



RHODE ISLAND FINANCING WHITE PAPER Jurisdictional Scan and RI Programs Review

October 24, 2014



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AGENDA

RI Financing White Paper: Sub-Committee Meeting #2

October 24: 9am-1pm

1. Introduction 20 minutes

2. Overview of EE financing landscape 40 minutes

3. Lessons and experiences from other jurisdictions 60 minutes

- Break: 15 minutes -

4. Review of current RI financing programs 60 minutes

5. Next Steps: Identifying opportunities and strategies 45 minutes



1. INTRODUCTION

WHITE PAPER RESEARCH APPROACH

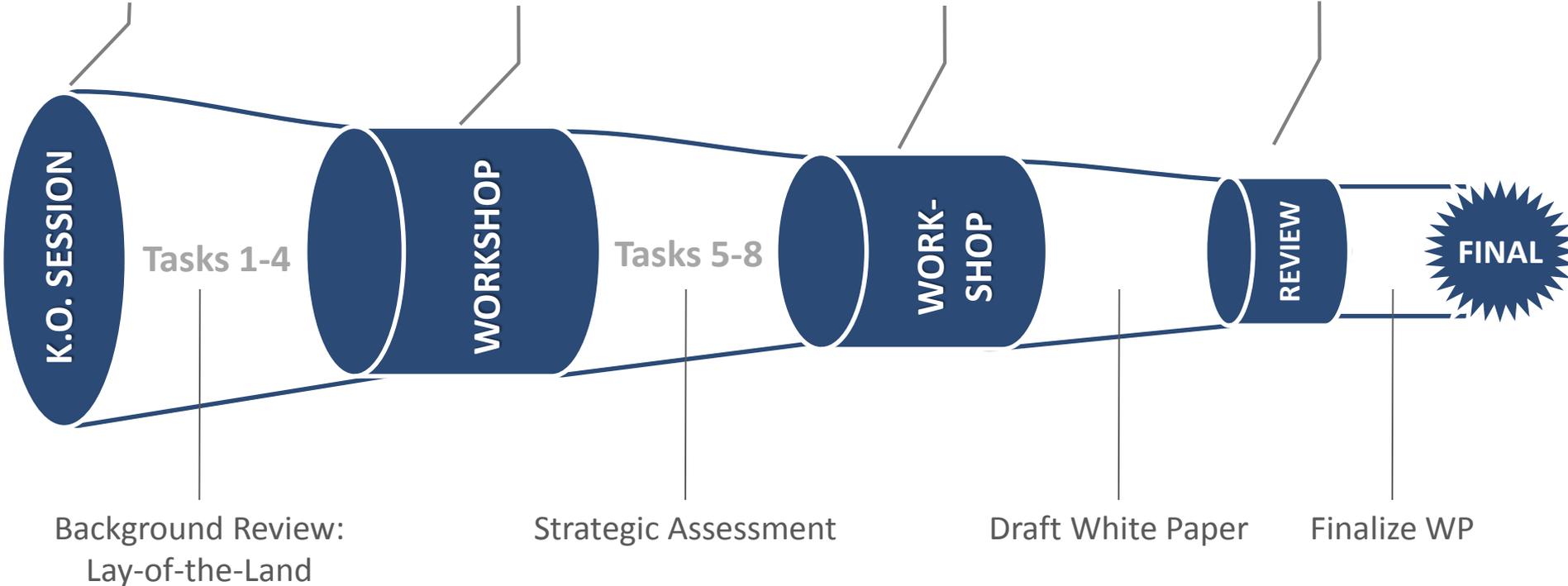


Productive Meeting
Facilitated discussion
+ learning re. R.I.

Half-day session: Oct. 27
present findings; set
strategic priorities for R.I.

Half-day session: Nov. 21
thoughtful consideration
of preferred options for R.I.

Feedback
present draft WP;
collect feedback



KICK-OFF MEETING RESULTS



■ Financing goals:

- ▶ Maximize cost-effective savings
- ▶ Promote EE savings, by leveraging SBCs
- ▶ Distribute benefits broadly and equitably

■ Achieve EE savings of greater scales and deeper savings

- ▶ Engage hard to reach customers
- ▶ Shift the economy toward EE savings
- ▶ Investigate opportunities in an already mature EE market
- ▶ Target low-income customers



What does EE financing success look like for RI?

- Impacts
- Perspectives
- Benchmarks
- Fit with least-cost procurement
- Links with rebates

TODAY'S OBJECTIVES



■ Background (Tasks 1-4)

- ▶ Overview of financing landscape: ensure we have grasped the terminology and range of options.
- ▶ Lessons learned and experiences from other jurisdictions: what is working elsewhere, what can we learn from it?
- ▶ Review current RI financing programs: dig deeper into their effectiveness and impacts

■ Next Steps: Opportunities Analysis (Tasks 5-8)

- ▶ Best Financing Options for RI
- ▶ Benefits and Costs of Financing
- ▶ Expanded Use of Financing
- ▶ Wider Financing Opportunities



2. FINANCING OVERVIEW

LESSONS LEARNED

FINANCING GOALS



Grow the Pie...

- More projects
- Deeper savings



Turn-Key

- Process simplicity, quick turnover, access to technical resources and contractors
- *PACE or OBR programs*

Cheaper Loans

- Reduce lender risk, better loan conditions for customers
- *Typically LLR and/or interest buy down programs*

ENERGY EFFICIENCY MARKET BARRIERS



■ Residential Market

- ▶ Overcomes first cost-barrier
- ▶ Cash-flow positive not the only priority if NEBs are included



■ Small Businesses

- ▶ Access to capital, financing complexity

■ Commercial Market

- ▶ Gets over the 3-5 year hurdle rate: Bundles
- ▶ Off-balance sheet is a high priority for many



■ Institutional / Municipal Sector

■ Industrial Market

- ▶ 1-2 year hurdle rate
- ▶ Need measures that do not disrupt operations



CLARIFYING TERMINOLOGY



REPAYMENT TOOLS

- ✓ PACE
- ✓ OBF/OBR
- ✓ MEETS
- ✓ ESA
- ✓ Leases
- ✓ Loans

CREDIT ENHANCEMENTS

- ✓ Loan-Loss Reserves
- ✓ Debt Service Relief Funds
- ✓ Loan Guarantees
- ✓ Savings Insurance/Guarantees
- ✓ Interest Rate Buy Down
- ✓ Favourable Taxation

PROGRAM FEATURES

- ✓ Transferability
- ✓ Underwriting Criteria
- ✓ On/Off Balance Sheet Lending
- ✓ Links with rebate programs
- ✓ Evaluations and impacts

CAPITAL MOBILIZATION

- ✓ Bonding (Aggregate or Single)
- ✓ Revolving Funds
- ✓ Warehousing
- ✓ Securitization
- ✓ Utility Rate of Return Incentives

REPAYMENT TOOLS

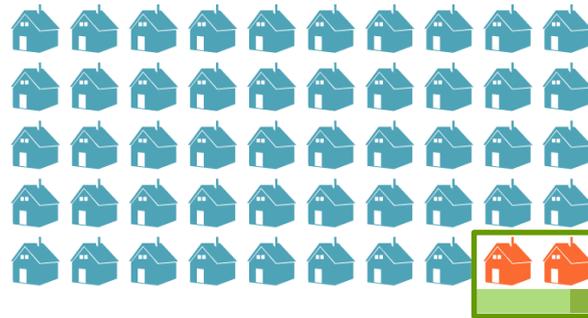


TYPE OF PROGRAM	Collection mechanism	Transfe rability	Security in case of non-payment	Examples
Property assessed (PACE)	Tax bill (requires legislation)	✓	Lien on property	Sonoma County, HERO, Figtree, Palm Desert, Yucaipa EIP, PACE Maine, PACE Vermont, Halifax Solar City
On bill	Utility bill	(✓)	Same as utility bill	CEWO Oregon, Nelson EcoSave, Manitoba PowerSmart, PAYS and Earth Power, NYSERDA GJGNY
Energy Service Agreement	Through a % of energy savings		N/A	Municipal and Commercial ESCOs
Lease	Monthly payments	(✓)	Equipment	Solar leases across North America
Personal loan	Separate bill		None, or lien on property	Efficiency Maine PowerSaver, City of Vancouver Home Energy Loan, MassSave

CREDIT ENHANCEMENTS



- Interest rate buy downs (0% financing)
- Loan Guarantee (e.g. FHA-HUD loans)
- Savings Insurance (e.g. Energi, ESCO products)
- Favourable Taxation (e.g. Municipal Leases)
- Loan-Loss Reserves
- Debt Service Reserves



Escrow account for the program portfolio

City funds
80%

Bank funds
20%



PROGRAM FEATURES



- Transferability
- Underwriting Criteria
- On/Off Balance Sheet Lending
- Integrates rebates and tax credits
- Evaluations and impacts
- Direct Install and Contractor Requirements

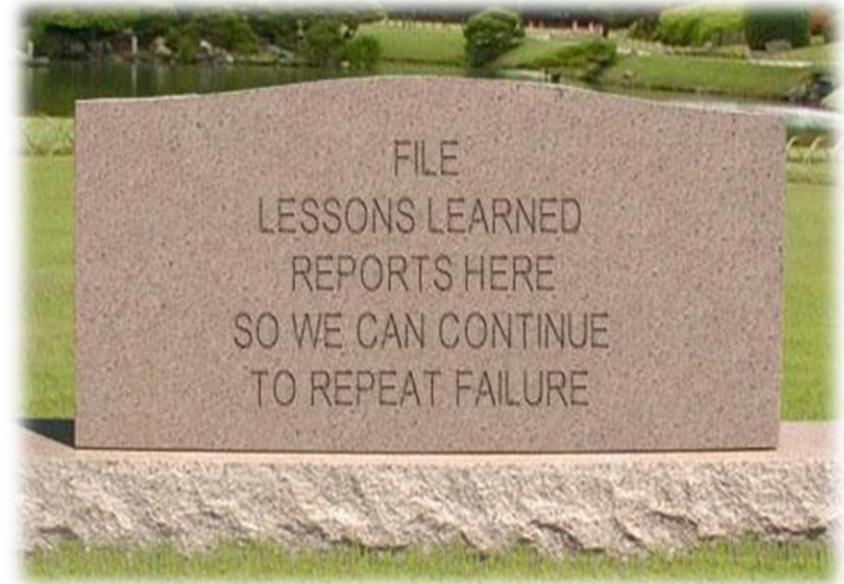




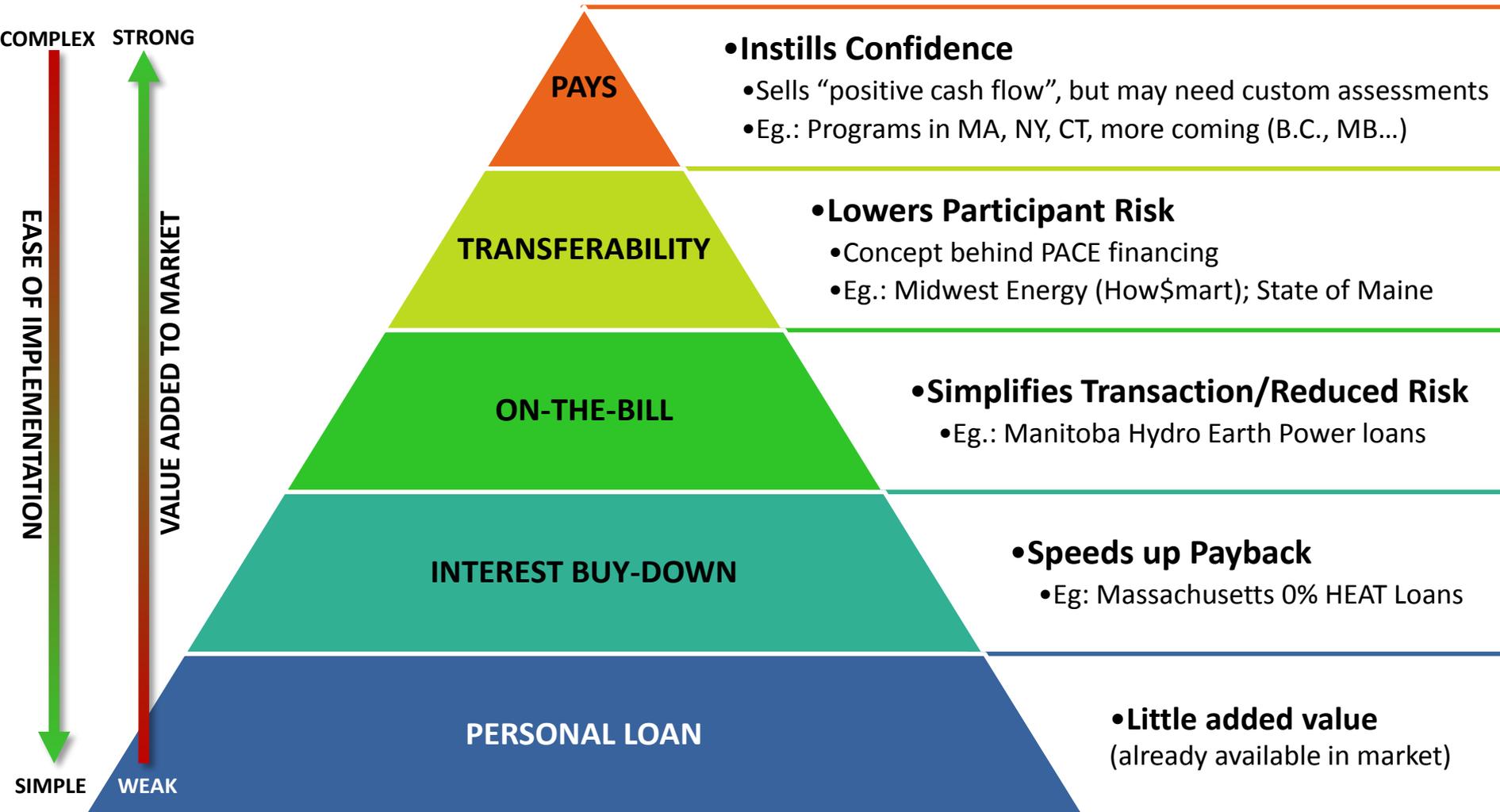
BEAUTY IS IN THE EYE OF THE BEHOLDER

(i.e. what matters to some may matter less to others)

1. Know your audience
2. Sell Hard
3. Keep it Simple
4. Be Attractive
5. Evaluate and Adjust

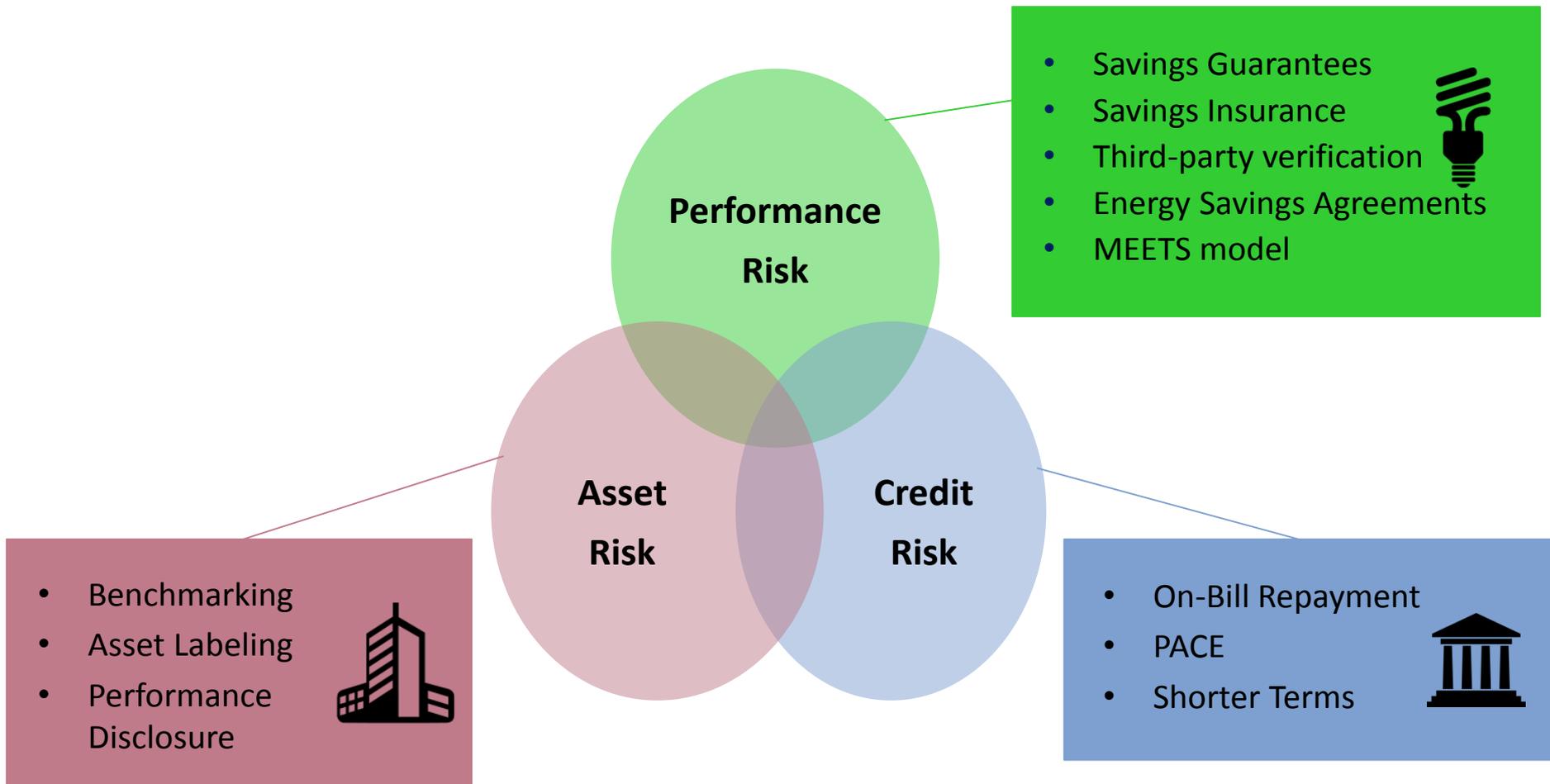


Overcoming market barriers





EE FINANCING RISK MANAGEMENT



CAPITAL MOBILIZATION



- Bonding (Aggregate or Single)
- Revolving Funds
- Warehousing
- Securitization
- Utility Rate of Return Incentives

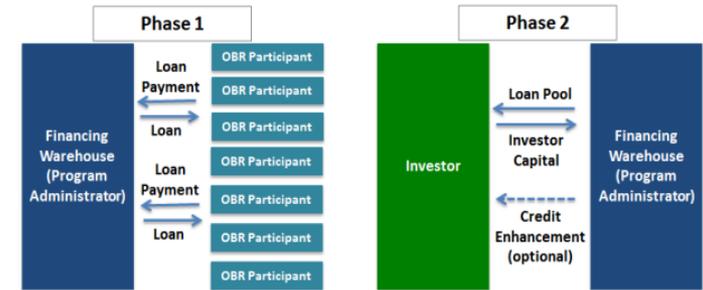


Figure 4-2. Illustrative example of the role of a program administrator in aggregating OBR financial products before re-selling them to investors

ON BILL AGGREGATION



1. WAREHOUSING

- STEP 1: Program issues loans from internal capital: shareholder/ratepayer or public funds
- STEP 2: Program administrator aggregates loans and sells them to the secondary market
- Utility or State guarantees for pooled loans is key
 - ▶ NYSEDA issued a AAA rated guaranteed bond
 - ▶ TVA provides a loan guarantee funded from the sale of receivables
 - ▶ Illinois EE Loan Program provides \$2.5M guarantee on OBF to lenders
- Program administration flexibility
 - ▶ 99% of current OBR loan volume works with this model

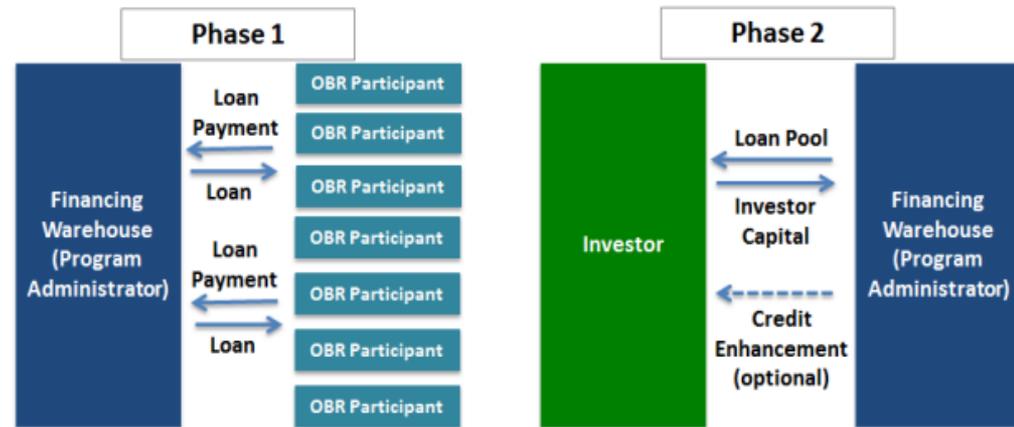


Figure 4-2. Illustrative example of the role of a program administrator in aggregating OBR financial products before re-selling them to investors

ON BILL AGGREGATION

2. UPFRONT CAPITAL



- STEP 1: Program administrator secures 3rd party funds
- STEP 2: Program administrator distributes funds to customers
 - ▶ Delays or reduced program uptake can increase relative borrowing costs

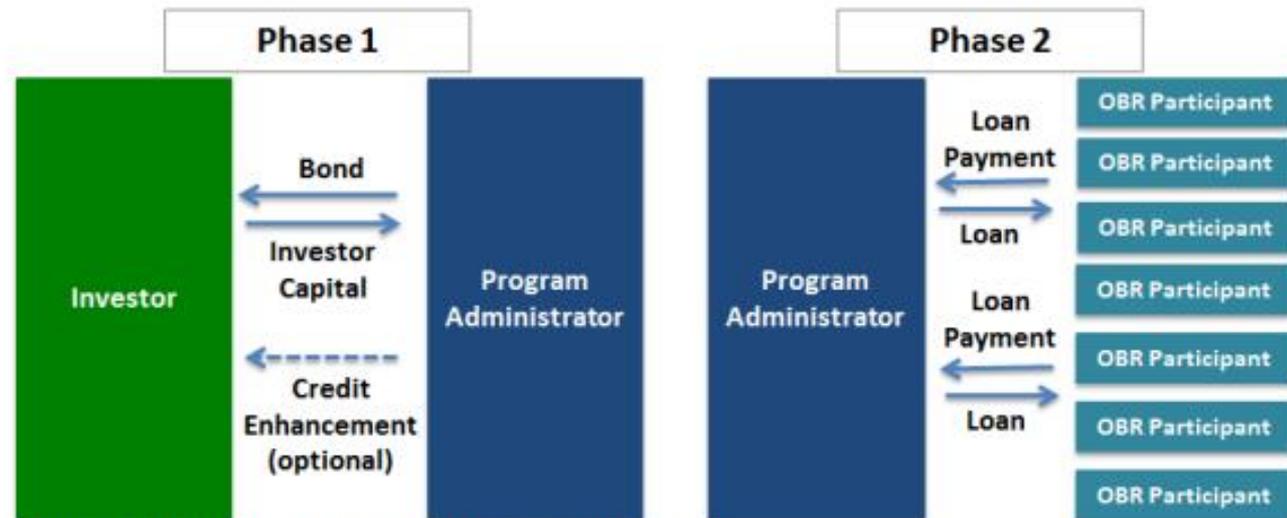


Figure 4-3. Illustrative example of raising capital up-front

ON BILL AGGREGATION

3. FREE MARKET MODEL



- Multiple FIs interact with multiple utilities to propose the most attractive terms
- Need for a single set of protocols and process for all utilities and lenders
 - ▶ California has budgeted \$8M for administration and IT system upgrades for a program volume of \$75M
 - ▶ CT has a dedicated administrator (CEFIA) that is able to play this role

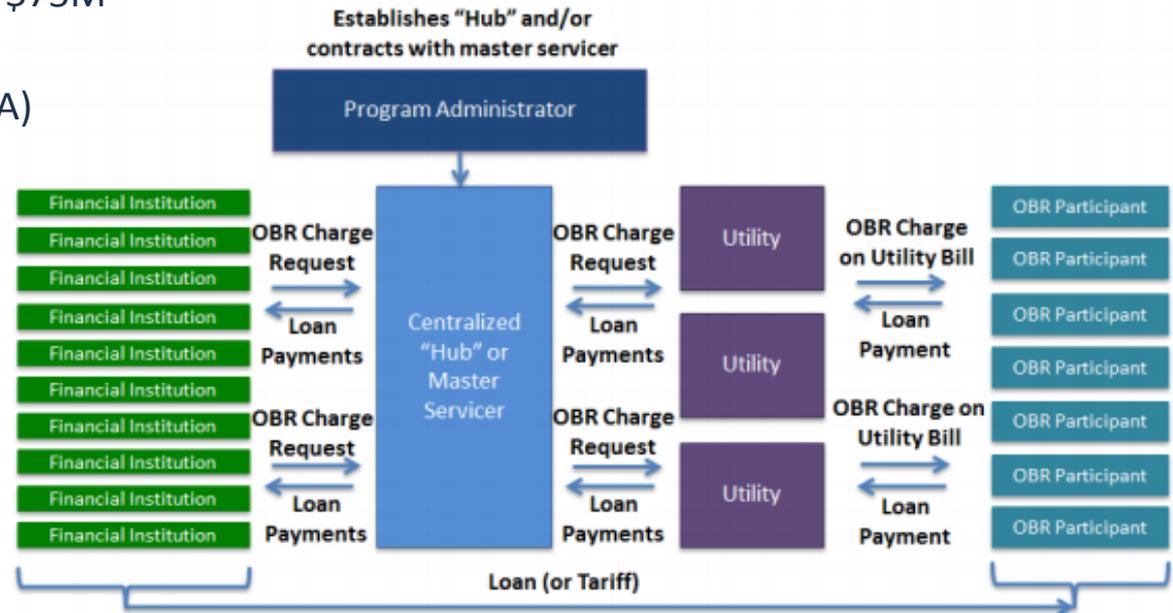


Figure 4-4. Open Market OBR: A centralized "hub" or master servicer can be used to streamline open-market OBR transactions between utilities and financial institutions

STANDARIZATION

A KEY TO AGGREGATION



Planning

- Establishing energy use baselines and savings projections
- Standard contracts for EE projects (EPC, ESCOs etc)
- Industry-wide standards for underwriting for EE loans

Implementation

- De-risking project start-up, pre-construction phase
- Service and equipment provider credentials
- EE project design and commissioning standards

Verification

- Operations and maintenance standards
- Measurement and verification methods and tools



2. FINANCING LESSONS LEARNED AND EXPERIENCE

LESSONS LEARNED OVERVIEW



■ Residential

- ▶ Key trends and factors
- ▶ Barriers and responses

■ Commercial

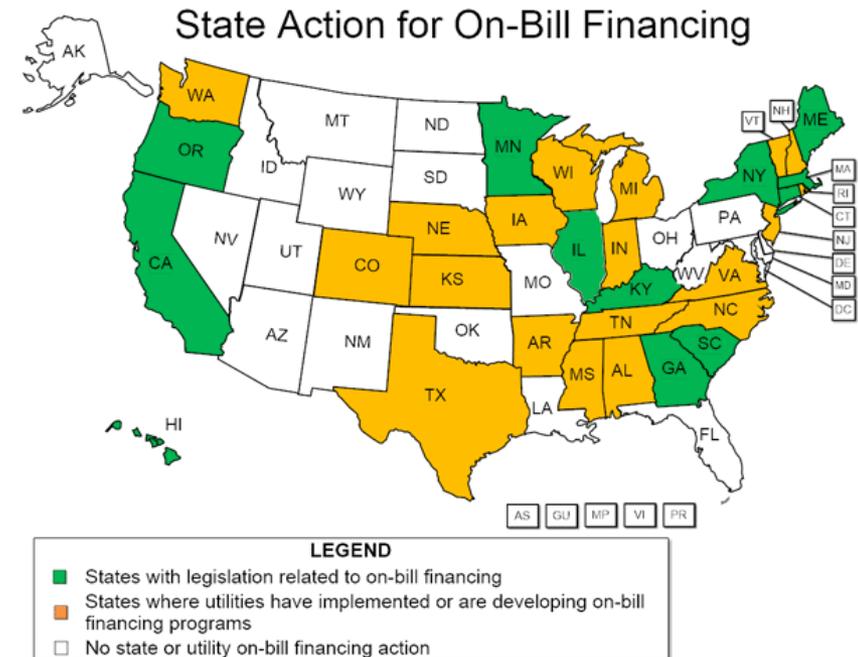
- ▶ Small Business programs
- ▶ Large Com programs

■ Institutional / Municipal

- ▶ Specific debt load challenges

■ 3rd party lenders and Capital mobilization

- ▶ Types of lenders in EE finance
- ▶ Secondary markets/aggregation



LESSONS LEARNED REVIEW

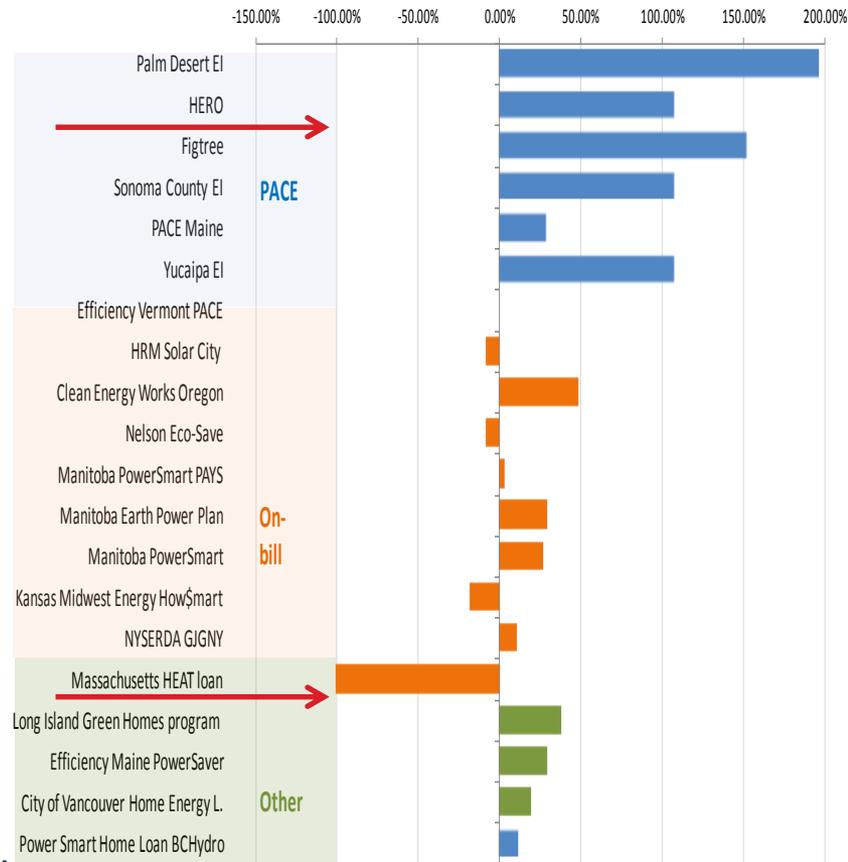


- What financing does well
 - ▶ Overcomes barriers to EE
 - ▶ Deep retrofits

- What financing does not do well
 - ▶ Overcome split incentive
 - ▶ Generate a profit for the PA

- What is uncertain
 - ▶ Replaces rebates
 - ▶ That financing always expands EE uptake
 - ▶ That low interest rates are essential

Program financing rates compared to posted fixed-rate 10 year mortgage rates in corresponding jurisdictions (2013)

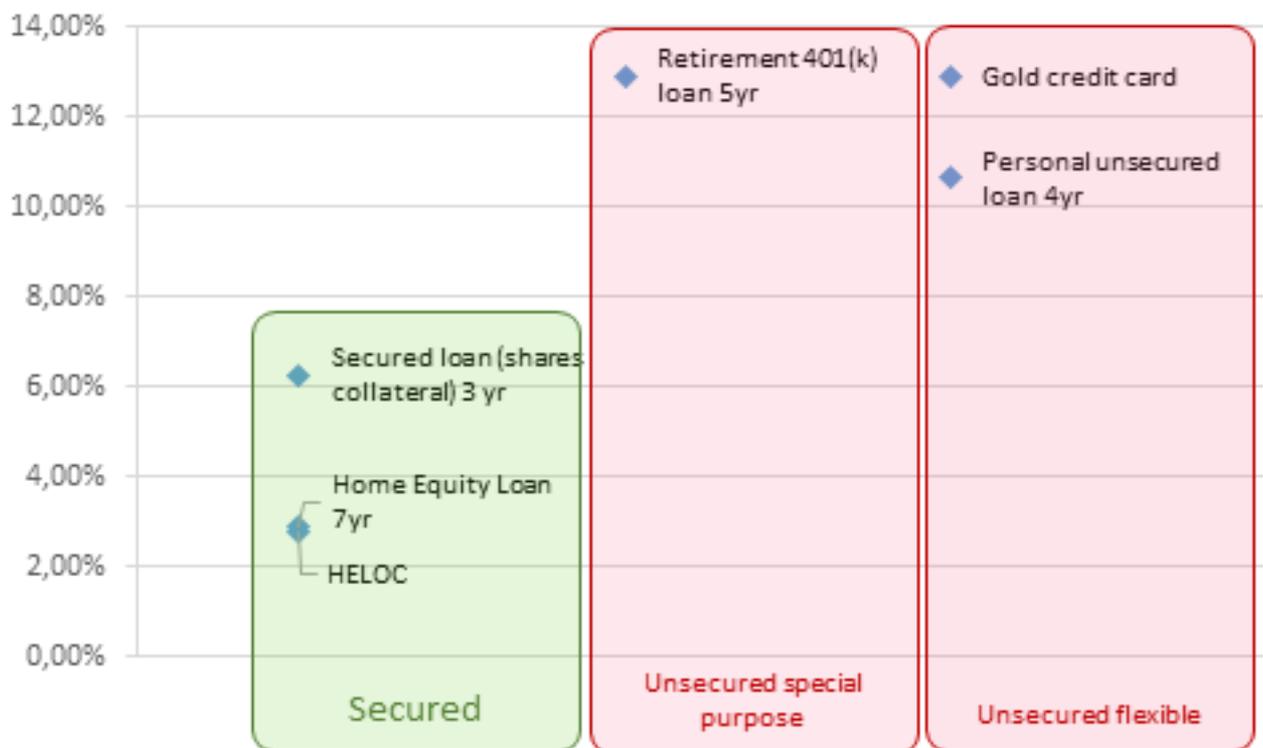


US posted 10 yr fixed rate : 3.37% - 3.87%
 Canada posted INGdirect 10 yr fixed rate : 3.19%

RESIDENTIAL MARKET ACCESS TO CAPITAL



RHODE ISLAND CREDIT UNION MINIMUM LENDING RATES, 2014



Homeowners paying for EE upgrades:

- 58% with cash,
- 14% with credit cards,
- 17% with financing.
- 6.5% with home equity loans.



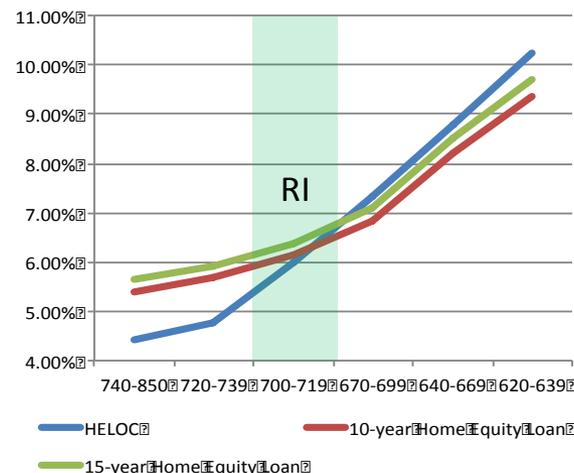
RESIDENTIAL MARKET FINANCING LANDSCAPE



- Average RI FICO score of 704 (in 2012)
 - ▶ Most EE financing programs require 640
- HEAT Loans (0% financing)
- FHA PowerSaver loans
- Private Lenders: Citizens Bank Energy Efficiency Loan and EZ Home Improvement Loan
 - ▶ 3%-6% APR, \$10,000 max, 3–7 year term (preferential rates)

Home Equity Interest Rates by applicant's FICO Score, Rhode Island 2014

Source: MyFico.com



Median FICO Scores by State

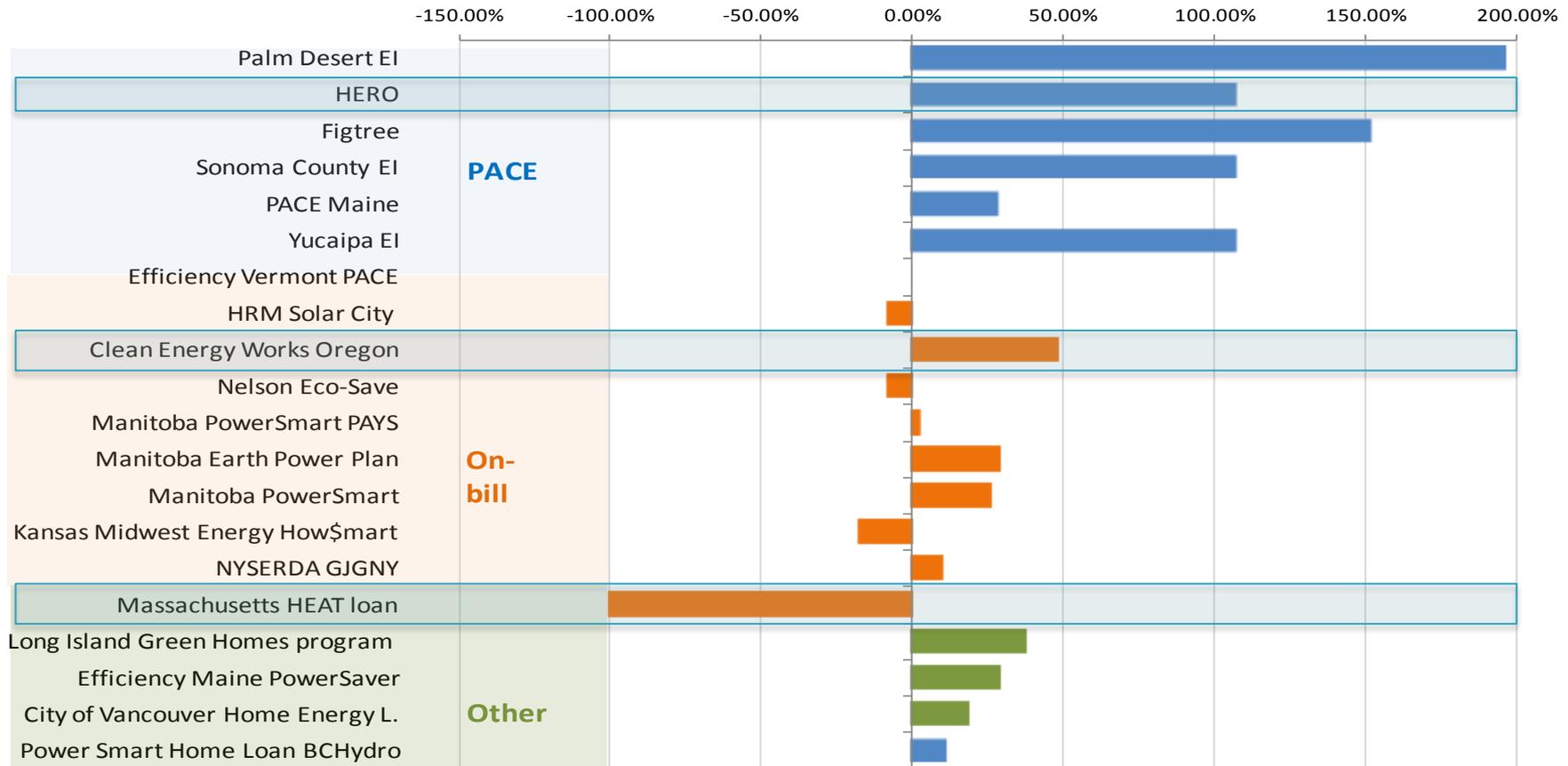


Source: scoreinfo.org

RESIDENTIAL MARKET EXAMPLE PROGRAMS



Program financing rates compared to posted fixed-rate 10 year mortgage rates in corresponding jurisdictions (2013)



US posted 10 yr fixed rate : 3.37% - 3.87%
 Canada posted INGdirect 10 yr fixed rate : 3.19%

SUCCESS STORY

ON-BILL REPAYMENT



Type On-bill, or secured off-bill loan through UCC or mortgage

Source of Capital 3rd party lenders, including CDFIs and Credit Unions

Administration CEWO NGO

Program launch 2011

Uptake 2,633 total projects, \$33.4M loans (average loan of 12 694\$)

Max loan amount \$30,000

Max tenor 20 years

Min interest rate 3.75%

Main access criteria FICO 590

Delinquency rate As of 2013, 2% from Craft3, 0% for Oregon and Pacific Crest FCUs

- Turnkey program integrates tiered EE incentives (deeper energy savings), tax credits and rebates from several entities
- Delivered by private lenders partnered with CEWO. LLR no longer needed after 2 years due to excellent track record.
- Online self-audit, free on-site audit, several online tools and very streamlined application process
- In case of default, loan is taken off-bill for the lender to start conventional collection procedure

SUCCESS STORY

HERO PACE



Type PACE

Admin Renovate America

Source of Capital Western Riverside County
Revolving Fund, initially seeded by
ARRA but self-sustaining now

Program launch 2011

Uptake 5,890 loans, \$104M issued bonds
for both residential and commercial
programs combined

Max loan amount \$200,000 (\$5,000 min)

Max tenor 20 years (not to exceed EUL)

Min interest rate 5.95%

Main access criteria Mortgage and tax bill payment
history

Delinquency rate Less than 3%

- The program is entirely self-sustaining through interest rates and fees to participants and lenders
- A taxable municipal bond is created for each and sold to Renovate America, a large PACE provider for local governments.
- Powerful information systems that allow for quicker processes and automation of program admin identified as a major success factor
- Approximately 65% of all residential projects have been for energy efficiency measures. This includes heating and cooling measures (30%), windows and doors (24%), insulation (6%) and other measures (5%).

SUCCESS STORY

MASS SAVE HEAT LOAN



Type Interest rate buy-down

Source of Capital 3rd party state-level lenders

Admin Program delivered by Conservation Service Group for NSTAR and National Grid

Program launch 2006

Uptake 28,000 loans,
\$257M since inception

Max loan amount \$25,000 (minimum \$500!)

Max tenor 7 years

Min interest rate 0.00% (buy down from 5%)

Main access criteria At each lender's discretion

Delinquency rate Cumulative rate less than 0.75%

- The program partners with over 50 local or state-level banks/CDFIs. QC is performed by a 3rd party.
- Mass Save uses set prices for each measure that participating contractors must honor
- Lowering the minimum and maximum loan amounts to maximise access has resulted in a much wider array of projects
- Uptake rose sharply in 2008 when the Home Energy Solutions rebates increased to cover 75% of the measure cost

RESIDENTIAL MARKET

LESSONS LEARNED



- Loan rates: reasonably low, but 0% may be overly cheap
 - ▶ Keystone HELP and Michigan Saves HELP have had immense success with their 0% loans, but both indicate that such low rates are not necessary for a financing program to be popular, or find that it is the best way to spend the money

- Larger volume
 - ▶ Larger loan caps have been correlated to larger average loan size (50% of cap)
 - ▶ Larger loan volume attract lenders and facilitates aggregation
 - ▶ Acceptance of single measures can boost loan volume significantly
 - *95% of Manitoba Hydro's on bill program loan volume went to financing single measures like windows, doors and furnaces*

- Longer loan tenor
 - ▶ Better cash flow with longer tenor – potentially much more uptake and/or deeper savings

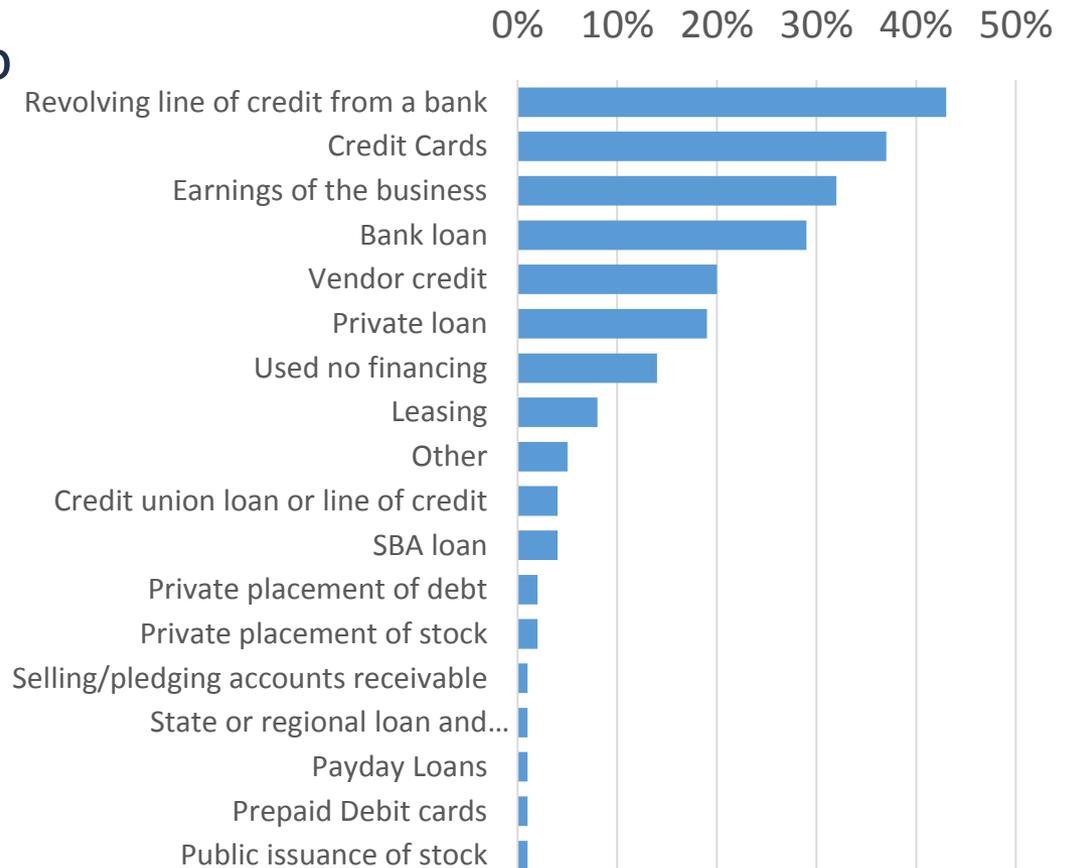
- Keep rebates and financing working together:
 - ▶ Experience has shown that rebates and financing are generally interdependent in achieving higher uptakes and a higher average loan size: Michigan Saves found that **projects that took advantage of both financing and rebates were twice as large as only rebate-funded projects**

SMALL BUSINESS MARKET FINANCING LANDSCAPE



- 53% of SB surveyed had had trouble accessing financing to meet their business needs
- The barriers for the SB market are similar to those of the residential market
- Access to CDC 504 Small Business Loans 7(a)-12 Energy Loan Program

What types of financing has your SB used within the last year to meet your capital needs?



Source: National Small Business Association, 2012

SUCCESS STORY

SB ENERGY ADVANTAGE



Type Interest rate buy-down

Source of Capital United Illuminating Company (UI) = loan capital, CT EE Fund = rate buy down and LLR of 1%

Admin UI

Program launch 1993

Uptake 4,075 loans, \$34.6M since inception. The program has served over 25% of UI small business customers since 2000

Max loan amount \$100,000 (minimum \$500)

Max tenor 4 years

Min interest rate 0% (buy down from 6.3%)

Main access criteria Utility bill payment history

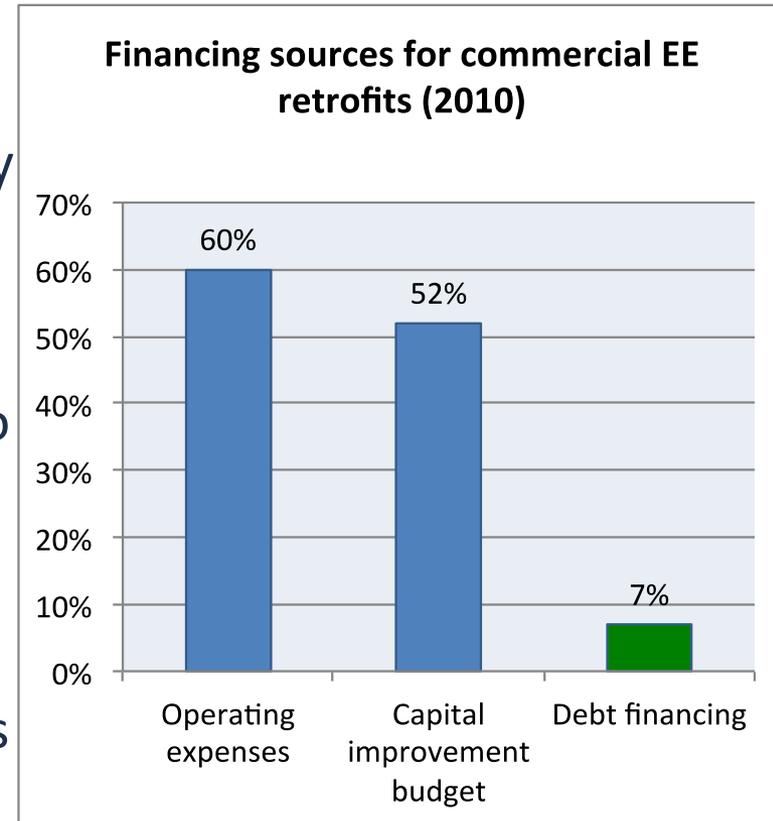
Delinquency rate Cumulative rate less than 1%

- The program pays for energy assessments and covers up to half of project costs with tiered rebates.
 - ▶ An episode of depleted rebates has caused the program's uptake to drop to zero
- The financing is attached to the meter, making it transferrable
 - ▶ 80% of SBEA program participants are tenants
- Turnkey approach and combined financing and incentives are key success elements of the program
- Almost immediate positive cash flow for the customers

LARGE COMMERCIAL MARKET FINANCING LANDSCAPE



- Access to utility EE rebates and on-bill, low interest financing
- Large commercial players (especially Class A buildings) have access to customized financing through their lenders
- Class B and C buildings are harder to reach sectors that can benefit from targeted program outreach
- Commercial customers are interested in being able to write EE investments off their balance sheets
 - ▶ Energy Service Agreements
 - ▶ Operating leases



SUCCESS STORY

PG&E COMMERCIAL ON-BILL



Type On-bill financing tariff

Source of Capital Ratepayer

Admin PG&E + CPUC

Program launch 2010

Uptake 506 loans, \$14M since inception
(2012 data). 0,1% of the customer
base

Max loan amount \$100 000

Max tenor 5 years, can be extended up to EUL

Min interest rate 0.00%

Main access criteria Utility bill payment history

Delinquency rate 0% so far

- Under 15% of non-residential projects are large commercial
- Program caps lighting projects to 20% of the total loan amount to encourage deep savings
- Customers are willing to pay a higher interest rate, although it would be administratively heavy for PG&E
- Customers consider financing more important than rebates
- 3rd party financing would resolve lack of funds, but would be much more complex administratively
- Tariff approach interesting to renters due to transferability
- Disconnection has an uncertain benefit in reducing default rates compared to on-bill without disconnection

COMMERCIAL MARKET INNOVATIVE APPROACHES



■ Metered Energy Efficiency Transaction Structure: MEETS

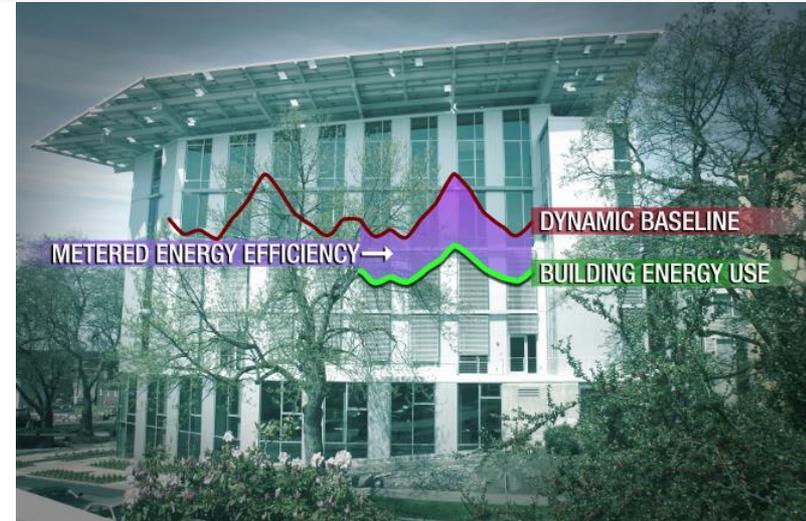
- ▶ Utility creates EE metering

■ Concierge Service: NOESIS

- ▶ Financing approval prior to project development

■ Energy Savings Performance Agreement (Toronto Atmospheric Fund)

- ▶ Innovative ESA model based on repayment from actual savings
- ▶ Stays off book, and includes savings insurance to mitigate performance risk



COMMERCIAL MARKET LESSONS LEARNED



- Accounting for savings:
 - ▶ Positive cash flow important building owners

- Maximize size and volume of loans to cut administration costs and decreases risk
 - ▶ Limiting the number of participating FIs can help consolidate volume
 - ▶ Higher loan and associated tiered incentives can increase project size
 - ▶ Drive EE demand: EE is usually a low priority for building owners

- Integrate Rebates and Tax Incentives

- De-risk project start-up

- Establish standards for EE financing

INSTITUTIONAL MARKET

ACCESS TO CAPITAL



- Institutional borrowers can access long term debt at low rates
- Locally-dependent criteria for borrowing rules and EE financing
 - ▶ Debt ratio limits
 - ▶ Project Screening Techniques (i.e. NPV model)
- Capital sources
 - ▶ Direct access to bond market
 - ▶ Banks, specialized lenders
 - ▶ Infrastructure funds / provincial government
- Often deferred maintenance needs take priority

RENEW

- Wraps deferred maintenance in with EE financing
- Provides technical support to develop projects
- Creates positive cashflow project with long term financing
- Combined with savings insurance, avoids impacting municipal bond rating or debt ratio limits

PRIVATE LENDERS INTEREST FOR EE FINANCING



■ Mission-driven lenders

- ▶ Credit Unions and CDFIs that can align EE financing with their existing products or customer base
- ▶ Municipalities and counties who have established GHG reduction targets
- ▶ Financial institutions with well-established Corporate Social Responsibility policies

■ Lenders benefiting from Publicly funded programs

- ▶ HUD/FHA insured loans
- ▶ Interest rate buy-downs

■ Lenders who benefit from an advantageous risk/return profile

- ▶ Highly secure repayment mechanisms such as those employed by PACE and OBR or loan loss reserves covering potential losses
- ▶ Specialized lenders/vendors that have an in depth understanding of the financed improvements and associated performance risk (Equipment Leases)

PRIVATE LENDERS SECONDARY MARKETS



- Some aggregation initiatives are already in place
 - ▶ WHEEL (Warehouse for Energy Efficiency Loans) purchases unsecured EE loans from several participating programs
 - *Citigroup Global Markets, Forsythe Street Advisors, Renewable Funding, Pennsylvania Treasury*
 - ▶ Some on-bill programs (NYSERDA, California) engage secondary market
 - ▶ ICP (Investor Confidence Project) collects project data and attempts to create consistent and replicable practices that will allow easier evaluation of EE projects across the board





- Deutsche Bank and Rockefeller Foundation estimate that private sector could invest over \$279B across all building sectors in energy efficiency.
 - ▶ Currently residential data easier to aggregate as it is more mature
 - ▶ Need to define and defend EE-specific risk mitigation factors for aggregators (such as disconnection threat in case of on bill, or savings insurance)
 - ▶ Need to collect information on past projects and present it to lenders in a language they can understand

- Lenders are averse to programs that are threatened by long delays or potential discontinuation
 - ▶ CPUC Pilots include LLR, DSRF and Operational Reserve



4. REVIEW OF RI FINANCING PROGRAMS

KICK-OFF MEETING RESULTS



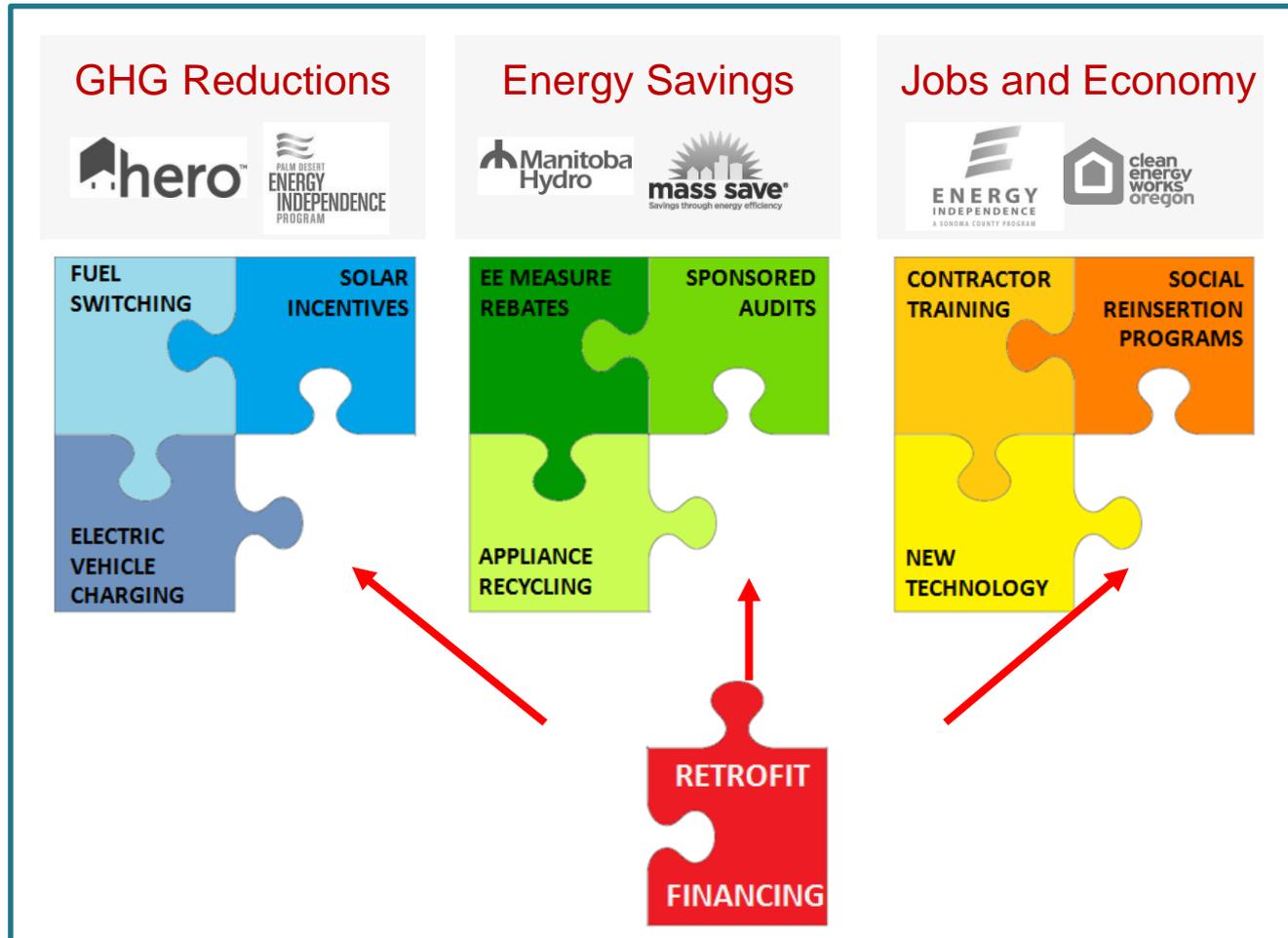
What is working

- Ease of access for borrowers
- Attractive terms (0% unsecured loan offerings)
- Ease of use (on-bill repayments)
- Off balance sheet
- High uptake achieved with programs to date

What needs improving

- Access to 3rd party lenders
- Options to scale programs
- Concerns about customer equity and fairness
- Probe if 0% loans may be too generous
- Lack of capital to expand programs further

EE FINANCING AND RI PRIORITIES



FINANCING PROGRAMS IN RI



■ Commercial On-bill Repayment:

- ▶ \$13M Revolving fund

■ Residential:

- ▶ 0% HEAT loans
- ▶ PACE program coming in 2014

■ Commerce RI:

- ▶ \$2M ARRA Revolving fund

■ NG Institutional EE loans:

- ▶ \$1M Revolving fund

■ Home Energy Assistance Loan:

■ First results and reflections:

- ▶ What is working?
- ▶ What is not?

■ Stakeholders

- ▶ Program Administrators
- ▶ Industry Contacts

■ Available Evaluation and progress reports?

RI PROGRAMS

SMALL BUSINESS FINANCING



nationalgrid

Type Direct Install or Customer Directed

Source of Capital \$4M small business revolving fund

Admin National Grid / OER

Program launch 2013 legislation

Uptake 3,600 loans in RI and Mass. In 2013 40% in RI

Program Delivery RISE

Default Assumed by Program Admin to be 1%-2%

Rates 0%

Term 0-24 months

Underwriting Utility bill payment history

- 0-24 month 0% interest lending for EE equipment for small businesses (less than 200kW)
- Provides free audit upfront, then makes improvements based on recommendations
- 70% of costs bourn by incentives, 30% by financing
- One-time payment (upfront) receives 15% discount
- One-page loan agreement
- 45% of C&I customers that did not move forward with projects after receiving an audit would have if OBR financing had been available.

RI PROGRAMS

COMMERCIAL FINANCING



Type Custom

Source of Capital RI PUC created a revolving loan fund of \$13M (\$4M for small business, \$9M for large business)

Admin National Grid / OER

Program launch 2013 legislation

Uptake \$3M in 2014

Rates Low interest

Terms 2-5 years

Default rates Less than 3%

Underwriting Dun and Bradstreet credit report

nationalgrid

- Working with 5 RI large industrial customers to reduce their energy usage, including through customized financing
- No savings threshold, attempts to bundle where it can generate better returns than single measures: cooperative approach
- Applies NPV analysis to generate larger projects, moving to ROI assessment (\$ per unit savings)
- Since 2010 program spending and savings has nearly tripled
- Attempted financing with Deutsch Bank: transaction frictions a challenge

REVOLVING FUND BALANCE SHEET



Table E- 10
National Grid
Revolving Loan Fund Projections

Large C&I Revolving Loan Fund

Small Business Revolving Loan Fund

(1) Total Loan Fund Deposits Through 2014	\$ 9,979,678	(1) Total Loan Fund Deposits Through 2014	\$ 4,158,971
(2) Current Loan Fund Balance	\$ 6,589,633	(2) Current Loan Fund Balance	\$ 2,706,972
(3) Projected Loans by Year End	\$ 2,857,696	(3) Projected Loans by Year End	\$ 2,079,995
(4) <u>Projected Repayments by Year End</u>	<u>\$ 1,325,791</u>	(4) <u>Projected Repayments by Year End</u>	<u>\$ 1,075,073</u>
(5) Projected Year End Loan Fund Balance	\$ 5,057,728	(5) Projected Year End Loan Fund Balance	\$ 1,702,050
(6) <u>Fund Injection</u>	<u>\$ 4,000,000</u>	(6) <u>Fund Injection</u>	<u>\$ -</u>
(7) Projected Loan Fund Balance, January 2015	\$ 9,057,728	(7) Projected Loan Fund Balance, January 2015	\$ 1,702,050
(8) Projected Repayments throughout 2015	\$ 2,091,744	(8) Projected Repayments throughout 2015	\$ 1,577,534

RI PROGRAMS

HEAT LOAN



Type Interest rate buy-down

Source of Capital National Grid Buy down from RGGI grant, five local or state-level lenders

Admin National Grid

Program launch 2011

Uptake >2,100 loans , \$13.5M since inception. (\$6,500 avrg)

Max loan amount \$25,000

Max tenor Up to 4 years depending on loan size

Min interest rate 0% (buy down 5%)

Main access criteria Lender's discretion (to confirm)

Delinquency rate **Unknown**

- Similar unsecured loan may typically have an interest rate of 10-13% according to one participating lender
- Program will have to leverage funds in the EnergyWise program to continue once RGGI funds are depleted
- Enthusiastic response from lenders
 - ▶ HEAT loan generated new customers
 - ▶ Very well performing loan
 - ▶ Mission driven lenders like Capital Good Fund have softened access criteria to grant access to a wider range of borrowers

RI PROGRAMS

RESIDENTIAL PACE



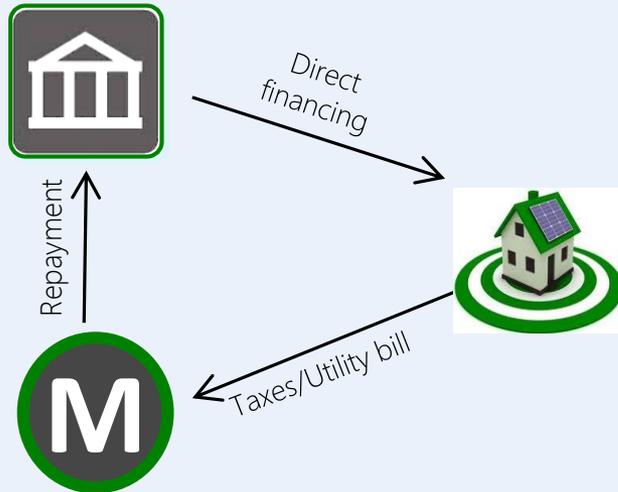
Type PACE

Source of Capital Office of Energy Resources provides a LLR or \$1M funded by ARRA. Loan funds by participating FIs

Admin State office of Energy Resources

Program launch 2013 legislation

Uptake None yet



- A third party lender will handle financing and payments
 - ▶ Rhode Island legislation does not allow repayment of loans through taxes.
- Modeled after Vermont PACE
- PACE financing Subordinate to mortgage
- PACE assessment remains with property after foreclosure

RI PROGRAMS

COMMERCIAL RI FINANCING



Type Custom

Source of Capital \$2M ARRA Revolving Fund

Admin State office of Energy Resources

Program launch 2013 legislation

- Energy Revolving Loan Fund
 - ▶ Low interest loans for businesses to invest in energy efficiency
- Renewable Energy Fund
 - ▶ Loans and grants for renewable energy project

RI PROGRAMS

PRELIMINARY ASSESSMENT



■ Residential

- ▶ PACE - will access 3rd party capital
- ▶ HEAT - 0% loan, accesses 3rd party capital
- ▶ Interaction between these two is unclear, it appears that PACE may focus on solar leaving boilers and weatherization to HEAT

■ Small Business

- ▶ Integrates with 70% incentive for SB – Financing is an additional element to get the job done
- ▶ Currently getting the low hanging fruit
- ▶ look at longer term loans for deeper projects, bundling

RI PROGRAMS

PRELIMINARY ASSESSMENT



■ Large commercial

- ▶ Custom program, integrated with rebates with cooperative approach
- ▶ Running up against hurdle rates? But need to shift the conversation
- ▶ The challenge is to move the laggards to be adopters...
- ▶ ...and move the adopters to become deep savers

■ Municipal-Institutional

- ▶ Not clear how much is currently done
- ▶ typical barriers: debt limits
- ▶ audits performed, but less than 10% lead to projects

RI PROGRAMS

PRELIMINARY ASSESSMENT



- Study (Zimring 2014) found residential program average \$6K per loan, commercial \$15K

- ▶ HEAT loan average: \$6.5K
- ▶ Small Business average: \$2.5K

- Total annual financing turnover

- ▶ HEAT Loans: \$3M
- ▶ Small Business: \$2M
- ▶ Large Commercial: \$3M
- ▶ Institutional and Commerce RI: N/A
- ▶ Total: \$8M - \$10M per year

- Total annual energy expenditures have grown to over \$3.5 Billion

- \$7B in investments sought to achieve up to \$14B in EE savings by 2035

Electric Efficiency Program Expenditures	\$50.7 million
Gas Efficiency Program Expenditures	\$13.3 million
Per Capita Expenditures	\$60.8
Electric Savings	119,666 MWh
Gas Savings	2.3 million therms

RI PROGRAMS

PRELIMINARY ASSESSMENT



- 0% loans expensive: equivalent to 10%-15% of the loan value
- OBR is a powerful tool, but is being used in a limited fashion
 - ▶ Waterfall repayment is unattractive to 3rd party lenders, they prefer pro-rata
- Not clear what the need for more capital is... currently not using all of the \$ in the revolving fund
- Revolving funds are rare at the IOU or state level, more common for Institutions and Municipalities investing in their own facilities.
- Free audits and DI offer a successful turn-key service for straightforward equipment measures

HOW RI MAY BE ABLE TO DO MORE



- Go deeper with the commercial savings
 - ▶ Long term financing (20 years +) on bundles that deliver bill parity (PACE)
- Go after middle players with innovative products
 - ▶ Multi-family buildings
 - ▶ Medium size commercial
- Do more with the concierge type service for deeper larger commercial retrofits, new construction, MF, Inst, Munis
- Open the Institutional market further
- Be more cost efficient in the residential sector
 - ▶ Observe how HEAT and PACE interact, do they drive deep savings
 - ▶ Consider broader inclusion of non-energy measures
- Evaluate and Adjust: some investigation of financing's impact

FURTHER INFORMATION FOR A DEEPER DIG



- Basic reporting on residential and commercial financing programs: by measure type if possible
- Incentive expenditures by programs/measure types
 - ▶ Characterization of the current EE potential (RISEP?)
- Details on Commerce RI financing programs
- Conversations with stakeholders
 - ▶ Industry
 - ▶ Lenders: Citi, DB, etc
- Details on RGGI Funds
 - ▶ limitations on their use, forward projections



5. NEXT STEPS: OPPORTUNITIES AND STRATEGIES FOR RI

Task 5: Best Financing Options for RI

Task 6: Benefits and Costs of Financing

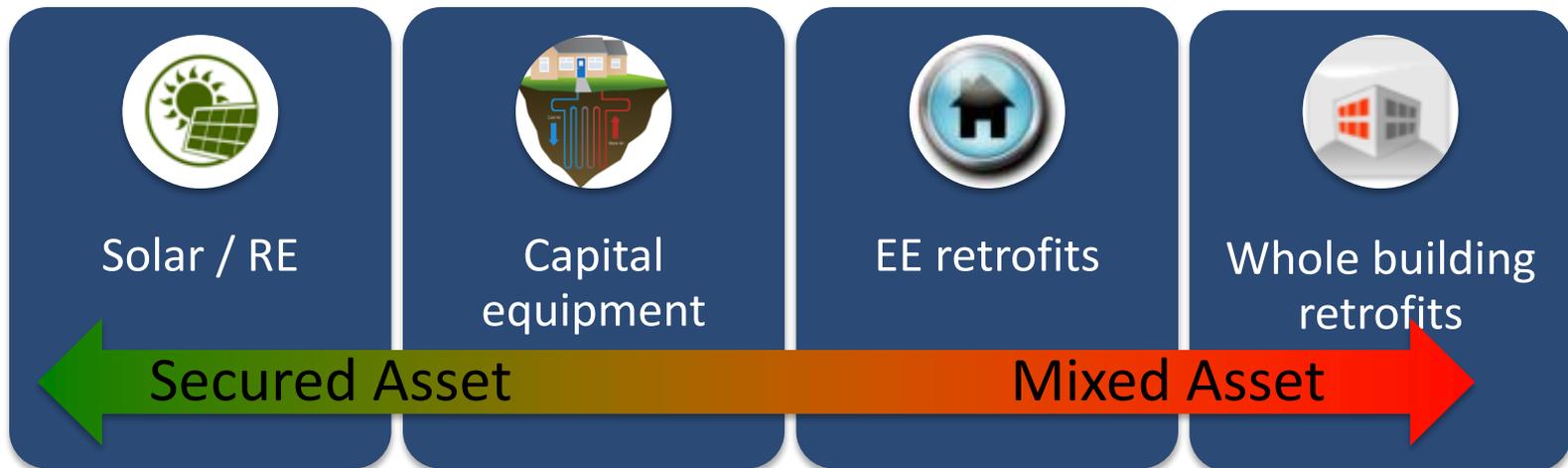
Task 7: Expanded Use of Financing

Task 8: Wider Financing Opportunities

OPPORTUNITIES ANALYSIS



- Task 5: What Financing Programs and Tools are Right for Rhode Island?
 - ▶ RI financing environment: what makes it unique?
 - ▶ What is the size of the need/demand in each RI market segment?
 - ▶ What goals does RI wish to achieve with financing?
- *Does RI want to do EE more cheaply, or do more and deeper EE*

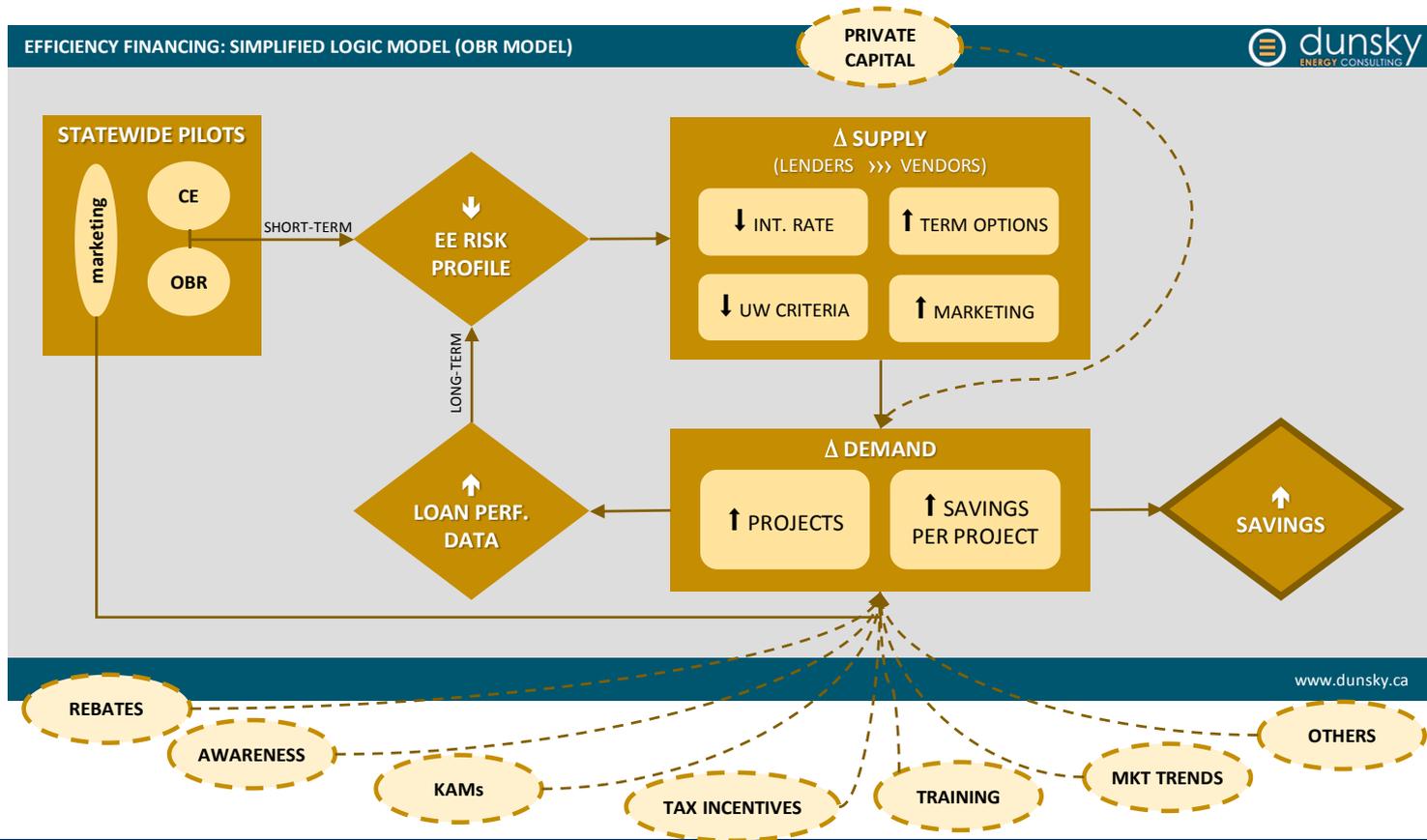


OPPORTUNITIES ANALYSIS

Costs and benefits of EE financing



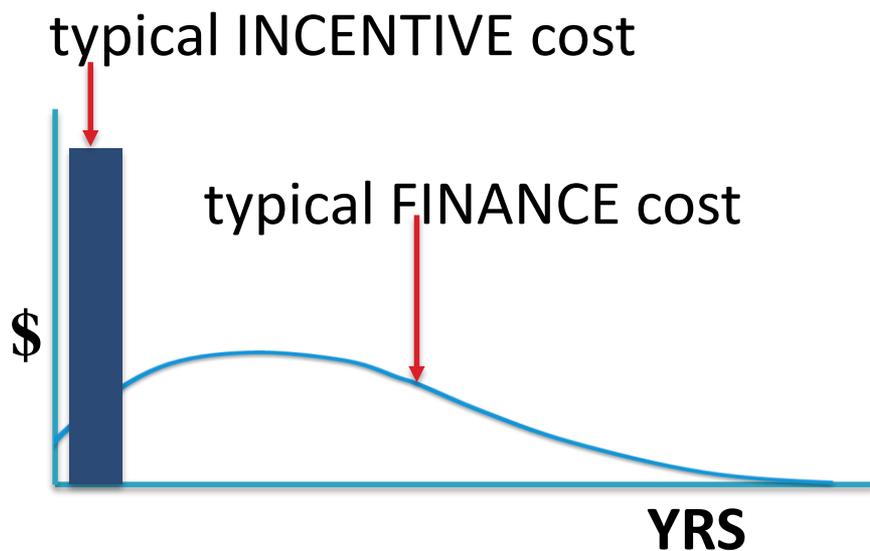
- Cost effectiveness testing: NEBs, GHG Reduction, Avoided Costs, Demand Reduction



COST-EFFECTIVENESS OF FINANCING



- Differences between finance and incentives = **TIME + SCOPE**



	PAC	TRC
Program Admin/Marketing	✓	✓
Incremental measure cost		✓
Measure incentives	✓	
Measure financing cost		✓
SETUP COSTS	✓	✓
RESERVE FUNDS		
Reserve Operating costs	✓	✓
Reserve Payments (losses)	✓	
Opp. cost of capital	✓	✓
COLLECTION COSTS	✓	✓

OPPORTUNITIES ANALYSIS



■ Task 7: Expanded Use of Financing

- ▶ How well do existing programs cover the market
- ▶ Identify gaps and propose IF solutions to fill those gaps
- ▶ Expand, drop, or add new programs

■ Task 8: Wider Financing Opportunities

- ▶ Actors, existing and new (i.e. Green Bank)
- ▶ Standardization, regional cooperation, etc.
- ▶ Market transformation impacts

OPPORTUNITIES ANALYSIS

CAPITAL MOBILIZATION



- Bonding (Aggregate or Single)
- Revolving Funds
- Warehousing
- Securitization
- Utility Rate of Return Incentives

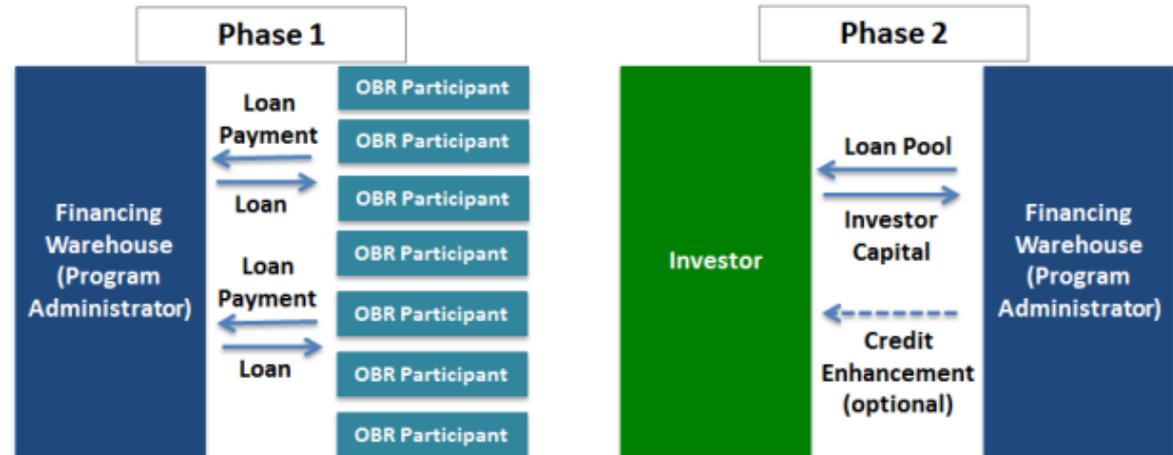


Figure 4-2. Illustrative example of the role of a program administrator in aggregating OBR financial products before re-selling them to investors

QUESTIONS?

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