



Financing Turnkey Efficiency  
Solutions for Small Buildings and  
Small Portfolios

**Rois Langner**

NREL

[Rois.Langner@nrel.gov](mailto:Rois.Langner@nrel.gov) 303-275-4329

April 4, 2013

**Problem Statement:** Disproportionate transaction costs, lack of purchasing power, financial risk, insufficient organizational capacity, and lack of technical expertise inhibit the adoption of energy efficiency measures in the small building and small portfolio (SBSP) sector at scale.

**Impact of Project:** Increase the impact of existing energy efficiency financing programs by providing technical innovation that increases confidence in predicted energy savings, mitigates investment risk, reduces transaction costs, and provides a scalable, market-acceptable financing model for the SBSP sector.

**Project Focus:** Strengthen BTO efforts by accelerating the uptake of energy efficiency technologies and techniques in the SBSP sector by reducing financial risk of small building efficiency projects. Enhancing market penetration by 10% and achieving 20% reduction in sector energy use will yield approximately 60 Tbtu in energy savings in small buildings annually.

**Approach:** Provide technical innovation to an existing energy efficiency financing program that:

- Produces turnkey efficiency solutions for nonenergy experts
- Encourages energy efficiency lending by providing the lender and borrower with greater confidence in financial returns

**Key Issues:** The SBSP sector experiences disproportionate transaction costs and lack of purchasing power, higher financial risk, and often lacks sufficient organizational capacity and technical expertise. Greater confidence that expected energy savings will actually be achieved is needed to reduce financial risk for both the borrower and lender of efficiency loans.

**Distinctive Characteristics:** Technical innovation provided to the selected financing program will output better predictions of energy savings for small building improvements. Innovative, low-cost, scalable metering solutions and advanced modeling techniques that leverage supercomputing capabilities will be provided to quantify uncertainty in potential energy savings for the SBSP sector.

**Accomplishments:** Newly initiated project. Staff have engaged key stakeholders in the financing community to identify promising model efficiency financing programs for leveraging national laboratory technical expertise.

## Related Efforts:

- SBSP Roadmap
  - Initial scoping study and gap analysis of SBSP sector
  - SBSP sector characterization report: Realizing the Energy Efficiency Potential of Small Buildings, *National Trust for Historic Preservation, Preservation Green Lab*
- Initial scoping study and gap analysis of financing solutions for the SBSP sector

## Progress on Goals:

4/30/2013: Energy efficiency financing program identification

5/31/2013: Draft plan for national laboratory contribution to support the identified financing program(s)

8/16/2013: Final technical product that mitigates risk inherent to financing for SBSP efficiency projects

# Project Plan & Schedule

## FY 2013 SBSP Financing Project:

Months 1–3: survey-level scoping report

Months 4–8: program selection and model program plan (Go/no-go decision point)

Months 9–11: development of technical product (Go/no-go decision point)

Month 12: development of outreach materials

Summary					Legend							
WBS Number or Agreement Number	19987				Work completed							
Project Number	NREL-FY13-01				Active Task							
Agreement Number	19987				Milestones & Deliverables (Original Plan)							
					Milestones & Deliverables (Actual)							
Task / Event	FY2012				FY2013				FY2014			
	Q1 (Octt-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)	Q1 (Octt-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)	Q1 (Octt-Dec)	Q2 (Jan-Mar)	Q3 (Apr-Jun)	Q4 (Jul-Sep)
<b>Project Name: Financing Turnkey Efficiency Solutions for SBSP</b>												
Q1 Milestone: Survey level scoping report					◆							
Q3 Milestone: Program selection						■	◆					
Q3 Milestone: Draft model program plan							◆					
Q4 Milestone: Technical product or resource in support of financing program								◆				
Q4 Milestone: Final outreach materials									◆			
<b>Current work and future research</b>												

**Project Budget:** FY 2013 budget: \$250,000

**Variances:** None

**Cost to Date:** \$27,000

**Additional Funding:** NREL will identify interested partners that are willing to provide significant cost-share

Budget History					
FY2010		FY2011		FY2012	
DOE	Cost-share	DOE	Cost-share	DOE	Cost-share
<b>NEW PROJECT – N/A</b>					
\$0		\$0		\$0	

## Partners, Subcontractors, and Collaborators:

- Service providers
- Financial companies
- Municipal groups
- Utilities and regulatory experts
- Small business associations

**Technology Transfer, Deployment, Market Impact:** Successes of this program will be replicated with the intent of significantly increasing the quantity and depth of efficiency projects in the SBSP sector.

**Communications:** Direct outreach to the SBSP sector will be led by the selected financing partners and affiliated third-party service providers. NREL communication plans will include outreach to relevant stakeholders and leading workshops, seminars, or other forums that promote awareness of improved financing options for small building owners.



## Next Steps and Future Plans:

- Identify interested partners with existing financing programs that can benefit from NREL expertise
- Design and implement the pilot project
- Other specific activities will depend on the nature of the underlying financing program and the outcome of the FY 2013 work efforts