



SoCalIREC

SOUTHERN CALIFORNIA REGIONAL ENERGY CENTER

Program Financing Workshop

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Council of Governments

Steps to Energy Savings

- ✓ Conduct an energy audit to evaluate overall consumption profile
 - ✓ Define improvements to *reduce* consumption--replace lighting, HVAC, controls, etc.
 - ✓ Define improvements to *replace* consumption--Solar PV, Solar thermal
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- ✓ Leverage services of Los Angeles County Program
 - Project prioritization
 - Procurement
 - Financing
 - ✓ **Projects identified in Climate Action Plans will continue the next phase of improvements that were initiated with stimulus funding and Energy Leader incentives.**

Financing Options (1 of 2)

- ✓ Several options exist
 - On Bill Financing (OBF) - *0% - best option when available.*
 - California Energy Commission Loans (CEC) – *1% - great option if project suitable to CEC parameters and short term capital available.*
 - **Master Lease – SoCal REC arranged funding for low cost , streamlined access to lease financing.**
 - Bond Financing – *low cost, but takes a long time and usually requires energy projects included with other capital improvements*

Financing Options (2 of 2)

- ESCO Financing – *Highest cost of financing, though usually including performance guarantees and ongoing M&V.*
- Revolving Loan Funds – *Some local agencies have create revolving funds though not widely used.*
- Power Purchase Agreements (PPA) – solar, co-gen, wind – *Higher cost of financing, obligation to purchase output not improvement.*
- Energy Services Agreements (ESA) – energy efficiency - *Higher cost of financing, purchasing savings from EE not improvements.*
- PACE (Private Sector owned only) – *Private owners borrow funding for EE and RE improvements that are paid back on property tax bill.*

Comparison of Common Local Government Financing

	Muni Bonds / OBF / CEC	Master Lease	ESA	PPA
Owner	Agency	Agency	Third Party	Third Party
Incentives	Agency Rebates and Incentives	Agency Rebates and Incentives	Commercial	Commercial
Tax Benefits	Forfeited	Forfeited	Available to commercial owner	Available to commercial owner
Time Required to Fund	60 – 180 days (or more)	30 – 60 days	60 – 180 days	120 days +
Project Types	All	All	EE	Solar / Wind / Geo-Thermal
Buyout Option	N/A	N/A	Yes	Yes

Sample Project Assumptions

✓ Streetlight Retrofit Project

- Total Cost \$1,000,000
- Annual Savings \$200,000
- Rebates \$40,000
- Term 10 year
- Annual Utility Escalation Rate 3.5%

Energy Service Agreement Financing

Upgrade Installed Cost \$1,000,000
 Financing Cost \$20,000
 Total Borrowing \$1,020,000

Assumed kWh Annual Savings 1,250,000
 Assumed Utility Start Rate \$ 0.160
 Assumed Utility Escalation 3.5%

ESA Savings Start Rate \$ 0.140
 ESA Escalation Rate 3.5%

- Minimum amount \$1,000,000
- Payments based on savings
- No upfront payments

Year	kWh Savings	Avoided Utility Cost	ESA Payments	Net Benefits
1	1,250,000	\$200,000	(\$175,000)	\$25,000
2	1,250,000	\$207,000	(\$181,125)	\$25,875
3	1,250,000	\$214,245	(\$187,464)	\$26,781
4	1,250,000	\$221,744	(\$194,026)	\$27,718
5	1,250,000	\$229,505	(\$200,817)	\$28,688
6	1,250,000	\$237,537	(\$207,845)	\$29,692
7	1,250,000	\$245,851	(\$215,120)	\$30,731
8	1,250,000	\$254,456	(\$222,649)	\$31,807
9	1,250,000	\$263,362	(\$230,442)	\$32,920
10	1,250,000	\$272,579	(\$238,507)	\$34,072
BUYOUT			(\$75,000)	(\$75,000)
TOTALS	12,500,000	\$2,346,279	(\$2,127,994)	\$218,285
Net Present Value of Savings (2% discount rate)				\$201,651

On Bill Financing

Upgrade Installed Cost	\$1,000,000
Financing Cost	\$0
Total Borrowing	\$1,000,000
Interest Cost	0.00%
Financing Term	10
Assumed Utility Escalation	3.5%

- Loans up to \$1,000,000
- Paid on reimbursement basis
- Interest Rate 0%

Year	Annual Savings	Rebates & Incentives	Total Benefits	Initial City Funding	Reimbursement from Utility	Debt Service	Net Benefits
0				(\$1,000,000)			(\$1,000,000)
1	\$200,000	\$40,000	\$240,000		\$1,000,000	(\$100,000)	\$1,140,000
2	\$207,000		\$207,000			(\$100,000)	\$107,000
3	\$214,245		\$214,245			(\$100,000)	\$114,245
4	\$221,744		\$221,744			(\$100,000)	\$121,744
5	\$229,505		\$229,505			(\$100,000)	\$129,505
6	\$237,537		\$237,537			(\$100,000)	\$137,537
7	\$245,851		\$245,851			(\$100,000)	\$145,851
8	\$254,456		\$254,456			(\$100,000)	\$154,456
9	\$263,362		\$263,362			(\$100,000)	\$163,362
10	\$272,579		\$272,579			(\$100,000)	\$172,579
Totals	\$2,346,279	\$40,000	\$2,386,279	(\$1,000,000)	\$1,000,000	(\$1,000,000)	\$1,386,279
Net Present Value of Savings (2% discount rate)							\$1,193,248

CEC Loan

Upgrade Installed Cost	\$1,000,000
Financing Cost	\$0
Total Borrowing	\$1,000,000
Interest Cost	1.00%
Financing Term	10
Assumed Utility Escalation	3.5%

- Loans up to \$3,000,000
- Paid on reimbursement basis
- Interest Rate 1%

Year	Annual Savings	Rebates & Incentives	Total Benefits	Initial City Funding	Reimbursement from CEC	Debt Service	Net Benefits
0				(\$1,000,000)			-\$1,000,000
1	\$200,000	\$40,000	\$240,000		\$1,000,000	(\$105,582)	\$1,134,418
2	\$207,000		\$207,000			(\$105,582)	\$101,418
3	\$214,245		\$214,245			(\$105,582)	\$108,663
4	\$221,744		\$221,744			(\$105,582)	\$116,161
5	\$229,505		\$229,505			(\$105,582)	\$123,923
6	\$237,537		\$237,537			(\$105,582)	\$131,955
7	\$245,851		\$245,851			(\$105,582)	\$140,269
8	\$254,456		\$254,456			(\$105,582)	\$148,874
9	\$263,362		\$263,362			(\$105,582)	\$157,780
10	\$272,579		\$272,579			(\$105,582)	\$166,997
Totals	\$2,346,279	\$40,000	\$2,386,279	(\$1,000,000)	\$1,000,000	(\$1,055,821)	\$1,330,458
Net Present Value of Savings (2% discount rate)							\$1,144,090

Master Lease Financing

Upgrade Installed Cost	\$1,000,000
Financing Cost	\$20,000
Total Borrowing	\$1,020,000
Interest Cost	2.90%
Financing Term	10
Assumed Utility Escalation	3.5%

- Minimum amount \$250,000
- Low tax-exempt rates based on borrower credit
- No upfront payments

Year	Annual Savings	Rebates & Incentives	Total Benefits	Debt Service	Net Benefits
1	\$200,000	\$40,000	\$240,000	(\$118,966)	\$121,034
2	\$207,000		\$207,000	(\$118,966)	\$88,034
3	\$214,245		\$214,245	(\$118,966)	\$95,279
4	\$221,744		\$221,744	(\$118,966)	\$102,778
5	\$229,505		\$229,505	(\$118,966)	\$110,539
6	\$237,537		\$237,537	(\$118,966)	\$118,572
7	\$245,851		\$245,851	(\$118,966)	\$126,885
8	\$254,456		\$254,456	(\$118,966)	\$135,490
9	\$263,362		\$263,362	(\$118,966)	\$144,396
10	\$272,579		\$272,579	(\$118,966)	\$153,614
Totals	\$2,346,279	\$40,000	\$2,386,279	(\$1,189,657)	\$1,196,622
Net Present Value of Savings (2% discount rate)					\$1,066,360

Summary of Outcomes

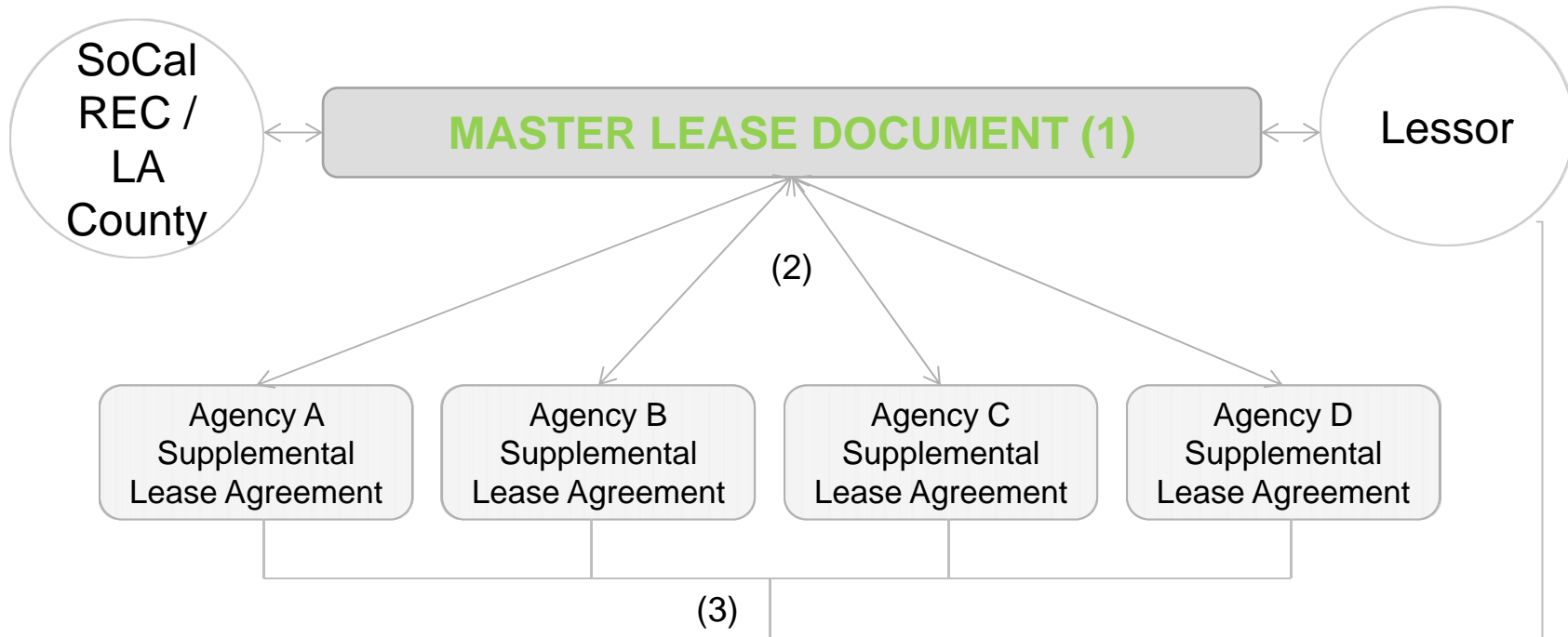
- On bill financing and the CEC loans provide very attractive funding options if available and if the agency is able to front the cash until reimbursement.
- Master Lease Financing is a low cost alternative for agencies to realize savings and to improve their energy profile
- Energy Service Agreements are more expensive but offer debt capacity restricted agencies the ability to realize savings and to improve their energy profile without capital outlay
- Every agency has different constraints and an analysis of the various options available to the agency will ensure well informed decisions

Evaluation Metrics

Financing Options	ESA	On-Bill Financing	CEC Loan	Lease Financing
Energy Savings	\$2,346,279	\$2,346,279	\$2,346,279	\$2,346,279
Rebates & Incentives	N/A	\$40,000	\$40,000	\$40,000
Interest Rate	N/A	0.00%	1.00%	2.90%
Total Debt Service	(\$2,127,994)	(\$1,000,000)	(\$1,055,821)	(\$1,189,657)
Net Benefit	\$218,285	\$1,386,279	\$1,330,458	\$1,196,622
NPV of Net Benefit	\$201,651	\$1,193,248	\$1,144,090	\$1,066,360

- If the improvement project were cash financed the pay back period would be about 5 years and the rate of return about 13.8%, and result in \$2.3 million net savings or \$2.1 million net present value savings.

Master Lease Overview



- (1) Master lease establishes documents and procedures to receive funding.
- (2) Individual agencies agree to terms and payment obligations for their projects according to master lease terms.
- (3) Payments made to Lessor based upon each agencies' supplemental lease agreement terms.

Process to Fund with SoCal REC Master Lease

Facilities Audit

- Project identification
- Savings estimates
- Pricing estimates

Project Approval

- **Lease application & approval**
- Project selection
- Governing board approval

Project Implementation

- Engage contractors
- **Finalize lease documents**
- Fund and Install improvements

SoCalREC team is available to assist throughout the process to achieve successful implementation.

Contact Information

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