



SEE Action

STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Financing Solutions Working Group Blueprint

July 15, 2011



SEE Action

STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

The Financing Solutions Working Group of the State and Local Energy Efficiency Action Network is committed to taking action to increase investment in cost-effective energy efficiency. This Blueprint was developed under the guidance of and with input from the working group. The document does not necessarily represent an endorsement by the individuals or organizations for Financing Solutions Working Group members.

The Financing Solutions Working Group Blueprint is a product of the State and Local Energy Efficiency Action Network and does not reflect the views, policies, or otherwise of the federal government.

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Financing Solutions Working Group Members

- Two co-chairs
- 16 Members
 - Policymakers, State/Local Government
 - Research / Academia
 - Vendors/Industry
 - Coordinating Organizations

Co-Chairs	
T.J. Deora	Colorado Energy Office
Keith Welks	Deputy State Treasurer for Fiscal Operations, Pennsylvania Treasurer
Policymakers, State/Local Government	
Jennifer Finnigan	California Public Utilities Commission
James Gardner	Kentucky Energy Commission
Jeff Pitkin	NYSERDA
David Terry	National Association for State Energy Offices
Research/Academia	
Bryan Garcia	Yale Center for Business and the Environment
Joel Kurtzman	Milken Institute – Center for Financial Innovations
Vendors/Industry	
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Mike Couick	Electric Cooperatives of South Carolina
Janice Erickson	Sacramento Municipal Utility District
Peter Krajsa	AFC First Financial Corporation
Coordinating Organizations	
Margot Brandenburg	Rockefeller Foundation
Don Gilligan	National Association of Energy Service Companies
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Richard Metcalf	LiUNA
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Mark Wolfe	Energy Program Consortium



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- Tom Darling, Massachusetts Department of Energy Resources
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Outline

- Financing Solutions Working Group Goal
- Background on Existing Products
- Barriers to Financing
- Work Areas, Deliverables, Next Steps, and Work Plan
- Appendices



Financing Solutions Working Group

- Goal: The goal of the SEE Action Financing Solutions Working Group is to remove financing barriers to energy efficiency in the United States through improved financing tools and mechanisms (loans, leases, service agreements).
 - *Better understand the needs of financial institutions in participating in environmental efficiency lending*
 - *Provide government and financial institutions with the data, tools, and education to create successful future financial products*
 - *Continue to refine those financial tools so they reflect current data and the market's changing needs.*



Goal of the Financing Solutions Working Group

- *The goal of the SEE Action Financing Solutions Working Group is to remove financing barriers to energy efficiency in the United States through improved financing tools and mechanisms (loans, leases, service agreements).*

Financing tools can eliminate up front cost barriers to energy efficiency and help match monthly energy savings to monthly financing charges.

We view financing as a tool to enable energy efficiency. It strengthens the value proposition for consumers who are considering making investments in efficiency.



It is important to understand the strengths and weaknesses of financing ...

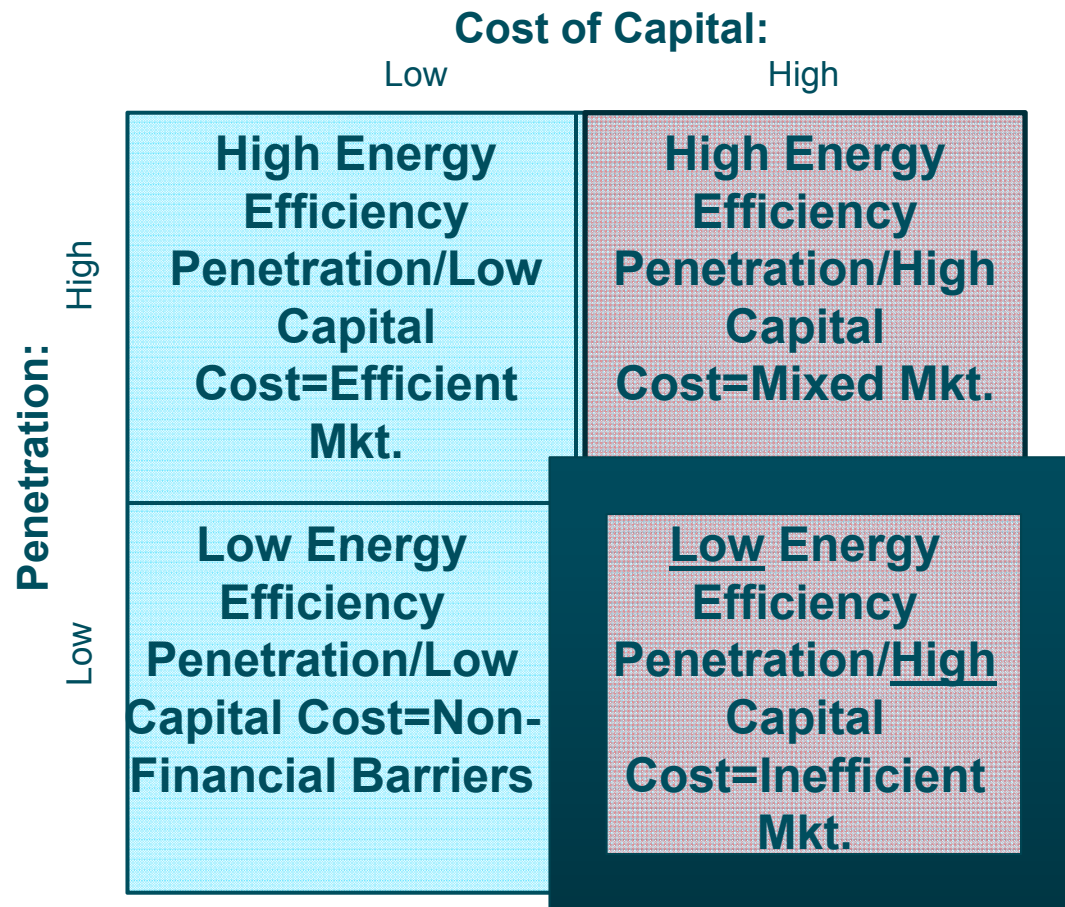
Strengths	Weaknesses
Allows <u>leverage</u> of public or utility ratepayer funds and increases access to attract private capital	Not all entities have access to finance because of credit quality
Provides for “skin in the game” from borrowers	Even entities who may have access to finance may not want to take on new debt
Sustainability: Extends the life of limited government/utility ratepayer funds	Cost, time, and labor intensive to originate, service small loans
Can complement rebate programs	Requires careful design to achieve targeted outcomes.
Allows the private market to assess and price risk.	

The Financing Solutions Working Group has taken the following steps:

- Examined full set of possible markets for financing energy efficiency.
 - Residential
 - Commercial
 - Government/Institutional
 - Industrial
- Prioritized those markets based on market size, financing gaps, and potential for real impact.
- Based on those priorities, established a plan of action, targeting specific markets.



Target: Low Penetration Rates



Highest potential for SEE Action Financing Solutions Working Group's impact is in these markets

Our primary focus is on residential, with a secondary focus on the commercial sector because:

- The residential sector:
 - Represents a huge market with needs for huge capital improvements, yet is one of the least efficient capital markets.
 - Uses well-understood credit evaluation criteria (FICO score, debt/income ratios) that make financing more straightforward than in some other markets.
 - Employs a standard set of energy efficiency measures that rely on well-established technology (HVAC, building shell measures); however, potential untapped market is huge.



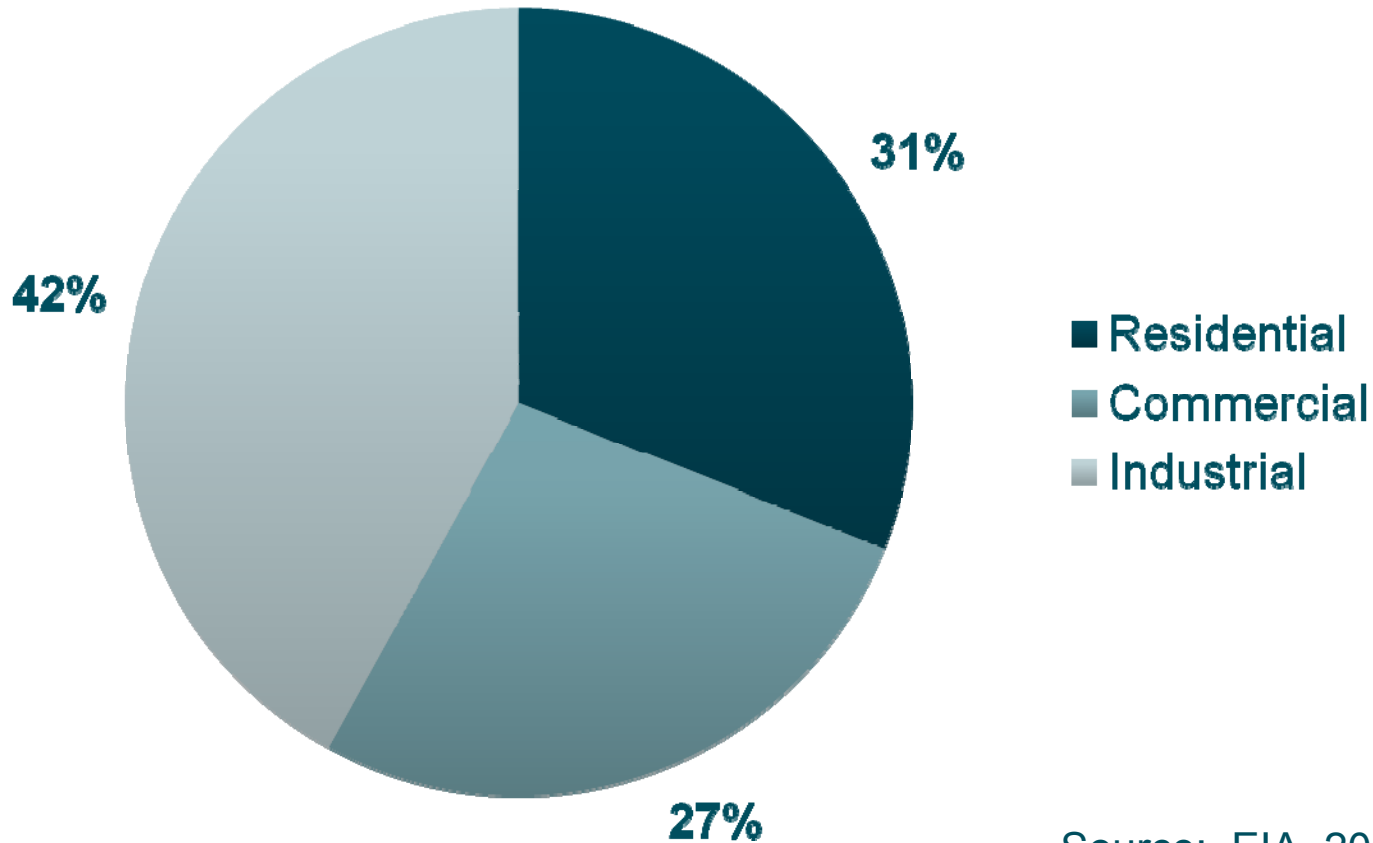
Our primary focus is on residential with a secondary focus on the commercial sector because: (cont.)

- The commercial sector:
 - Also requires huge capital improvements, *but* has traditionally encountered multiple barriers to financing related to borrower creditworthiness and reluctance to take on debt.
 - Generates larger deal sizes as a whole than residential markets, which can be of greater interest to financial markets since large projects are often more capital-efficient than many small residential projects.
 - Represents a very large and virtually untapped market potential for energy efficiency finance.
- Both markets leverage recent DOE efforts (Better Buildings Grants, FHA Power Saver, and other products)



We recognize the importance of all market segments that use significant amounts of energy:

Energy Use by Sector (Non-Transportation)



Source: EIA, 2009 data

Future efforts will examine other market segments.

We are keeping our focus primarily on residential markets and secondarily on commercial markets. We may later examine other markets with:

- Low penetration of energy efficiency
- Financing identified as a barrier or potential solution to efficiency
- Large market size and potential
- High cost of capital
- SEE Action Financing Solutions Working Group can make a meaningful contribution

The following slides focus on residential finance background, given the greater initial emphasis of the workgroup on the residential sector.



Background on the U.S. Housing Market

Total Housing Units: 130 M

Occupied Housing Units: 116 M

Vacant:
14 M

Owner Occupied: 76.5 M

Renter
Occupied:
35 M

Seasonal
Housing:
4.5 M

- Working Group Focus
- Limited Energy Efficiency Potential
- Out of Scope

Credit Worthy: 60 M

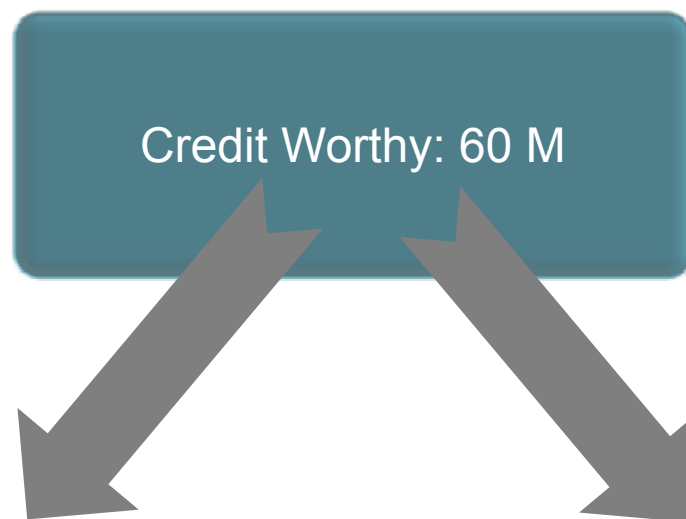
Not
Credit
Worthy:
16.5 M

We further focus our discussion on the 60 million credit-worthy households.

Source: US Census: <http://quickfacts.census.gov/qfd/states/00000.html>
Note: 1.5 million of owner occupied households did not report mortgage status.



This theoretical market of 60 million credit worthy households breaks easily in two types of customers:



Reactive:

Buy efficient replacement equipment because the old equipment has broken.

- *Timing:* Now
- *Deal size:* almost always below \$15,000 and usually < \$10,000

Proactive:

Buy the efficiency measures as part of a package of efficiency improvements identified through a home audit and multiple measures.

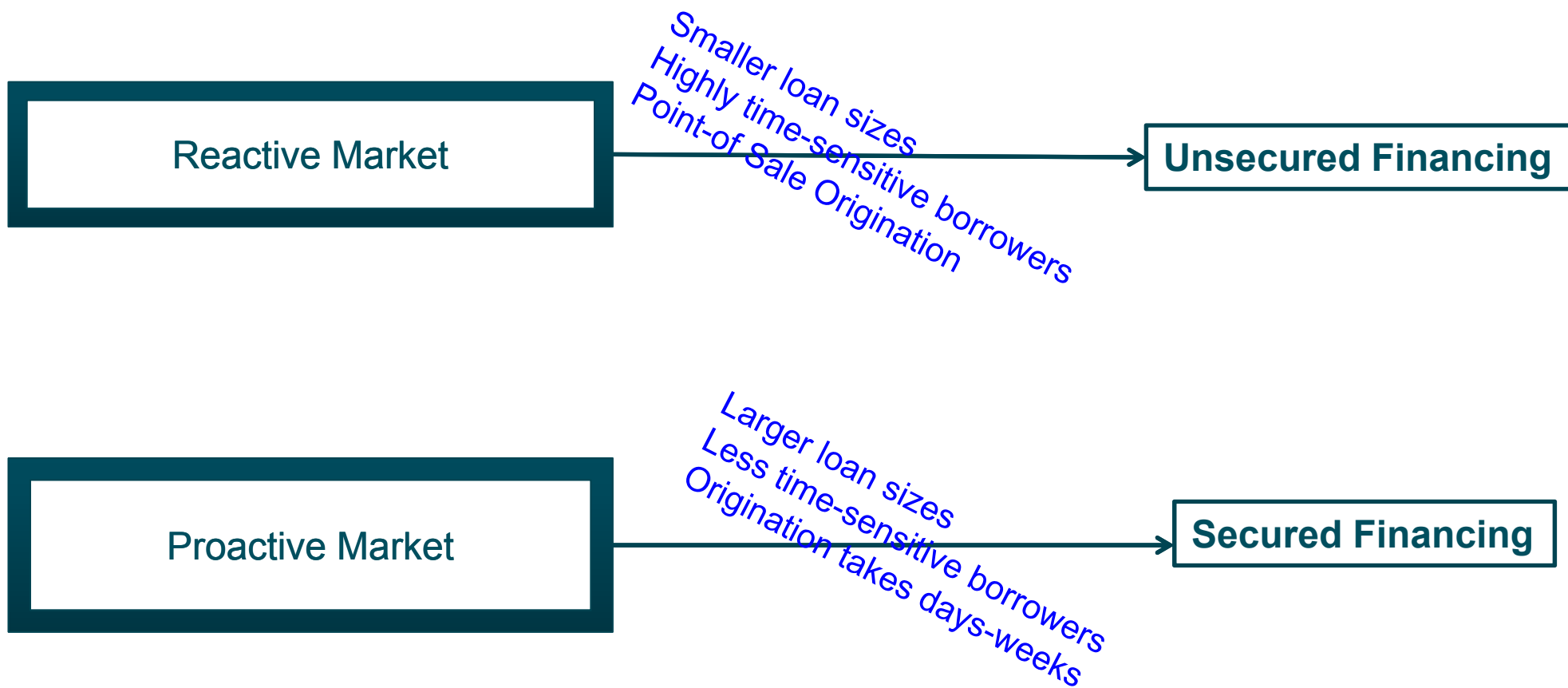
- *Timing:* More flexible
- *Deal size:* may exceed \$15,000

More Detail on Reactive vs. Proactive Customers

	REACTIVE	PROACTIVE
Reason	Equipment Failure	Many (renovation, planned replacement, energy efficiency, assessment)
Primary Motivation	Quick Restoration of Service	Comfort, Cost, Environment, Savings (\$'s), Upgrade, ROI, etc.
Timeframe	Short	Medium – Long
Sales Channel	Contractors, Utilities, and Other	Utilities Energy Efficiency Programs, Lenders, Contractors, and Other

- The financing product should reflect these different customers' needs.
 - Contractor-delivered financing
 - Point of sale financing and approval
 - Attractive rates and terms.

These reactive and proactive customers require two distinct financing product types:



These Two Financing Product Types Break Down, as Follows:

Unsecured	Secured
<ul style="list-style-type: none"> • Max size of \$15,000 	<ul style="list-style-type: none"> • Loan size varies with home valuation
<ul style="list-style-type: none"> • Fast close is typical 	<ul style="list-style-type: none"> • Close takes minimum of one to two weeks or longer
<ul style="list-style-type: none"> • Rate higher to compensate for risk; term max 10 years usual 	<ul style="list-style-type: none"> • Rate lower than unsecured loan; term can go to 20-30 years
<ul style="list-style-type: none"> • Point of sale usually possible 	<ul style="list-style-type: none"> • Point of sale not possible
<ul style="list-style-type: none"> • Credit score, DTI, and similar standard credit underwriting-based 	<ul style="list-style-type: none"> • Standard credit evaluation + title search, appraisal, etc.
<ul style="list-style-type: none"> • Lower underwriting cost than secured loan 	<ul style="list-style-type: none"> • Higher underwriting cost than unsecured
<ul style="list-style-type: none"> • Minimum loan size usu. \$2,000 	<ul style="list-style-type: none"> • Minimum loan size higher than unsecured (numbers vary but typically \$10,000)

Unsecured financing is well-suited to smaller loan sizes and projects that need to be done quickly

Strengths	Weaknesses
<p>Point of sale, close quickly, integrate well into contractor-based structures.</p>	<p>Loan terms are usually short compared to secured loans, and have higher monthly costs that can make it hard to structure loan such that monthly energy savings exceed monthly principal/interest payment.</p>
<p>Can be customized to fit many different target markets.</p>	<p>Typical max loan sizes too low for large scale home retrofits.</p>
<p>Origination costs are lower than secured loans.</p>	<p>Rates typically higher than for secured loans in order to compensate investor for added risk.</p>

Secured financing is well-suited to larger loan sizes to fund projects with longer lead times

Strengths	Deficiencies
Interest rates are lower than those for unsecured products.	Origination fees are greater than those for unsecured products.
Terms are longer than those for unsecured products.	They can take a minimum of one to two weeks to originate (not point of sale).
More money can be borrowed on secured products than on unsecured products.	Home equity-based products are of limited value for many homeowners in California because 32% of all homeowners now have mortgage debt that exceeds the value of their home.
Because lenders and investors can take collateral interest in the property, they present less risk than unsecured products.	

Although many kinds of unsecured products exist, they have limitations

- They are necessarily appropriate for many whole house, heat pump, solar or other projects because max loan size is too small, or the loan term is too short
- Most existing products are carry interest rates that are too high to attract anything more than the reactive buyers, therefore discouraging adoption of energy efficient products
- The unsecured products that have more attractive terms:
 - are capital constrained (limited investor market and limited ability of small financial institutions to continue offering very low cost products as a way to bring in new customers).



And the secured products do not fully fill in the gaps where the unsecured products leave off

- Several products exist for larger loan sizes.
 - None are point of sale – eg., PowerSaver requires one to two weeks to close.
- Although a fast origination process is not as critical for secured loans and the proactive market, an efficient and low-cost origination process is important; it remains to be seen how well current secured products can work.
- Still unclear how well new secured products like PowerSaver will work as compared to traditional secured lending products.
- Delivery channels (contractors vs. auditors vs. others) for secured products still being defined.



There are six kinds of barriers to energy efficiency financing for the residential sector

1. *Transaction Barriers*: Cumbersome origination process
2. *Scale of Current Market; The Catch 22 Barrier*: Residential efficiency lending is a still-growing market
3. *Inadequate Data Quality*: Limited loan performance data available to the public
4. *Assumption of Performance Risk*: A still-maturing and dispersed contractor network
5. *High Cost of Funds*: Interest rate is high for most borrowers
6. *Limited Number of Skilled Originators for Finance Product*: Too few loan originators with skills in energy efficiency lending.



Barrier #1: Transaction Issues

The energy efficiency loan origination process can be cumbersome

- Energy savings only one among many priorities for homeowners; the market for efficiency is still proving out
 - Taking on debt for an energy efficiency project may not be attractive.
- Lengthy or cumbersome loan origination can hamper the sales process for many contractors, meaning that the contractors do not use the finance product.
- Program rules sometimes heavily restrict what measures can be financed, or place other requirements on lenders, borrowers, or contractors.
- Efficiency projects are often difficult to separate from a home renovation project as a whole.



Barrier #2: Scale of Current Market; the Catch 22 Barrier

Residential efficiency lending generates insufficient loan volume to interest lenders

- Energy efficiency lending is a low-margin business
 - Interest income from most efficiency loans is very small.
 - Monthly interest on a \$7,500, 5 year loan is only about \$50/month
 - Origination fees on most efficiency loans are low to non-existent
- Transaction costs can overwhelm lender profits
 - Origination costs easily exceed \$200-\$300/loan
 - Servicing costs can exceed \$10/loan/month
- Since efficiency lending is a low margin business, a very high volume of loans that are closed quickly are required to truly interest investors
 - Some lenders will require at least \$3-4 million market to enter a market
 - National lenders will often need \$10-20 million or greater
 - Yet, the “pipeline” of energy efficiency loans is as yet unproven.



Barrier #3: Data Quality

Lenders are not comfortable with energy efficiency lending because they do not have historic performance data

- Energy efficiency lending has been a niche business, and little loan performance data exists
- Risk profile of efficiency loans is not widely understood
 - When investors do not have good data on risk, they tend to assume risks are high and employ high rates, short terms and higher security requirements.



Barrier #4: Performance Risk

Energy Efficiency Lending involves managing contractors to limit performance risk

- The delivery network of contractors is disaggregated
- Quality control is challenging, which can make financial institutions concerned about liability resulting from poor quality contractors
- Most lenders do not have the processes in place to manage home improvement installation
- Lenders often view contractor management as adding both cost and risk to their operations.



Barrier #5: Cost of Funds

Interest rates on unsecured financing are too high to serve as an incentive to invest in efficiency

- Most unsecured loans carry interest rates in excess of 14% (these rates are too high for most homeowners to view them as an enticement to invest in efficiency, rather than conventional technology).
- Secured loans can carry lower rates, but have higher origination costs, and may take one to two weeks to approve.



Barrier #6: Limited Number of Skilled Originators for Finance Product

Energy efficiency loans are generally offered by specialty lenders and finance companies

- Most residential efficiency projects occupy an odd niche
 - Too large for a credit card, too small for a home equity loan
 - Too small for a mortgage bank to find interesting
 - They would rather take the fees and interest income from underwriting a \$250,000 mortgage loan than a \$7,500 loan
- Lenders focused on mortgage lending are often not the best candidates for efficiency lending
- Offering unconventional products is generally done by specialized lenders who understand energy efficiency, consumer finance and contractor management
- However, there are few lenders with these skills, and they are often capital constrained.



Barriers to Finance in the Residential Sector: Summary

- Borrowers are very focused on rates, and the most convenient energy efficiency loans have high rates
- The volume of energy efficiency loans is very small compared to mortgages
- Most lenders are not willing to assume contractor performance risk.



Barriers to Finance in the Residential Sector: Summary (cont.)

- The solution is to:
 - Standardize the energy efficiency products
 - Provide performance data to the industry
 - Create primary loan products that can interest investors – providing capital to the energy efficiency finance market
 - Build volume by offering finance products that match their target markets (reactive/proactive).



Priority Solutions and Actions to Achieve the Goal

Mid-term Goal

Remove financing barriers to energy efficiency in the United States through improved financing tools and mechanisms (loans, leases, service agreements).

Three Pillars

Better Understand Needs of Financial Institutions and Customers

Develop Information Toolkits

Develop New Data on Loan Performance

Priority Solutions Areas

1. Dialogue with Financial Institutions and Customers

Gather information from financial institutions and customers to better understand their needs relative to participating in energy efficiency lending.

2a and 2b. Information Toolkits

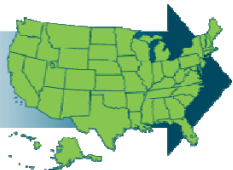
Provide relevant data and analysis to utilities, government entities, and financial institutions that will fill-in knowledge gaps and information needs and allow them to create appropriate finance products.

2c. Toolkit Outreach and Education

Educate financial institutions, utility commissions, and other stakeholders on how to effectively leverage information and data presented in the toolkit.

3. Loan Data Analysis

- (a) Gather and make public (on an ongoing basis) data, including loan-level performance data, that will assist utilities, financial institutions and others to develop and offer finance products for the residential sector at attractive rates and terms.
- (b) Create online depository of loan program information.



Mapping Working Group Goal to Stakeholders

		Stakeholder				
		State Gov't.	Local Gov't.	Utilities	Financial Institutions	State Public Utility Commissions
Goal	Remove Financing Barriers to Energy Efficiency through Improved Financing Tools	<ul style="list-style-type: none"> • Coordinate and partner with financial institutions, through credit enhancements, to encourage them to offer effective financing tools. • Where state gov't. operates a utility, consider incorporating that utility into financing product offering through on-bill finance. • Consider use of state bonding authorities to access low cost capital for efficiency investments. 	<ul style="list-style-type: none"> • Coordinate and partner with financial institutions to encourage offering of effective financing tools. • Where local gov't. operates a utility, consider incorporating that utility into financing product offering through on-bill finance. 	<ul style="list-style-type: none"> • Consider methods of encouraging energy efficiency lending through on-bill collection structures. • Consider structures that use ratepayer funds as credit enhancements or direct lending capital. • Consider structures that use utility credit to secure lending, subject to appropriate rate treatment of potential losses. 	<ul style="list-style-type: none"> • Partner with local or state governments or utilities to originate, service, or provide capital for financing products that are appropriate for efficiency investments. • Research and incorporate into underwriting standards loan level performance data from efficiency lending. • Examine methods to reduce transaction costs for loan origination/servicing in residential sector. 	<ul style="list-style-type: none"> • Provide appropriate cost recovery treatment of credit enhancements for financing products. • Consider mechanisms for on-bill financing structures that utilize utility collections, utility ratepayer funds as lending capital, or private, non-utility ratepayer capital

*Including IOUs, munis, co-ops, states, and others



Pillar #1: Better Understand Needs of Financial Institutions and Customers

- Financial institutions are still reluctant to allocate capital to energy efficiency lending.
- Although we understand many of the issues, further clarification is still useful.
- Commercial and residential customers as well as contractors are often reluctant to take on new debt or engage in new efficiency projects that involve financing.

Approach: Gather information from financial institutions and customers to better understand their needs relative to participating in energy efficiency lending.



Solution #1:

Dialogue with Financial Institutions

- SEE Action Financing Solutions Working Group will conduct a series of targeted interviews with financial institutions as well as key finance product users (customers) to understand perspective on the following non-exclusive list:
 - Ideal credit enhancement structures
 - Perspectives on utility, government or other partial guarantee structures
 - On-bill financing structures
 - Means to offer fast origination along with adequate security to provide low interest rates
 - Data requirements
 - Best product delivery mechanisms
 - M&V needs and requirements

Deliverable: A report summarizing the results of the interviews, including value chain analysis for policymakers and the energy and financial communities (originators, investors, others). The research/report will offer information on both residential and commercial markets.



Pillar #2:

Develop Information Toolkits

- Financial institutions typically do not have a clear picture of energy efficiency lending, or a good sense of the technologies and risks.
- This lack of understanding dampens their interest in providing capital to this market.
- State governments and utilities (with state regulator approval) typically do not have a good understanding of how lending institutions operate, how they make lending decisions, and best means to provide capital that private entities can leverage.

Approach: Provide relevant data and analysis to utilities, government entities and financial institutions that will fill in knowledge gaps and information needs and allow them to create appropriate finance products.



Solution #2a:

Develop Finance Institution Toolkit

- SEE Action Financing Solutions Working Group will develop a toolkit for financial institutions that provides information on:
 - Types and cost of energy efficiency installations
 - Typical range of consumer cost savings
 - Typical range of borrower profiles
 - Variations across geography
 - Successful loan products
 - Typical risk profiles
 - Market size projections
 - Utility roles
 - Government requirements
 - Credit enhancement structures
 - Originator/servicer roles
 - Projected cash flows for borrowers given energy cost savings

Deliverable: A toolkit for financial institutions that addresses the above issues.



Solution #2b:

Develop Utility/Gov't Institution Toolkit

- SEE Action Financing Solutions Working Group will develop a toolkit for utilities/gov't institutions that provides analysis and information on:
 - Basic lending and investing practices
 - Successful loan products
 - Means to promote lending without holding or servicing loans
 - Considerations re. lending regulations.
 - On-bill finance structures
 - Credit enhancement structures including the use of utility loan guarantees and loan loss reserves
 - Influence of finance products on contractor close rates

Deliverable: A toolkit for utilities and government institutions that addresses the above issues.



Solution #2c:

Toolkit Outreach and Education

- SEE Action Financing Solutions Working Group will conduct outreach to financial institutions, utility commissions, state officials, and other government officials to describe and promote the results of and information contained in the Toolkit.

Deliverable: Outreach will be conducted through a minimum of the following steps:

- 7-10 webinars provided through relevant state or regional associations (NARUC, NCSL, NGA, NASEO, others)
- 3-4 webinars provided through financial industry-focused organizations including credit unions, independent and national banks, CDFIs
- 3-4 webinars provided to utility associations, focused on NRECA, APPA, and EEI
- 3-4 presentations at national or regional meetings of the above organizations
- Direct outreach, as warranted, through phone calls and other person-to-person contact with relevant major financial institutions, utilities, and state officials



Pillar #3:

Develop New Data on Loan Performance

- More data is required in order to be able to demonstrate the performance of energy efficiency loans
 - Loan volume
 - Typical loan sizes
 - Loan performance by:
 - Loan size
 - Credit score band
 - Debt-to-income
 - Household income; other relevant data
 - Energy savings metrics

Approach: Gather and make public (on an ongoing basis) data, including loan level performance data, that will assist utilities, financial institutions and others to develop and offer finance products for the residential sector at attractive rates and terms.



Solution #3a: Loan Data Analysis

- SEE Action Financing Solutions Working Group will request release of Fannie Mae loan data, analyze that data, and issue a report.

Deliverable:

A report summarizing the major results of the Fannie Mae Energy Loan portfolio and experience.



Solution #3b:

Create Online Repository for Loan Data and Analysis

- SEE Action Financing Solutions Working Group will (a) examine feasibility, costs and ability to create an online repository for ongoing reports about performance of efficiency lending programs including, where available, data on loan level performance. (b) pending determination as to Step (a), develop this on-line repository.

Deliverable:

An online location for data and information on loan program performance.



Barriers Mapped to Next Steps

	Dialogue with Financial Institutions	Finance Institution Toolkit	Utility/ Government Finance Toolkit	Report summarizing FNMA Loan Portfolio
Transactional Risk	X	X	X	
Low Loan Value/Volume/ Velocity	X	X	X	
Data Adequacy	X			X
Performance Risk	X		X	
High Cost of Funds	X	X	X	
Thin Delivery Mechanism	X		X	

WORK PLAN



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Targeted Work Plan

Better Understand Needs of Financial Institutions

Sub-group	Resource to be Developed	Outreach Strategy/Goal	Key Issues to be Addressed	Target Stakeholder Group*					Schedule
				State	Local	Utilities	Financial Institutions	PUCs	
Solution #1: Dialogue with Financial Institutions	<ul style="list-style-type: none"> A report summarizing the results of the interviews including value chain analysis for policymakers and the energy and financial communities. 	<ul style="list-style-type: none"> Conduct a series of targeted interviews with financial institutions to understand their needs relative to participating in energy efficiency lending. 	<ul style="list-style-type: none"> Ideal credit enhancement structures Perspectives on utility, government or other partial guarantee structures On-bill financing structures Means to offer fast origination along with adequate security to provide low interest rates. Data requirements Best product delivery mechanisms M&V needs and requirements 	X	X	X	X	X	<ul style="list-style-type: none"> Project months 0-3: 2 months for interviews and information gathering 1 month for information synthesis and report composition

* Primary targets indicated with large, bold X. Secondary targets indicated with non-bold X.



Targeted Work Plan

Develop Information Toolkits

Sub-group	Resource to be Developed	Outreach Strategy/Goal	Key Issues to be Addressed	Target Stakeholder Group*					Schedule
				State	Local	Utilities	Financial Institutions	PUCs	
Solution #2a: Financial Institutions Toolkit	<ul style="list-style-type: none"> A toolkit for financial institutions that addresses a variety of financial products. 	<ul style="list-style-type: none"> Develop a toolkit for financial institutions that provides information on appropriate finance products. 	<ul style="list-style-type: none"> Types & cost of energy efficiency installations Typical range of consumer cost savings Typical range of borrower profiles and risk profiles Successful loan products that address mkt. barriers Market size projections Utility roles Government requirements Credit enhancement structures 				X		<ul style="list-style-type: none"> Project months 3-12, beginning upon completion of Solution #1 (will run in parallel with Solution #2b)

* Primary targets indicated with large, bold X.
Secondary targets indicated with non-bold X.

Targeted Work Plan

Develop Information Toolkits

Sub-group	Resource to be Developed	Outreach Strategy/Goal	Key Issues to be Addressed	Target Stakeholder Group*					Schedule
				State	Local	Utilities	Financial Institutions	PUCs	
Solution #2b: Utilities and Government Toolkit	<ul style="list-style-type: none"> A toolkit for utilities and government institutions that addresses a variety of financial products. 	<ul style="list-style-type: none"> Develop a toolkit for utility and government institutions that provides information on appropriate finance products. 	<ul style="list-style-type: none"> Basic lending and investing practices Successful loan products Means to promote lending without holding or servicing loans Considerations re. lending regulations On-bill finance and collection structures Credit enhancement structures Influence of finance products on contractor close rates 	X	X			X	<ul style="list-style-type: none"> Project months 3-12, beginning upon completion of Solution #1 (will run in parallel with Solution #2a)

* Primary targets indicated with large, bold X. Secondary targets indicated with non-bold X.



Targeted Work Plan

Develop Information Toolkits

Sub-group	Resource to be Developed	Outreach Strategy/Goal	Key Issues to be Addressed	Target Stakeholder Group*					Schedule
				State	Local	Utilities	Financial Institutions	PUCs	
Solution #2c: Toolkit Outreach and Education	<ul style="list-style-type: none"> Education on how to effectively leverage information and data presented in the toolkit deliverables. 	<ul style="list-style-type: none"> Work with and guide financial institutions, utility commissions, and other stakeholders on how to use the different toolkits to understand various finance products and inform future programs. 	<ul style="list-style-type: none"> 5 Webinars Direct outreach to financial institutions and utility commissions and other stakeholders Presentations at 5 conferences 	X	X	X	X	X	<ul style="list-style-type: none"> Continuous for months 12-24 of project

* Primary targets indicated with large, bold X.
Secondary targets indicated with non-bold X.



Targeted Work Plan

Develop New Data on Loan Performance

Sub-group	Resource to be Developed	Outreach Strategy/Goal	Key Issues to be Addressed	Target Stakeholder Group*					Schedule
				State	Local	Utilities	Financial Institutions	PUCs	
Solution #4: Loan Data Analysis	<ul style="list-style-type: none"> A report summarizing the major results of the Fannie Mae Energy Loan portfolio and experience. An online repository for data on performance of efficiency finance programs. 	<ul style="list-style-type: none"> SEE Action Financing Solutions Working Group will request the release of Fannie Mae loan data, analyze the data, and issue a report. SEE Action Financing Solutions Working Group will create an online location for loan program performance. Review needs and feasibility of developing a centralized repository for energy efficiency finance program portfolio results. 	<p>Additional data to be able to demonstrate performance of energy efficiency loans:</p> <ul style="list-style-type: none"> Loan Volume Typical Loan Size Loan performance by: loan size, credit score band, debt-to-income, household income, and other relevant data 	X	X	X	X	X	<ul style="list-style-type: none"> Feasibility and cost report: 6 months following Solution #1 (Months 3-6 of total project) Pending decision to proceed, create and operate online repository of information: Months 6-24 of project.

* Primary targets indicated with large, bold X. Secondary targets indicated with non-bold X.



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Appendix A

Creditworthy Market Potential

The following slides evaluate the market potential for energy efficiency financing products



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Because not all homeowners have good enough credit records and/or equity in their homes, we further refine our focus to households that are:



This refined focus still results in a huge market



60,000,000	Households
<u>\$5,000-\$15,000</u>	Typical retrofit cost range (per household)
\$60,000,000,000	Total retrofit costs @ mid-point

*Detail on this figure provided in slides in Appendix

It is important to examine what sub-segment of the market will be creditworthy enough to borrow

- Lenders use several criteria to evaluate borrower credit.

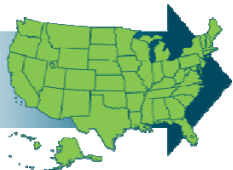
For Smaller Loans (up to \$15,000):

- Credit Scores (also called FICO score)
- Debt to Income Ratios
- Amount of Revolving Debt Outstanding
- Number of Revolving Accounts
- Employment
- Bankruptcy/Tax Liens.

For Larger Loans:

- Everything in the Left Column AND
- Evaluation of Equity in Home, or Other Potential Collateral Interest
- Loan to Value Ratio Maximum
- Title Search

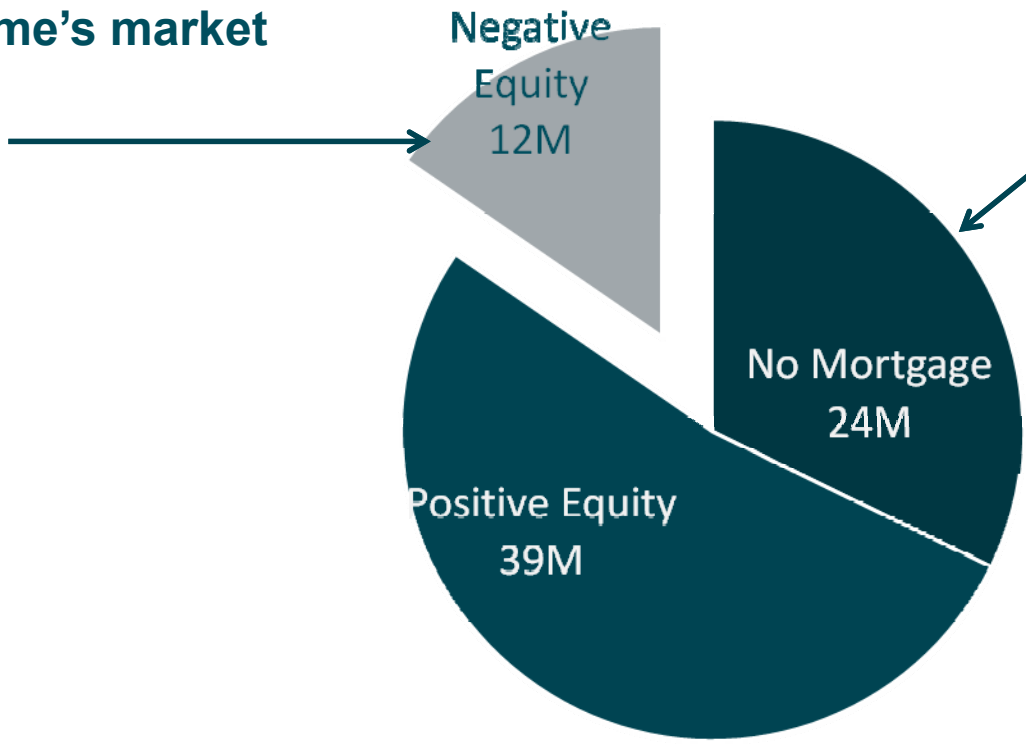
The next two slides give a more refined view of the market size after adjusting for some of the factors above.



The first is home equity, a measure of those most likely to qualify for financing because they have equity in their home

12 million homes are “underwater” meaning the mortgage is larger than the home’s market value.

63M homes in the US are owner-occupied homes and have positive equity



Source: CoreLogic and US Census Bureau

Total US Owner Occupied Housing

100% = 75M

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The second is the credit score. According to this measure, those with “good credit” represent more than 70% of the U.S. population.

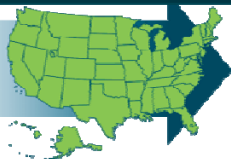
	% of People	Score	Delinquency Rate Projected (Based on historical performance)
Sub-Prime	2%	300-499	87%
	5%	500-549	71%
	8%	550-599	51%
	12%	600-649	31%

Prime	15%	650-699	15%
	18%	700-749	5%
	27%	750-799	2%
	13%	800-850	1%

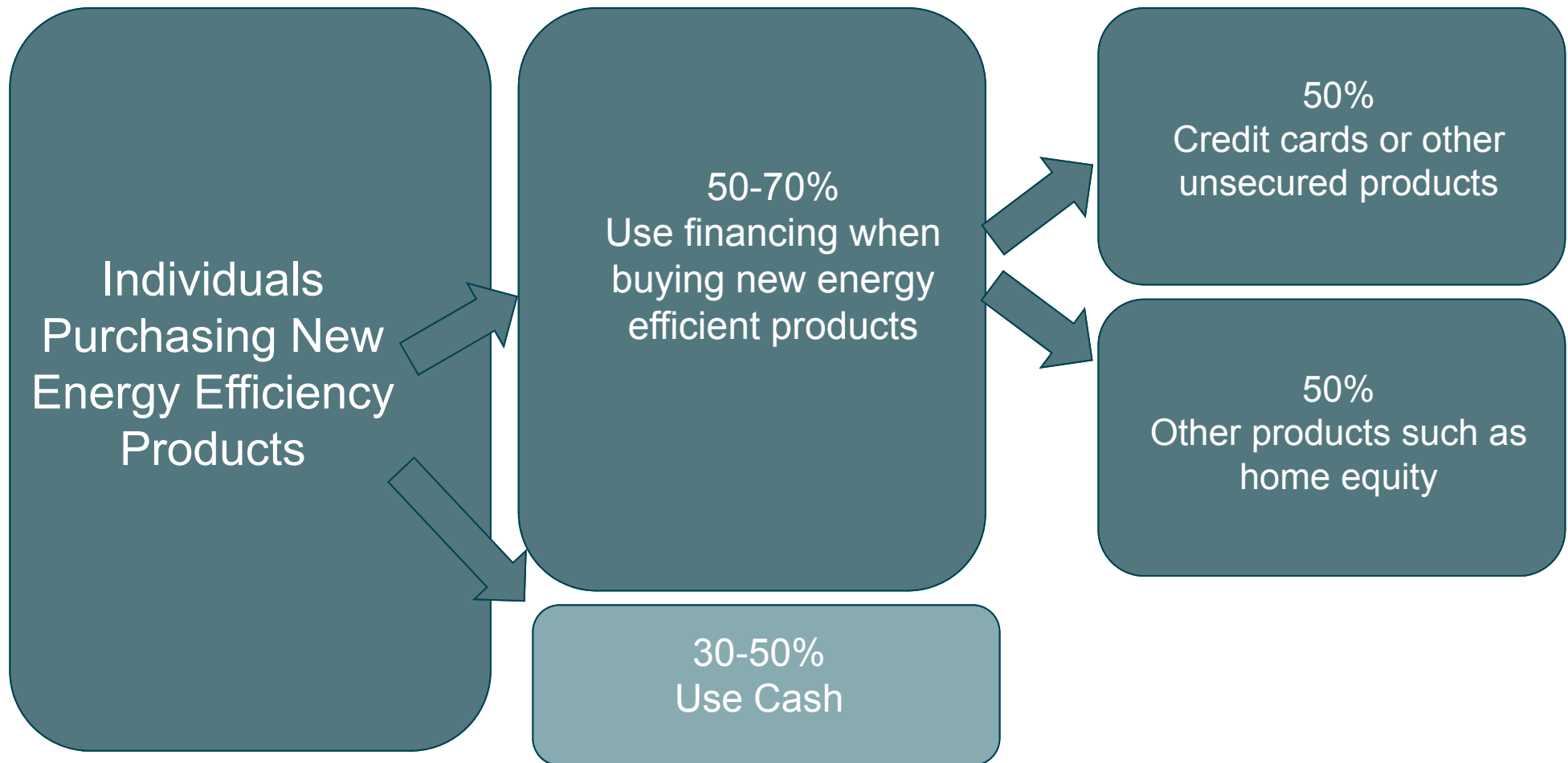
Lenders use credit scores as a screen to filter out the biggest credit risks

- Lenders will generally not lend below the mid-600s for unsecured loans, and are reluctant to do so for many secured loans
 - FHA Power Save minimum is 660
- Lenders do lend below the mid-600s, but generally only with secured loans, or very high levels of credit enhancement from other entities, to cover bad debt.
- Loans may be available, but at very high rates.

Credit scores are only one measure of creditworthiness – very few lenders rely just on credit scores to underwrite a potential borrower.



And that financing isn't always necessary: today, about one-half of people finance their home improvements



Expanding energy efficiency penetration will require additional financing solutions to reach the individuals that have yet to make energy efficiency upgrades.



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Appendix B

Available Financing Products

There is no real shortage of unsecured finance products in the residential sector

The three types of “closed end” products are:

	Major Feature	Credit Risk	Rate/Term	Underwriting
No/No Product	No interest, No payments for limited time of 90 day to 1 year.	100% to lender	Term of less than 1 year. 0% rate during term. Then interest rate rises fast.	Strict requirement, often >750 FICO
FNMA Energy Loan	Qualified lenders originate loans and sell to FNMA	100% borne by FNMA	Rate to borrower determined by program sponsor buy down. Par rate of 14%. Max term: 10-12 yrs.	640 min. FICO, but other factors keep typical borrower above 700 FICO
Localized Products (Keystone HELP, MI Saves)	Lenders offers finance product, origination, servicing.	Partially borne by program sponsor through loan loss reserve.	Rate determined by lender/investor. Often 6-9%. Term to 10 years.	Varies. Typically similar to FNMA.

And with these two types of revolving credit, there are a total of five types of financing for this market, probably more than for any other market sector

	Definition	Credit Risk	Rate/Term	Underwriting
EGIA or similar vendor finance	Revolving credit facility, typically offered through a contractor.	Investor	Rate determined by sponsor, who may buy down rate for a period of time. Revolving credit facility, so term is long.	Varies, but has grown much more strict in last two years; credit limits have declined as well.
Credit cards	Revolving credit facility offered through multiple sources.	Investor	Typically >18%. Revolving credit.	



Two Examples of a 2nd Lien Secured Product, and Three Examples of 1st Lien Secured Product

	Definition	Credit Risk	Rate/Term	Underwriting
Title 1 Power Saver (Pilot)	New loan product up to \$25,000. Secured as 2 nd position lien over \$7,500.	Lender absorbs losses up to 10% of value of a loan. FHA total liability capped at 10% of the loan portfolio.	TBD by investors.	660 credit score. Appraisal required.
Home Equity Line	Standard home equity product; homeowner with equity in home borrows from lender. Secured loan.	Lender/investor	Depending on credit. 5% now achievable.	Limited to borrowers with equity in home.
ENERGY STAR mortgage	Allows lender to use the ENERGY STAR name on mortgages that comply with EPA ENERGY STAR Mortgage.	Investor	The same as for similar mortgages, but including incentive to borrower.	Same as underlying mortgage.
Fannie Mae Energy Improvement Mortgage	A purchase money or refinance mortgage product feature.	Fannie Mae	The same as for similar mortgages, but including incentive to borrower.	Standard Fannie Mae underwriting.
FHA-Insured Energy Efficient Mortgage	A purchase money or refinance mortgage product feature.	HUD	Equivalent to similar mortgage product.	HUD-determined.

Note: Table focuses on energy, also efficient-focused finance products. Others traditional products can finance energy efficient.

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