

Clean Energy Finance

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Presentation Goal

- To describe the elements of a new generation of clean energy finance in the residential sector. Specifically:
 - To outline the basics of a Clean Energy Finance Plan
 - A Clean Energy Finance Plan assembles a variety of public or private sources of finance into one coherent program that is much more comprehensive than any of the individual programs could produce on their own.

A Clean Energy Finance Plan:

- Establishes a significant fund to support clean energy, by making use of financial leveraging mechanisms and non-traditional use of financing sources.
- Takes advantage of financial, market and skill resources of different agencies that don't always work together.
 - Housing (Housing Finance Agencies)
 - Energy
 - Environment

Brief Background

- The first generation of public sector energy efficiency finance efforts focused on rebates and simple loan programs administered by state governments.
 - These programs tended to be small.
 - The funding gradually (or quickly) disappeared.
 - They may have given away more than was necessary to stimulate the market.

Background

Energy finance in residential sector falls into three tiers:

- I. The very small purchases, day to day decisions that consumers put on a credit card (\$1,000-\$2,000 or less.
- II. The second tier (\$2,000-~\$12,000) into which many efficiency measures fall -- too big for the typical credit card. Too small for home equity loan.
- III. The third tier (>\$~12-\$15,000) which includes major efficiency measures, PV, heat pumps, etc.

Background

- Tier I: No financing required
- Tier II: Quick, streamlined, easy to administer, typically unsecured loans. Think Home Depot as competition, but energy efficient.
- Tier III: Lower rate and more rate sensitive, not as time sensitive. Secured loans more appropriate. Think home equity loans, but energy efficient.

What a Clean Energy Finance Plan Can Do

Assume: \$30 million available from bonding or state treasury. This provides the ability to offer 2,000 \$5,000 loans each year. Further assume energy savings of \$50-\$75/month.

Basic, mkt. rate unsecured loan	~12%-13% 5 year term	\$111 monthly payment
Unsecured loan, with servicing & origination fess, offered w/o leveraging funds	~10% up 7-10 year term	\$66-\$83 monthly payment
Unsecured loan with a loan loss reserve provided through additional state funds	~8% up to 7-10 year term	\$61-\$78 monthly payment
Unsecured loan with loan loss reserve and an interest rate buydown	Flexible rate depending on funds available. Assume 1.99%	\$46-\$64 monthly payment

Step 1: Identify Market Needs

- New or Existing Homes?
- Energy efficiency, small renewables, both?
- Fast renovations and appliance replacement or full-scale audits and home performance approach?
- Market (based on income) being served.
- The answers to each of these questions determine the design of the program and kind of financing.

Step 2: Identify sources of capital (core funding)

- Energy offices must think beyond the traditional sources of funding (oil overcharge funds etc.) and focus on a several new sources.
 - Bond issues
 - State treasury funds
 - Housing finance agency funds and programs
 - Federal housing funds
 - Reallocation of low income weatherization funds
 - Carbon credit sales
 - Other special funds that vary in each state
- The energy office role is often the catalyst, the convener, the expert. The energy office may or may not run the programs, but will take a prominent role in them.

Step 2a: Identify limitations on funding sources.

- For example:
 - Some funds (treasury, bonding) will require a prudent return that must be paid back.
 - Typical required returns are ~5%
 - All funds are limited in amounts.
 - Colorado is looking at a \$20-\$30 million fund.
 - Many other funds come in \$1 million range.
 - Some funds must be allocated to certain purposes.
 - 20% of LIHEAP funds may be allocated to efficiency improvements. But must affect low income.
 - HOME, CDGB funds must go towards low income.
- These limitations determine the structure of a financing plan.

Step 3: Identify Best Combinations of Funds

- Core funding plus leverage of other funds:
 - Treasurer requires a prudent and safe use of state funds. Options:
 - Possible to buy loss insurance (adds ~2%)
 - Establish a loan loss reserve of 4%-5%
 - Typical losses are less than 2% on state loans
 - The loss reserve will often sit in an interest-bearing account
 - Use some funds to buy down interest rate for qualified borrowers.

Step 4: Administration

- Create a Measurement and Verification mechanism to measure success and identify areas for improvement.
- Select who will market, originate, service loans.
 - For example:
 - Housing Finance Agency
 - Private entity
 - Other government entity

The Clean Energy Finance Market: Observations

- Any approach must be segmented by income considering:
 - Financial capacity to take on debt.
 - Ability to pay.
- Must offer different financial products to different income groups.
 - Lowest income groups (60% of AMI or lower) = rebates
 - Next tier of poorer household (60%-80 or 100% of AMI) = subsidized interest rate loans
 - Above this level: Loans financed through public sources.

Interest Rates, Security Etc.

- 0% rates aren't required, even for lowest income borrowers. (The very lowest income borrowers need rebates).
- For a loan of up to ~\$10,000 an unsecured loan at an interest rate of 6%-8% is sufficient.

Colorado Proposal

Cooperating Agencies	Energy, Housing, Treasury and the legislature
Administration	Energy: M&V Housing/Private: Servicing Treasury: Core funding Utility: likely future role through Home Performance w/Energy Star
Core Funding (Treasury)	Total: \$30 million \$10 million/yr
Supplemental Funding For Loss Reserve (Mineral Royalties)	5% or \$500,000/yr
Funding for Rate Buydown @40% of total loans from 7.99 to 1.99% (Royalties)	\$725,000/yr

EPC's Role

- Identifying non-traditional funding sources.
- Determining limitations on funds.
- Developing an integrated financial, administrative and program structure.
- Calculating leveraging capability and buy down capacity within different financial models.
- Bringing parties together to work out a plan.

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