



Updates From the Field: Innovative Energy Efficiency Financing Tools

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LBL's Energy Efficiency Work



- **Areas of Research**

- **Driving Demand for EE**
- **Commercial, Public and Residential EE Financing**
- **Interaction of ARRA & Ratepayer Funds**
- **Post-ARRA EE Program Sustainability**
- **ESCO Industry & Market Trends**
- **Technical Assistance to Recovery Act Grantees**

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Promising FEMP Financing Models

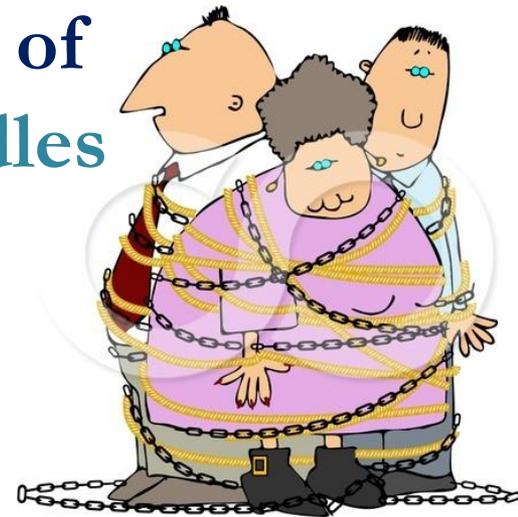


- **Expanding the Availability of Financing**
 - Bundled Energy Service Performance Contracting (ESPC)
 - Utility Energy Service Contracting (UESC)
 - On-Bill Financing
- **Lowering the Cost of Financing**
 - Revolving Loan Funds
 - Public-Private Partnerships

Bundled Energy Service Performance Contracting



- **Intra-agency bundling. Multiple small sites served by one ESPC**
- **Bundled ESPCs account for ~20% of all Federal contracts. Several bundles of large buildings that could have each been served by a stand-alone ESPC**
- **Administrative challenges.**
Centralized departmental bill payment and advanced stakeholder buy-in key



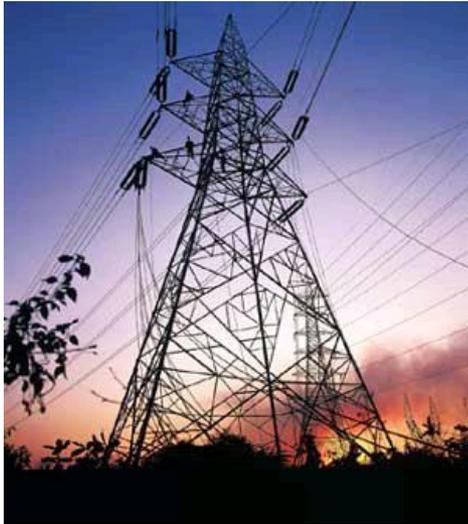
Utility Energy Services Contracting



- Offered by ~50 utilities. ~\$100 million UESC projects annually. Most projects at least \$200k
- Multiple benefits versus ESPC in smaller buildings. Lower transaction costs (geographic proximity/existing contractual relationship) and savings guarantee not required
- Access to other utility offerings. Rebates, free audits, free TA, commissioning, metering, etc.



On Bill Financing



\$\$ Upfront



\$\$ Repaid
on utility bill



- Utility or 3rd party provides upfront capital
- Repayment made on existing utility bill

- Identifies work & contractor based on utility criteria
- Repays financing on utility bill
- **On Bill-Remaining** balance must be repaid when the tenant moves
- **Meter Attached--Attaches** repayment obligation to the meter

On Bill Financing—Case Study



- San Diego Gas & Electric/SoCalGas on bill pilot. Launched in 2010—800+ loans and \$20 million financing to date for commercial, multifamily and public buildings
- Attractive loan terms. 0% interest up to \$1 million and 10 years for public buildings. Loan length tied to expected payback period
- Participants receive both loan and utility rebate. Typical subsidy is ~25% of job cost
- Security is meter shutoff. Underwriting based on strong bill repayment history



Federal ESCO Financing Costs



Market	Time Period	Median Interest Rate**	Avg 20-yr State & Local Bond Rate	Avg “Like term” T-bill Rates for FEMP Projects	Estimated Basis Point Difference
Federal	1998-2004	7.6%	N/A	5.3%	226
Federal	2005-2008	6.2%	N/A	4.7%	145
MUSH	1998-2004	5.1%	5.1%	N/A	-5
MUSH	2005-2008	4.4%	4.5%	N/A	-7

- **Federal ESCO-financed use more costly private capital!**

**Implied interest rate based on LBNL Analysis of project economics.

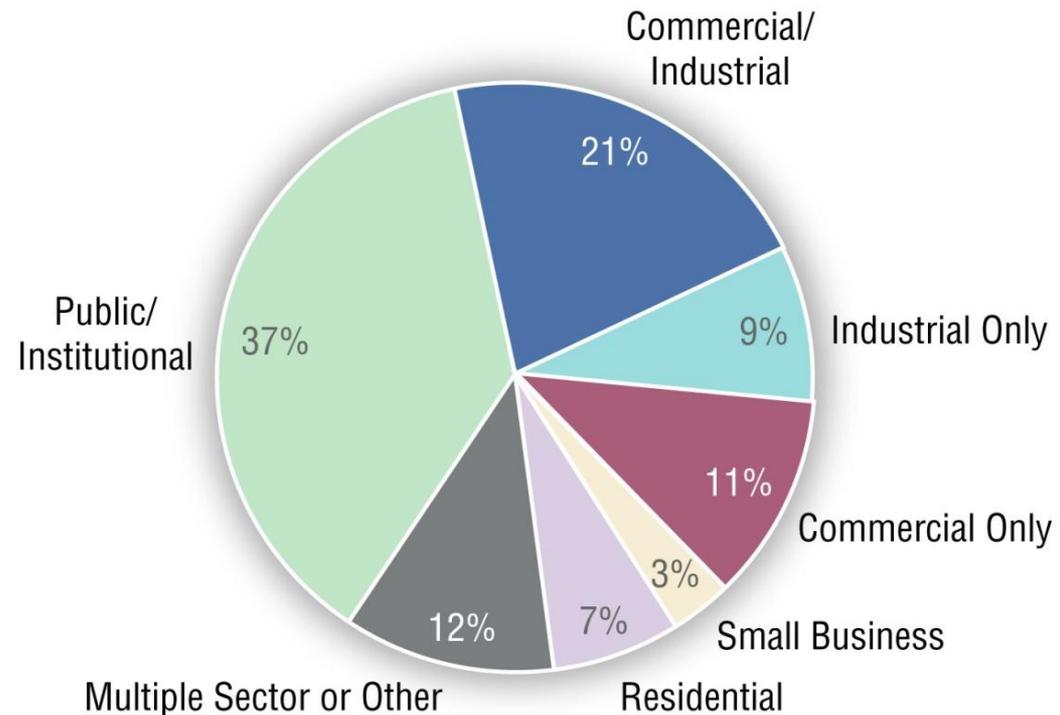
ARRA-Funded Revolving Loan Funds



Thirty-five states have established 51 RLFs with over \$650 million in ARRA funds:

- 44% (>\$250M) for industrial, commercial, and small business
- 37% for public/institutional markets
- Only 7% targeted at the residential market

Target Sectors for ARRA-funded RLFs



AlabamaSAVES



- **\$70mm+ Two-Track Public & Commercial Financing Program.** \$12.5mm SEP-funded RLF (\$250k-\$4mm loans, 2% up to 10 years) or ~\$60mm private lender financing supported by \$12.5mm SEP funds for interest rate buy down and loan loss reserve.
- **Energy Services Agreement Models Permitted.** Metrus Energy is a program partner.
- **Contractor Marketing Training.** Leverage existing contractor relationships with building energy managers for non-ESCO upgrades

Seattle Community Power Works



- **Goal is to reduce ESCO-arranged financing costs.** \$9.3 million fund - \$6.5 million private senior capital, as well as subordinate capital and a debt service reserve (DSR) from ARRA funds.
- **Basic Financing Terms*.** 9.5%, 5-7 year financing for 50k+ sq. ft. commercial buildings.
- **On-Bill Repayment.** Pilot targets Seattle Steam customers, who pay back financing on utility bill.

*Tentative Terms.



Questions?



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