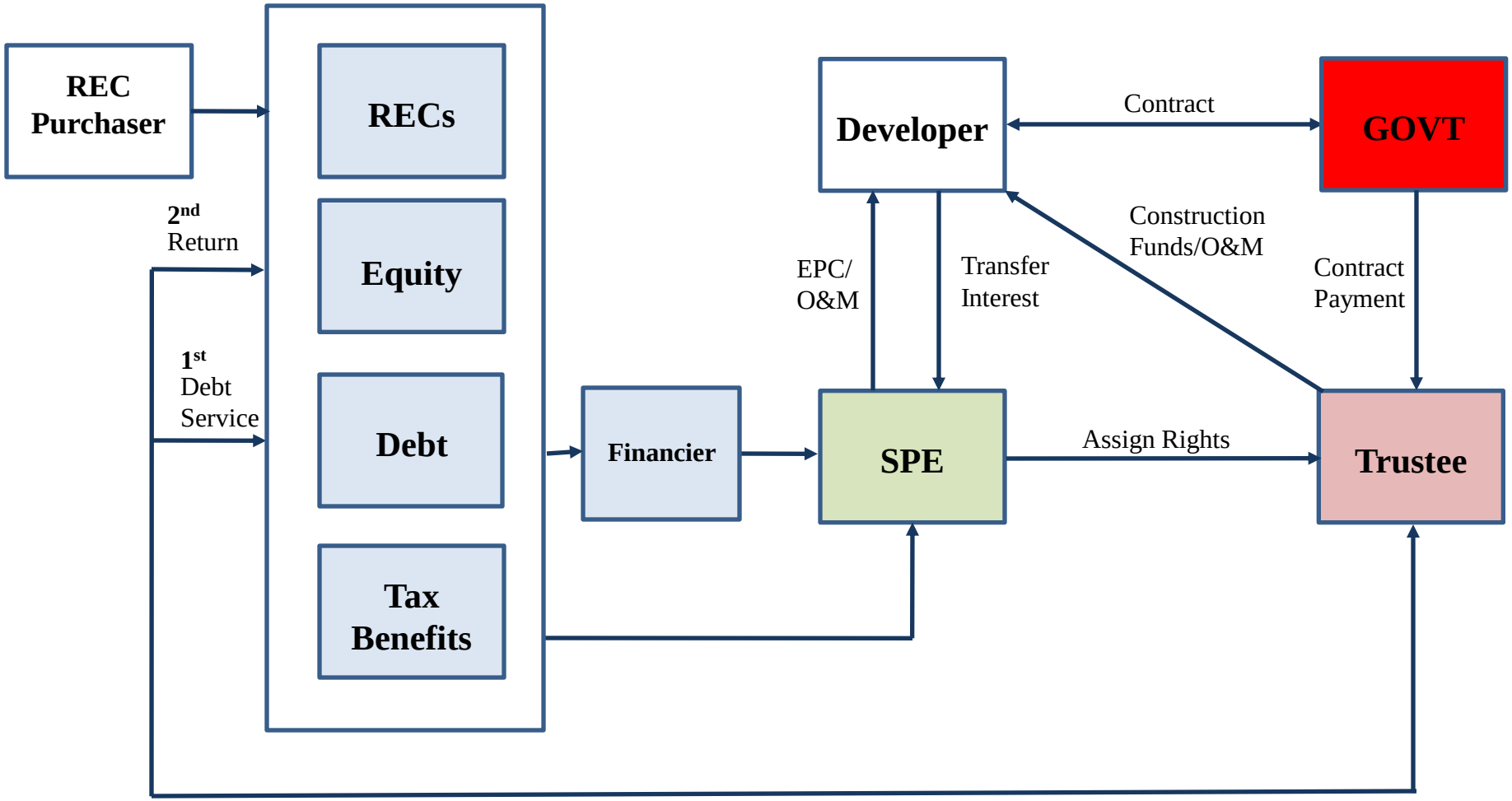
- Longer term provides greater price certainty and lower cost of capital.
- Provides opportunity for longer term debt financing up to the term of the PPA resulting in greater proceeds.
- Less upfront equity needed / lower cost of capital
- OMB Scoring considerations

Contracting and Financing Options - Renewable Power Purchase Agreements

- PPAs efficient way to secure energy at an installation, and for developers and financiers to raise capital for RE.
- PPAs provide fixed long-term energy price certainty and protection against rising energy costs.
- Revenues generated from PPAs drive debt and equity returns; long term PPA necessary to secure financing.
- No initial outlay of capital to procure energy.
- Power contractually delivered to installation, tenants on-site, or to the grid with assured quality and in assured quantities.
- In absence of a PPA, feed-in tariffs or net metering may be available.
- How much is energy security worth to an installation?



Contracting and Financing Options - PPA Financing Structure



Contracting and Financing Options – Utility Energy Services Contracts/Energy Savings Performance Contracts

- The US Government has 2 programs for the development and financing of energy efficiency and renewable energy projects for federal agencies

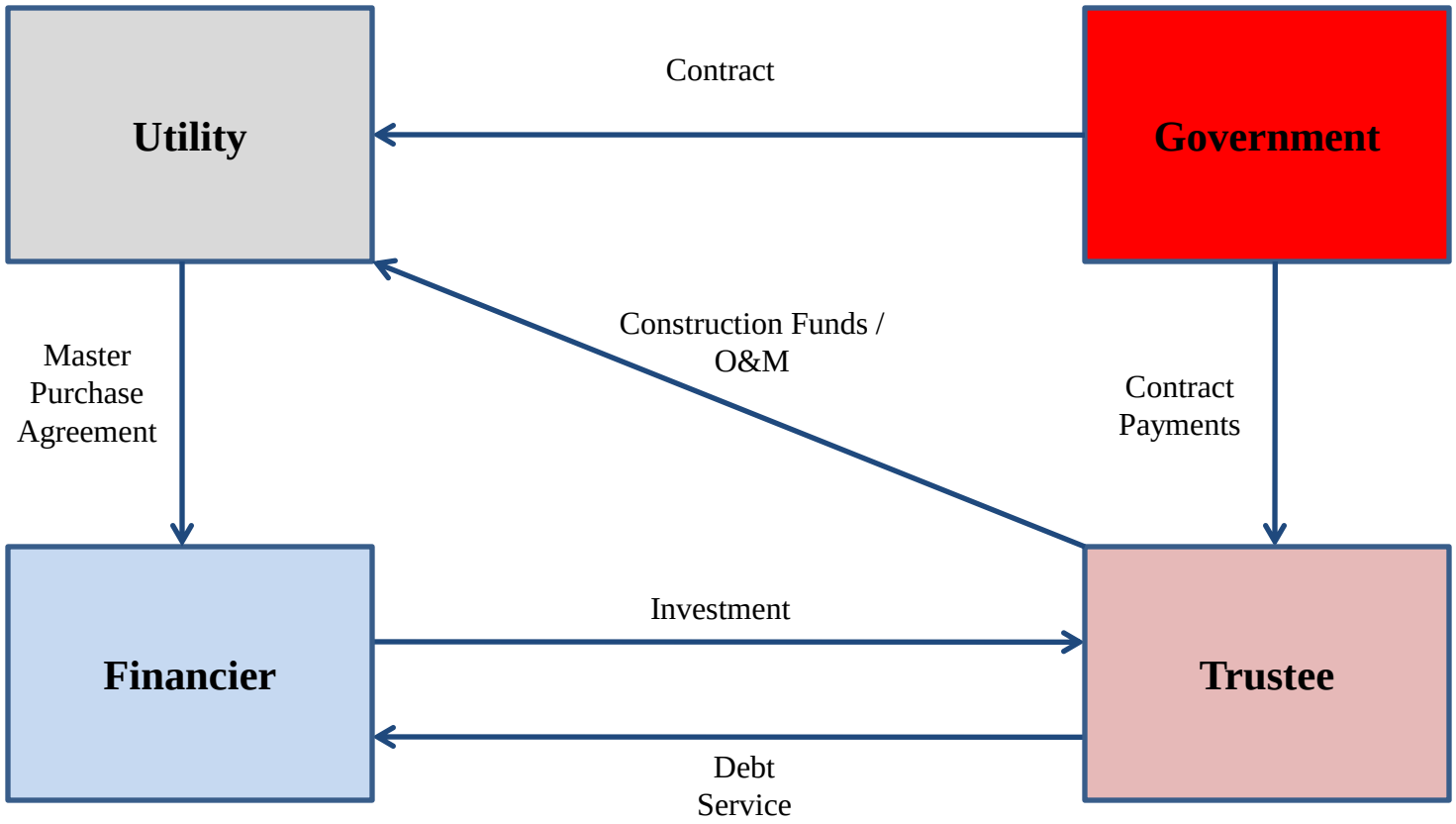
ESPC

- Customer repays over time out of savings or generation.
- Can accommodate energy efficiency, renewable energy, and self-generation.
- 25 year contract terms.
- Experienced RE project installers.
- No upfront capital costs to customer.
- ESCO guarantees savings or generation; responsible for any shortfall.
- ESCO responsible for operations and maintenance.
- Private party investor must own the equipment to utilize Tax incentives.

UESC

- Customer can partner directly with their franchised or serving utility on a sole source basis; Utilities able to utilize investment tax credits
- Customer repays over time out of savings or generation.
- Can accommodate energy efficiency, renewable energy, and self-generation
- 10-25 year contract terms, depending on the agency.
- May have limited experience with RE projects.
- No upfront capital costs to customer.
- ESCO guarantees savings or generation; responsible for any shortfall.
- ESCO responsible for operations and maintenance.
- Avoid potential interconnection issues.

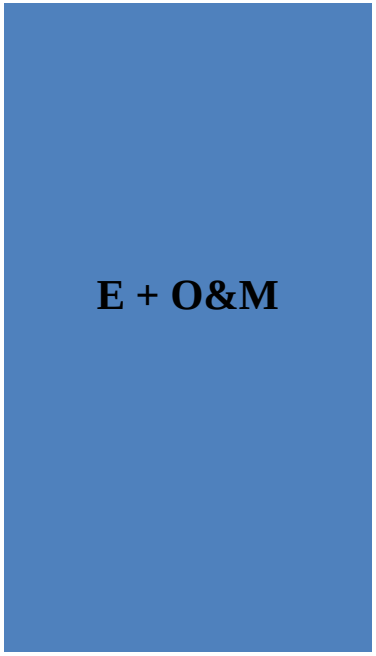
Contracting and Financing Options - UESC Financing Structure



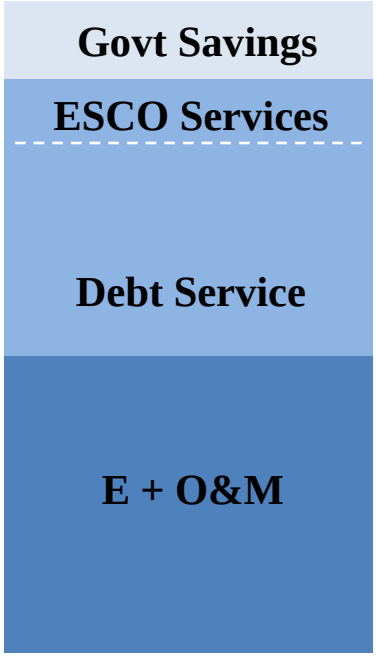
Contracting and Financing Options - ESPC Structure

- EPCs reallocate agency's payments for energy and energy-related O&M expenses (E + O&M)

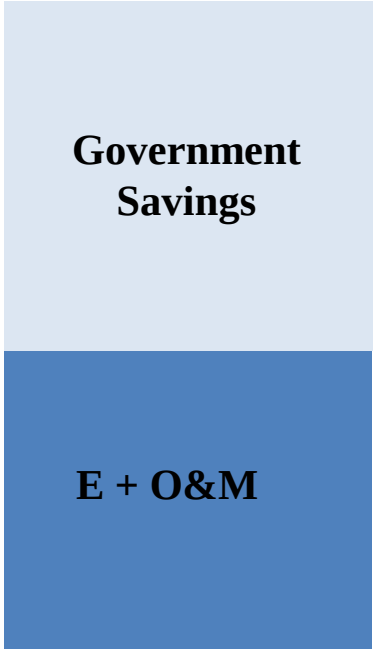
BEFORE
EPC Contract



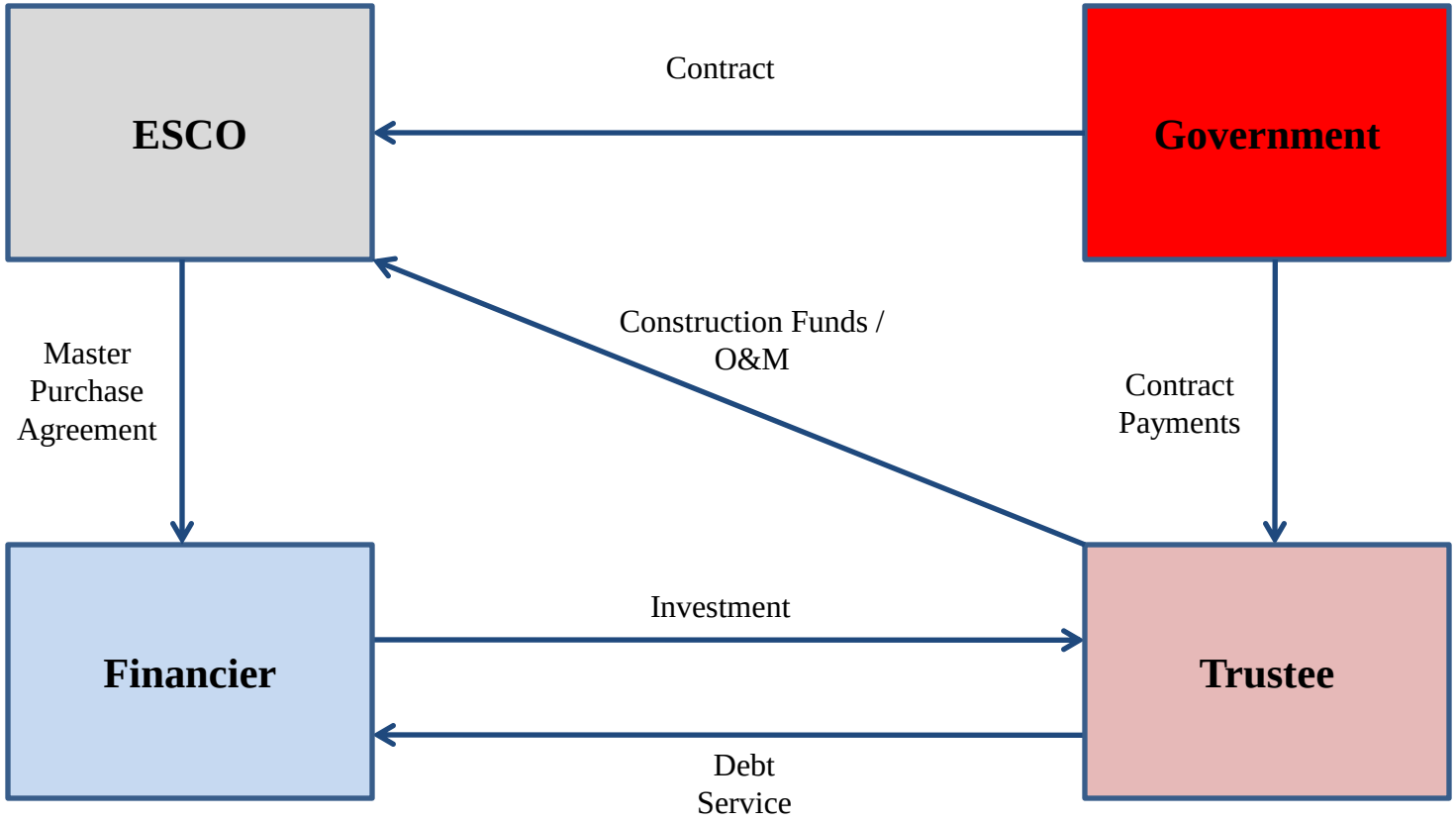
DURING
EPC Contract



AFTER
EPC Contract



Contracting and Financing Options - ESPC Financing Structure



Contracting and Financing Options - Enhanced Use Lease

- Enhanced Use Leasing (EUL) is part of a legislative authorization for military departments to lease underutilized and non-excess real property, governed by Section 2667 Title 10 United States Code.

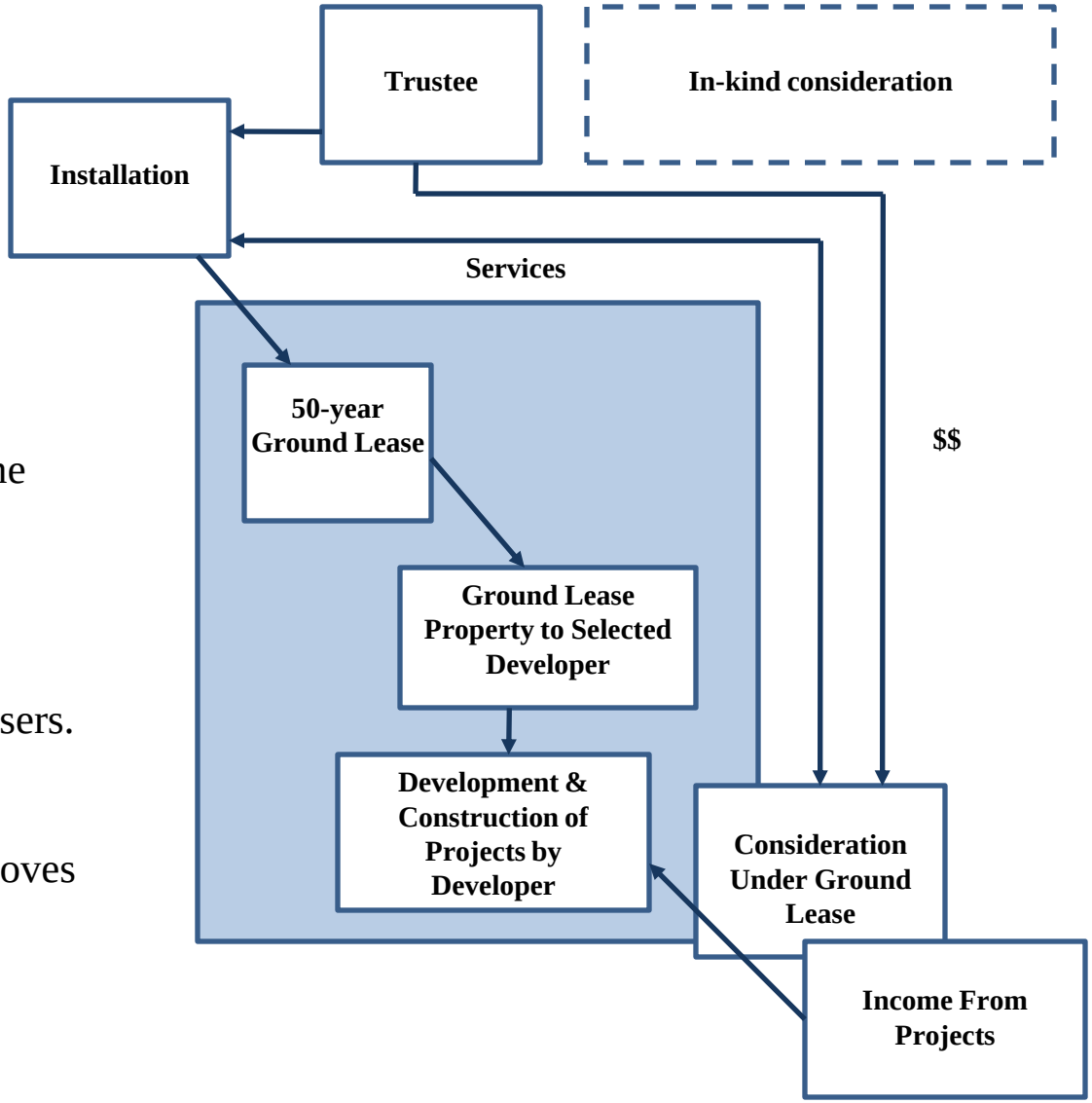
- Law requires the lessee to pay, in cash or in-kind, consideration in an amount that is not less than the fair market value of the lease interest.

- Categories of in-kind consideration that may be accepted in lieu of cash include construction of new facilities, restoration (including environmental), acquisition, alteration, and other services.

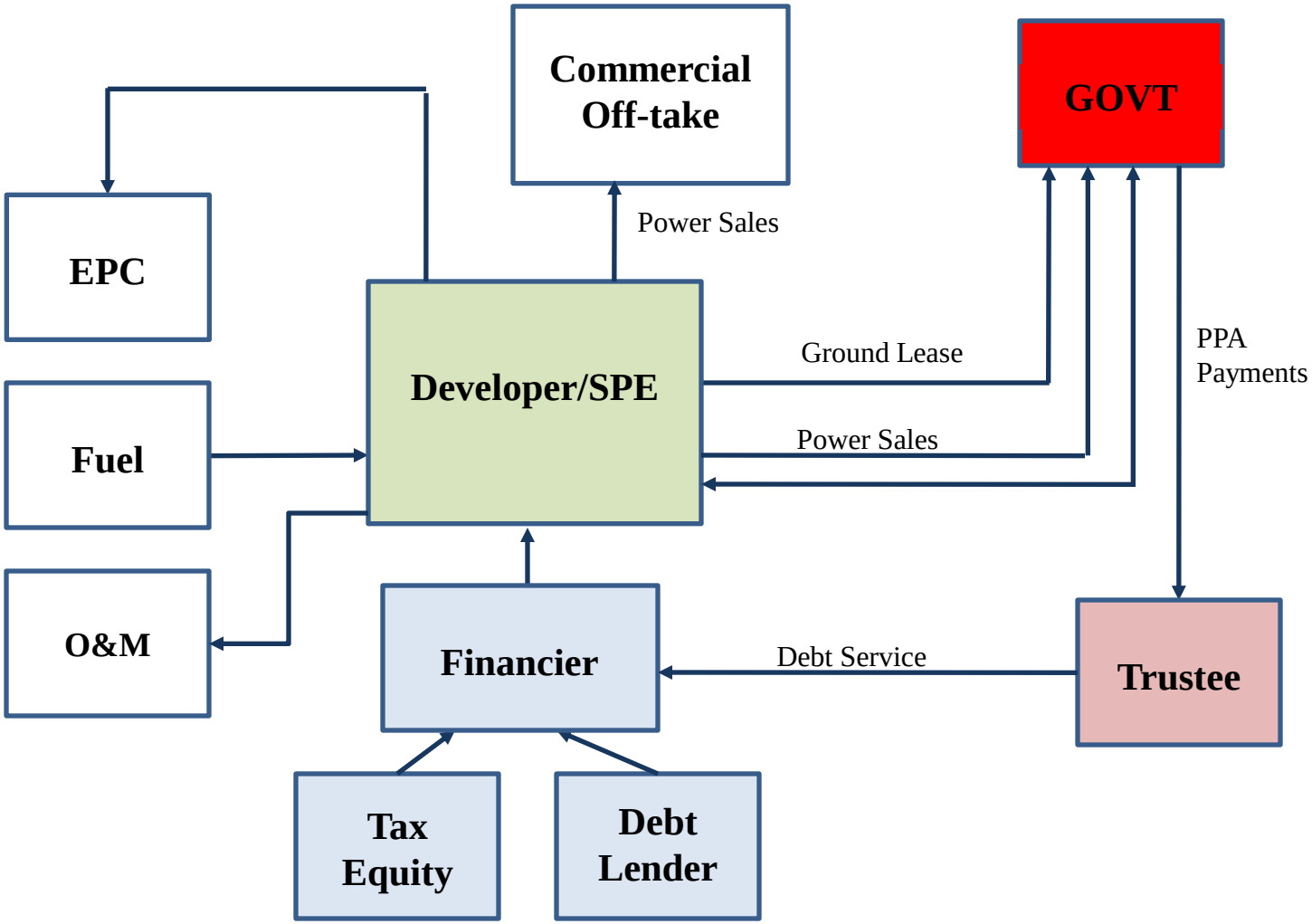
- Initially used principally for real estate developments; now being employed for energy projects (e.g. cogeneration and renewable power).

Contracting and Financing Options - Structure of EUL Transactions

- Installation provides 50-year ground lease.
- Developer assumes all risks and responsibilities.
- Installation receives a minimum of FMV as in-kind consideration for the ground lease.
- Developer develops the project based upon market demand from government and non-government users.
- Commitment by installation or any other agency to enter into PPA improves project feasibility.



Contracting and Financing Options - EUL Financing Structure



Contracting and Financing Options – Unique Aspects of EUL

- Leased Land up to 50 years.
- In-kind consideration
- Open book
- Environmental issues
- Transmission accessibility/capacity issues (e.g. long term application waiting periods with local utilities)
- Permitting issues
- Inside the fence affects exit strategy

Case Studies

Case Studies - Representative Corporate Solar Project

10 MW Photovoltaic Array with A-rated utility for PPA and SRECs

- **Developer:** Global, BBB Rated
- **Installation:** Ground Mount, Fixed-Tilt Array
- **Panel Provider:** Global, Investment-Grade Firm
- **EPC:** Industry Leader
- **PPA:** 20 year Term, fixed rate
- **PPA Pricing:** Year one at parity with Retail rates (Approx. $.06/kWh)
- **SREC Contract:** 10 year fixed price Contract
- **Tax Incentives:** 30% Treasury Cash Grant, 100% Bonus Depreciation
- **Project Cost:** $45,000,000
- **Financing Structure:** Sale-leaseback
- **Required Return on Equity:** 8%
- **Point of Interest:** Sponsor will use leverage, increasing equity return well above 8%

Case Studies - Representative Commercial Solar Project

6 MW Photovoltaic Array, Commercial Customer, Virgin Islands

- **Developer:** Energy Services Company, A Rated
- **Installation:** Roof Mount, Fixed-Tilt Array
- **Panel Provider:** Global, Investment-Grade Firm
- **EPC:** Energy Services Company
- **PPA:** 20 year Term, 2% escalation
- **PPA Pricing:** Year one discount of $.10/kWh to Retail rates
- **SREC Contract:** None available
- **Tax Incentives:** 30% Treasury Cash Grant, 100% Bonus Depreciation
- **Project Cost:** $35,000,000
- **Financing Structure:** Leveraged Partnership
- **Debt/Equity Split:** 45/55
- **Debt Service Coverage Ratio:** 1.5x
- **Debt Pricing:** +300 basis points over Treasury Index
- **Required Return on Equity:** 15%

Case Studies - Representative EUL Central Utility Plant/Co-generation Project

DOD Cogeneration and Central Utility Plant Project

- **Developer:** Keenan Development and Chevron Energy Solutions
- **Installation:** Thermal load requirements met, 14 MW of total backup power
- **Host:** US Army, Ft. Detrick
- **PPA:** Energy Services Contract (ESC), 10 year Term, (2) consecutive 10 year optional renewal terms. Debt insured by CIFG.
- **Tax Incentives:** None
- **Project Cost:** $103,000,000
- **Financing Structure:** Securitization

Lessons Learned from Detrick: Great deal, but similar structure is more difficult to finance in today's market. Bond insurance is nonexistent, and emphasis in today's markets are on the credits.

Case Studies - Representative ESPC Renewable Project

Energy Savings Performance Contract with Renewable Energy

- **Developer:** Publicly Traded Energy Services Company
- **Obligor:** Federal Bureau of Prisons
- **Installation:** 5 Energy Conservation Measures including: Biomass Boiler, Lighting System, Water Conservation, HVAC System, Control System
- **M&V Protocol:** 84% of guaranteed savings subject to Option A, a verification the ECM is in place and functioning. The remaining savings subject to ongoing M&V, under Option B.
- **Tax Incentives:** None available. Government retains ownership of technology.
- **Project Cost:** $7,500,000
- **Financing Structure:** Securitization
- **Term:** 16 years
- **Debt Service Coverage Ratio:** 1.15x

Conclusions

- **The right financing vehicles will allow installations to meet energy goals**
  - Structures and contracts are crucial components for all parties
  - Work with public/private mentality and remain adaptive and flexible.

- **Quality projects with strong team and creditworthy cashflows are financeable**
  - Conditions improving but capital still precious and investors still risk averse.
  - Long term PPAs with creditworthy off-takers are crucial to a successful financing
  - Projects continue to rely on federal tax benefits and state incentives

- **Understand your local market and your available resources**
  - RECs, incentives, energy prices determine revenues available to the project
  - Renewable resources determine the technologies best suited for a local market

Anita Molino
President
617-226-8102 Direct
617-437-0150 Main
amolino@bostonia.com

Bostonia Partners

Bostonia Partners LLC
A Bostonia Group Company
One Exeter Plaza,
699 Boylston St., 7th Floor
Boston, MA 02116

www.bostonia.com