

EE/RE Financing Programs

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Need for Financing

- White House Commission on Environmental Quality, Middle Class Task Force barriers:
 - Education and Outreach: Motivate residents to take action by establishing need and benefit, cutting through inaccurate or poorly organized information, motivate long-term behavior change.
 - Workforce Quality: Enhance the quality of workforce delivering energy-efficiency and renewable energy retrofits. Helping to ensure that performance promises are met, endorsing specific training standards, ability to meet codes, building confidence in individuals and businesses.
 - Finance: Providing and promoting incentives to overcome the barriers to investment including credit, availability, return on investment. (e.g., monetizing environmental attributes and impacts)
- +
- Behavior/Culture Change: Achieve low-cost savings from imparting energy conscious behaviors. Behaviors encourage the adoption of energy-efficient technologies and maintain their appropriate and effective use.

Types of Financing Programs - PACE

- Innovative financing program that provides loans for energy-efficiency and renewable energy retrofits for homes.
- Attaches “debt” to the property instead of the individual or business entity.
- Loan is attached to the property tax bill as an assessment.
- Repaid over a time period, similar to the timeframe that benefits are accrued (long).
- If property is sold or transferred, remaining loan balance can be transferred to the next owner.
- Funding source can be municipal bond (GO or revenue), federal funding, or in seemingly rare cases private investors (big interest).

Property Assessed Clean Energy – Example

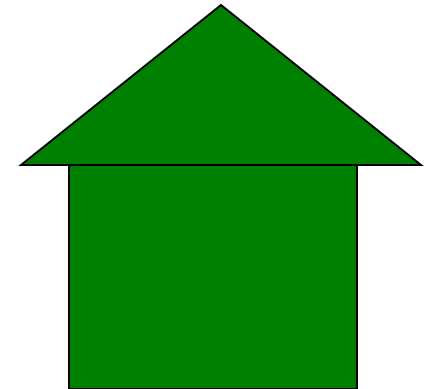
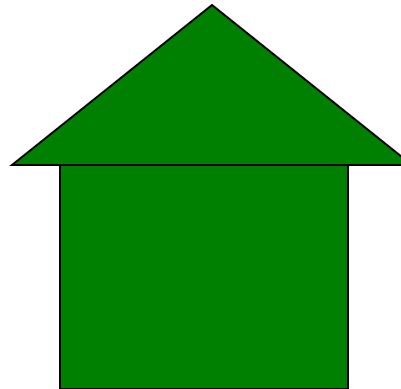
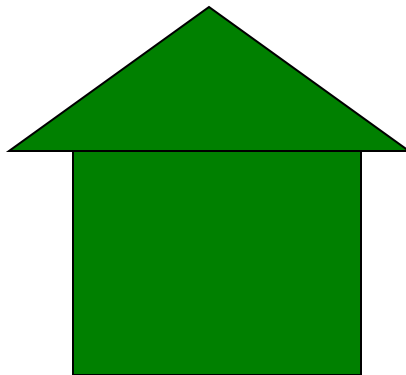
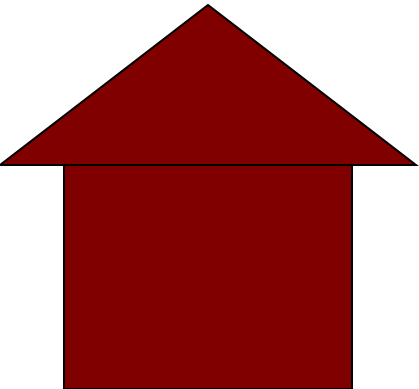
Owner “A” pays
\$3,000 in energy
bills

Owner “A”
Gets a \$4,600 HELP
Loan
Pays \$570 (Yr1) in
Payments
Saves
\$570 in Utility Costs
(25% savings)

Owner “A”
Pays \$570 (Yr5)
in Payments
Saves
\$670 in Utility
Costs
(escalation)
Owes \$3,100 on
Loan

Home
Sells

Owner “B”
Buys Home
Saves
\$670 in Utility
Costs
Owes \$3,100 on
Loan
Resumes \$570
payments



PACE Applied – Montgomery County

- Legislation (required) passed in 2009. “Charter County” state authorizing legislation not needed.
- Regulation developed with stakeholders, transmitted to County Council. Approval expected in June (hopefully).
- Applying approximately \$1.5 million of EECBG funds for capitalization, administration, education/outreach, County bonds for next round (QECCB, self supporting G&O).
- Incorporates Home Performance with ENERGY STAR (HPwES), everyone must get a HPwES (BPI) audit to access financing. (auditors/contractors will be registered to participate)
- Energy-efficiency focus, renewables secondary (energy-efficiency prerequisites apply).
- Regional real estate community EXTREMELY supportive, see the program as an asset.

HELP – Barriers Knocked Down/Remaining

- Managed to hammer through Davis Bacon and NHPA issues using federal funds.
- Addressed most banking industry concerns (notice, loans do not accelerate, limits on loan value, equity requirements.....primacy remains)
- FHA, Fannie, Freddie issues still a concern. Working with other jurisdictions to resolve. HIGH risk of market failure if not clarified.
- Continuing funding still an issue, use of private funds not favored by legal/finance staff (and may not be cost-effective).
- Council did not authorize program funding, must be self-supporting, leading to elevated interest rates.
- DOE “guidelines” most of our program is consistent with these guidelines, however some issues like maintaining a loan loss reserve fund which we do not need are a sticking point.

PACE Commercial???

- Many jurisdictions including Sonoma and DC are using/looking at PACE for commercial/multi-family.
- Difficult to muster sufficient revenue to address projects (e.g., \$3 to \$4 million eats through bonding authority quickly)
- Appropriateness of PACE for “most” commercial uncertain due to facility type, business model, redevelopment cycle of real-estate, and owner – leasee relationship.
- Jurystill out, may not be the best option.

“Power” Purchase Agreements

- A financial and contractual tool to get PV installed.
- A third party fronts the financing, installs and maintains the system, and claims incentives.
- Located on a County facility (typically a roof though ground-mount systems and others are possible).
- County agrees to purchase electricity generated from the installed system for a long period of time (typically 15 to 20 years).
- May or may not include “environmental attributes”
- Becoming the “standard” for large systems in Maryland

Why an SPPA over Capital or Traditional Financing?

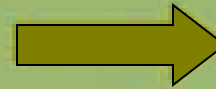
- Overcomes “capital” issue (100 kW system can cost upwards of \$600,000)
- Not treated as “debt service” as we are entering a contract for electricity supply, no County bonding or financing.
- Vendor specifies and designs equipment under guidance as needed by host facility.
- Vendor is responsible for equipment maintenance, replacement, upgrades.

What are We Really Doing?

Typical County Energy Purchase

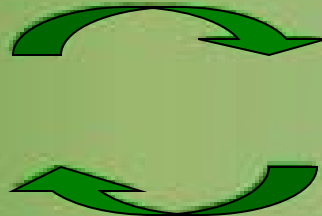


**Competitive
Energy
Supplier**



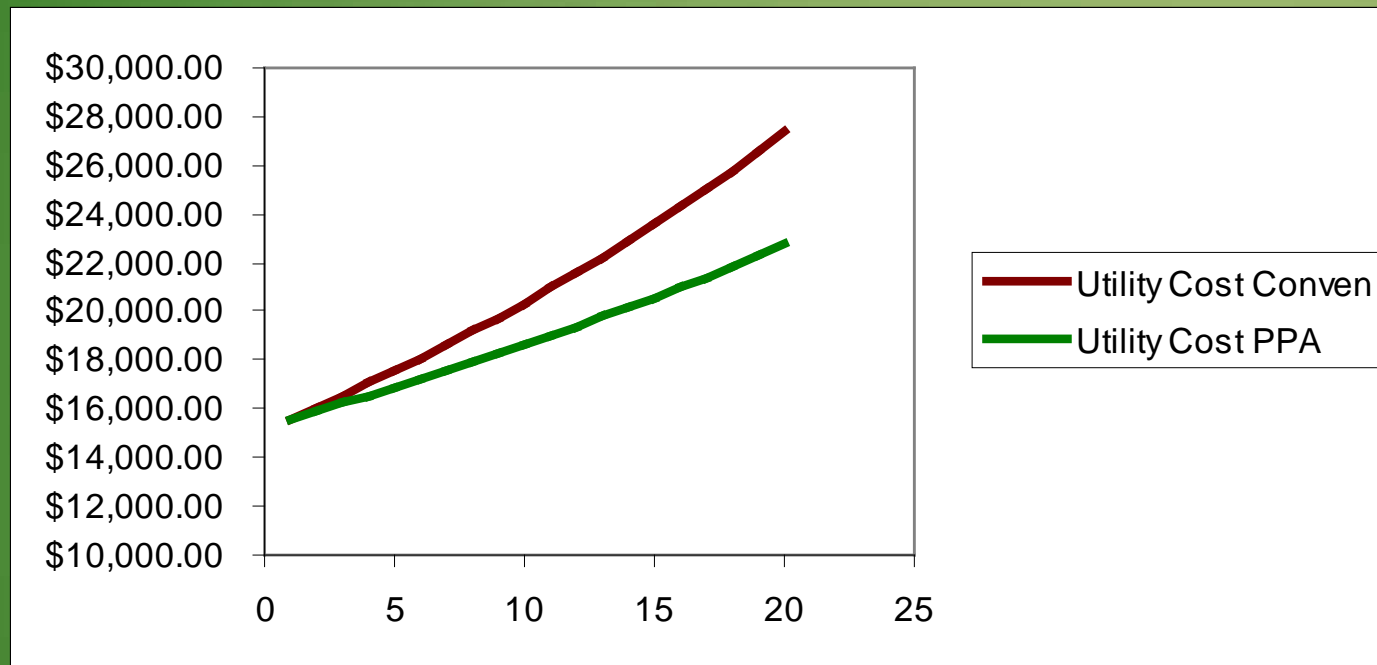
SPPA

**SPPA Provider
(Can be viewed
as a Competitive
Energy Supplier)**



What are We Really Doing?

System Size 100kW = 120,000 kWh annually



Total Cost Savings over 20 years > \$40,000 (conservative, generation only). Additional savings from demand, capacity etc.

What Makes a Good SPPA project?

- Historically best SPPA projects have been large (>10,000 square feet), flat roofs.
- Solar RPS carve out essential to be cost-effective “out of the box”
- Southwest Orientation essential.
- Little shading
- Facility energy demand > 100 kW
- Easy mounting (ballast or limited penetration)
- Newer roof with balance of warranty
 -this is changing but generally the smaller or more esoteric the more expensive.

Transfer Station Solar Project – Opportunities and Benefits

- Installation of a 250 to 300 kW (equivalent to 150 typical home systems) PV system on the Montgomery County Solid Waste Transfer station.
- Nearly \$2 million estimated capital cost borne by private investors and third party owners.
- County will save approximately \$250,000 over the life of the project.
- County exchanges regional “solar RECs” for less valuable, but equal in GHG reduction, national solar RECs.
- Received project sunburst grant allowing upgrade to U.S. panels and a 6% improvement in efficiency.

Other Financing Options

Tool	Strength	Weakness
Performance Contracting	<ul style="list-style-type: none"> • No-upfront cost • Owners/operators and ESCO share in savings. • Well developed industry. 	<ul style="list-style-type: none"> • Savings often get “renegotiated”. • ESCOs may or may not use cheaper municipal financing. • Very difficult to apply outside government sector. • Near impossible for small businesses, or sub-metered tenants.
Private Financing	<ul style="list-style-type: none"> • Plentiful (vocal community) 	<ul style="list-style-type: none"> • Requires high level of credit/security to access at reasonable cost. • Difficult to blend with public funds. • Terms sensitive to market conditions.
Loan Guarantees/Loan Loss Reserve Funds	<ul style="list-style-type: none"> ▪ Existing federal programs for some projects. ▪ Enable the flow of private money where projects not viable. ▪ Securitize private risk. 	<ul style="list-style-type: none"> ▪ May not have appreciable impact on interest rate. ▪ Must be sourced from ZERO interest money. ▪ Existing programs not accessible to EE projects (functionally) ▪ Collection of defaults difficult.
Gap Financing	<ul style="list-style-type: none"> ▪ Funding provided to buy-down project on top of private financing. ▪ Either a grant or funding with interest and repayment deferred until private equity repaid. 	<ul style="list-style-type: none"> ▪ Where's the money come from?
Environmental Attributes	<ul style="list-style-type: none"> ▪ Derived from benefits, can be used (e.g., like the PPA) to increase cash flow and increase ROI. 	<ul style="list-style-type: none"> ▪ Difficult to harness, poorly organized markets. ▪ Sale of attributes = Pollute!