Harcourt Brown & Carey
ENERGY & FINANCE

ENERGY EFFICIENCY FINANCING IN PENNSYLVANIA:

A GAP ANALYSIS

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EXECUTIVE SUMMARY

Harcourt Brown & Carey (HB&C) conducted an inventory and gap analysis of financing products used for energy efficiency improvements in the State of Pennsylvania. This report presents HB&C's findings.

THE PROCESS

In conducting this effort, HB&C created a statewide inventory of the existing financial products commonly used or directed toward energy efficiency upgrades in the following sectors:

- Small Commercial & Small Agricultural
- Large Commercial, Industrial and Large Agricultural
- MUSH (K-12 Public School Districts, Municipal, State, Nonprofit/Institutional)
- Single-Family Residential
- Multi-Family Market-Rate
- Multi-Family Affordable:
  - Low Income Housing Tax Credit and Section 8 HUD Insured Properties
  - Public Housing

Upon completion of this inventory, HB&C conducted an analysis of the identified financing products based on a framework that HB&C has found to be particularly useful for the review of efficiency finance program and products: the elements of Capital, Confidence and Convenience. These "3 C's" represent the critical difference between a financing product that merely exists and a financing product that is actively and successfully serving an energy efficiency market sector.

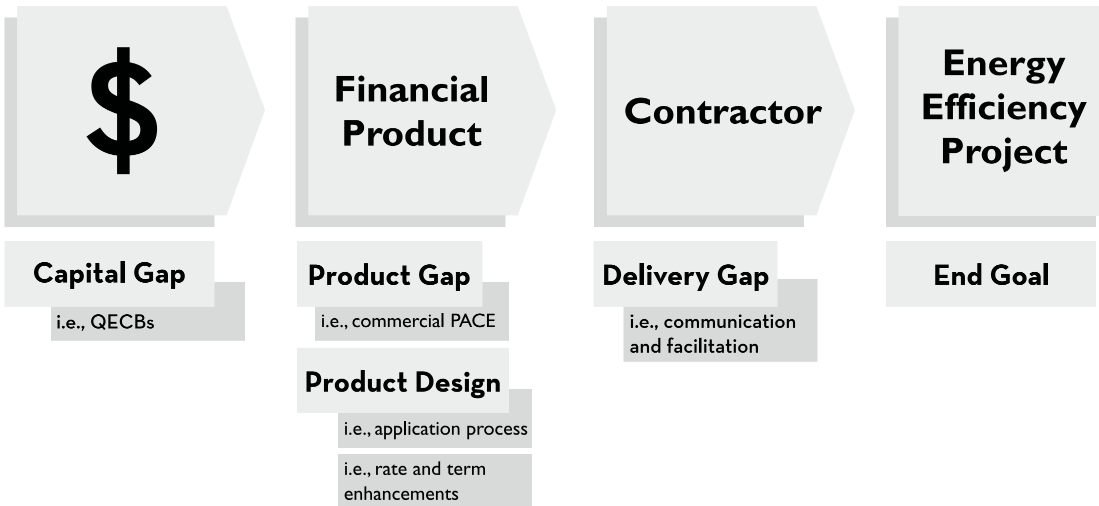
THE CONCLUSIONS

The gaps that HB&C identified fell into four main categories: capital gaps, product gaps, product design gaps and delivery gaps. Capital gaps are defined as a lack of capital to fund efficiency retrofits. Product gaps represent financing products that either do not exist in Pennsylvania or exist in such a limited scope that their impact is negligible. Product design gaps represent product features such as rate and term that hinder the uptake of the product but can be modified or enhanced to help create more demand for the product. Delivery gaps represent communication issues that keep the products from reaching the contractors and ultimately the customers.

Overall, Pennsylvania's financing market enjoys an ample supply of capital with generally well designed finance products—but nonetheless suffers from a significant delivery gap in between available capital and projects.

Financing Flow and Gaps

This section identifies the major gaps that HB&C identified in Pennsylvania, beginning with a visual summary:



Identified Delivery Gap: *Significant gap identified*

A wide variety of financial products are available with capital to deploy and energy efficiency projects are seeking capital. Yet, the supply of capital far exceeds the number of projects using capital. Delivery of capital for efficiency project is restricted.

This delivery gap could benefit from facilitated discussions amongst key stakeholders in particular sectors to help bridge the divide between financial products and energy efficiency projects, focused efforts to explain or hand-hold stakeholders through the use of various financial products, or through other tools to promote uptake.

Identified Capital Gap: *Moderate gap identified related to QECBs*

Overall, capital is abundant and attractively priced for energy efficiency projects, and the overall capital gap is small. Nonetheless, one gap is related to a large but dispersed allocation of Qualified Energy Conservation Bonds (QECBs) spread throughout local governments in the state. These "locked in" QECB allocations could be used to fund efficiency projects at far below-market interest rates. An important note about QECBs: the federal allocation of QECBs has no expiration date, which may partly be responsible for the fact that QECBs have not received a high priority in many states. With a new administration at the federal level, it is conceivable that the federal government could seek to claw back unused QECB allocations and it appears worthwhile to find ways to use those allocations sooner, rather than run the risk that they are clawed back.

Qualified Energy Conservation Bonds (QECBs) offer additional options to fund energy efficiency or renewable energy in the private sector that were not easily or clearly available a number of years ago. These are worth consideration—especially if the State can find ways to facilitate the use of the more than $80 million allocation available in jurisdictions around Pennsylvania.

These two options are:

a. Private Activity uses: Up to 30% of the total allocation can be used for private use activities—meaning that the proceeds of the bond benefit a private entity rather than a government entity.

b. Green Community Program: If the QECB issuance is tied to a stated government policy related to the purpose of QECBs, then QECBs may be used to support private sector activities. Unlike the Private Activity use, this use of QECBs is not restricted to a 30% of total allocation. This Green Community Program is somewhat unique to the QECB, and was unclear when QECBs first were authorized. With clarification from the US Treasury, it is now clear that Green Community Program QECBs are viable, and could provide a significant new source of funding for energy efficiency or renewable energy projects in Pennsylvania.

Identified Product Gap: *Minor gap identified related to Commercial PACE*

Every financial product that supports energy efficiency is available in PA (loans, capital leases, tax-exempt leases and service agreements) except Commercial PACE. (Note that while some states have used residential PACE, the strong performance history of the Keystone HELP unsecured loan likely makes residential PACE unnecessary in the state.)

The current barriers to the implementation of this product revolve around the issues of 1) development and enacting legislation to enable commercial PACE and 2) developing an infrastructure for the product.

Identified Product Design Gaps: *Minor gap identified*

The products available from lenders outside and inside the state across all sectors appear to be well designed with rates as low as 1.5% and terms out to 10 years. HB&C did not identify major product design gaps related to rate and term in the state. However, if a credit enhancement[1] were available, the rates and terms could be better than they already are, and therefore increase uptake.

Recommendations

Some specific actions HB&C identified that could remedy gaps across all products and sectors include the following:

Note that the purpose of this report has been to identify gaps—the high level recommendations below are not deeply or thoroughly described, as a result.

- Convene key stakeholder (contractors, lenders etc.) meetings facilitated by an expert in the energy efficiency finance for each sector. These meeting can help connect the most appropriate financing products to customers to enable energy efficiency upgrades to happen.

[1] Credit enhancement: reduce lender and investor risk by providing protection against losses in the event of defaults, examples include interest-rate buydowns & loan loss reserves.

- In the commercial sector, consider engaging a finance facilitator who can serve to translate, coordinate, and provide a communication bridge between contractors and finance providers.
- Consider other mechanisms such as specific finance product or market facilitation to connect the large amount of capital available, yet un-deployed, from investors with energy efficiency projects.
- Provide product enhancements for the small commercial and small agriculture sectors, such as buy-downs, loss reserves and other credit enhancements to make financing products more marketable and accessible. Product enhancements could improve use of/participation in energy efficiency products by making them more marketable and attractive to borrowers, improving access to them, and improving cash flows associated with their use by improved rates and terms.
- Work with a consultant to unlock the remaining QECB allocations to increase the amount of capital available for energy efficiency projects
- Support the development of a Commercial PACE program

Appendix

This paper contains an appendix with tables of all individual financing products serving the energy efficiency sector in Pennsylvania and their key features.

FINANCING PRODUCT DESCRIPTIONS

In this section, HB&C provides brief definitions and narratives on the product types discussed in this gap analysis.

Revolving Credit:
Revolving credit allows for continual access to a capped amount of capital.

Lines of Credit:
A line of credit allows a borrower to continually draw down loan funds, paying interest only on the amount drawn down. Lines of credit take time for initial approval, but once approved are easy to use. In a residential context, a line of credit might be a home equity line of credit; however such borrowers must have sufficient equity in the home. In the commercial context, businesses can access business lines of credit. Both may involve initial fees and/or multiple-week application and approval processes to access the capital.

Credit Cards:
Credit cards can be easy to obtain and are perhaps the most convenient source of capital to apply toward an energy efficiency project. Their key drawback is high interest rates, which can range between 10 percent and 30 percent.

Closed End Loans:

Closed end loans are financing that must be paid back in full over a defined period of time, referred to as the term. For this gap analysis, HB&C discusses secured loans and unsecured loans.

Secured Loan:

The most common financial instrument in a secured, closed end loan is a mortgage—meaning that the loan is secured by a first, second or more subordinate lien on the real estate itself. As a result of the robust security from the property lien and a strong secondary market for mortgages, mortgages have low interest rates and long terms. The drawbacks to these products are a long application process and a cost to originate that make most energy efficiency improvements time- and cost-prohibitive, unless undertaken at the time of initial financing or refinancing. This product can be secured by real estate or other types of assets.

Unsecured Loan:

Unsecured, closed end loans are financing that is not real estate secured. They are generally secured through a lien on the equipment installed, but for the most part the credit decision is based on the credit of the borrower. Underwriting costs are far lower than they are for a mortgage, and the time to approve unsecured financing is typically comparable to that of a credit card. Keystone HELP is Pennsylvania's nationally known unsecured loan program for energy efficiency. This product can be unsecured by real estate or other types of assets.

Equipment Leases and Equipment Financing Agreements:

Equipment leasing and equipment finance agreements can be an attractive option for a range of energy efficiency upgrades for qualifying non-residential borrowers due to competitive rates and a fast application funding process.

Capital Equipment Lease:

A lease agreement, in many ways, resembles a closed end unsecured loan. Rates generally range from 4 percent to 12 percent, and the application process can involve as little as a single page. Due to its convenience, the capital equipment lease is an ideal instrument for many types of efficiency upgrades in the appropriate sectors. An equipment finance agreement is similar to an equipment lease, and is often equally attractive.

Tax Exempt Municipal Lease (TEML):

This is a lease instrument used by tax exempt borrowers. The TEML is subject to annual appropriations during every budget year. Thus, the government entity has a contractual ability to terminate the lease without penalty. TEML interest rates typically run between 2 percent and 4 percent and terms generally run from 10 to as long as 20 years, making this instrument an attractive product for eligible entities.

Property Assessed Clean Energy (PACE):

PACE is a instrument whereby the capital is provided by investors (banks or non-bank investors) and (typically) paid back on the property tax bill. A PACE repayment maintains all the major features of a property tax assessment (commonly including first position for repayment in case of foreclosure), and thus is more secure than a non-PACE financing. As a result, it allows lenders to provide good rates for long terms, often as long as 20 years. Commercial rates may range from 6 percent to 8 percent, depending on the lender and project. Commercial PACE is best suited to serve multi-measure commercial projects in excess of $200,000. Commercial PACE is not available in Pennsylvania at the moment.

On-Bill Repayment:
On-bill repayment is a financing structure in which a third party investor provides capital to fund residential loans or commercial loans/leases or service agreements, and a utility collects customer payments in order to remit them to the third party investor. Programs can be tailored to serve all sectors. No on-bill repayment programs currently exist in Pennsylvania.

On-Bill Financing:
On-bill financing is a structure in which a utility provides capital (typically ratepayer funds that would otherwise be devoted to efficiency rebates) to fund residential loans or commercial loans/leases or service agreements, and collects customer payments. Programs can be tailored to serve all sectors. No on-bill financing programs currently exist in Pennsylvania.

Energy Services Agreement:
Sometimes called an efficiency services agreement, an energy service agreement is a contract in which a third party provides energy savings to the customer for a service fee. The customer is not purchasing equipment, but is instead purchasing the output of equipment that a third party owns and operates. These arrangements generally require no up-front costs for the customer, and generally are considered off the balance sheet for the customer, and should not generally appear in the balance sheet or notes of a typical financial statement. Underwriting is based on the energy savings potential of the project, the certainty of that potential and the creditworthiness of the customer.

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INTRODUCTION

Harcourt Brown & Carey conducted an inventory and gap analysis of financing products used for energy efficiency improvements in the state of Pennsylvania across all market sectors. Included in this introduction:

1. Review of the 3 C's analysis methodology
2. Overview of the universal financing products that exist in each sector
3. Review of the appendices

THE 3 C'S METHODOLOGY

HB&C created the 3 C's (meaning a review of the key features of Capital, Confidence and Convenience) analysis process to understand the difference between a financing product that is simply available to a sector and a financing product that customers and contractors actually use to install energy efficiency in a sector. Asking key stakeholders a series of questions and performing secondary research assisted in the eventual analysis of a product. The section below describes the 3 C's in greater detail:

The first step to HB&C's process requires answering specific questions related to Capital, Confidence and Convenience. HB&C answered these questions during interviews with key stakeholders that offer or use a product and through secondary research on finance products. In addition to the specific questions, the analysis considered other comments that stakeholders made during the interviews. The second step requires an analysis of the answers to the questions and stakeholder comments to determine if a product is Excellent, Average or Poor. These ratings guide the overall sector analysis or Gap Summary.

Step 1 : *The Questions*

1. *Capital:*
   a) Is there sufficient capital available for this product?
   b) Is that capital available and accessible to the borrowers/participants within a sector at attractive rates and terms?
   c) Is there a sufficient return on that capital to provide a fair and attractive return to investors?

2. *Confidence:*
   a) Can contractors tailor the product to their specific needs, thus creating confidence the product will help them close more deals?
   b) Do partners such as utilities and government programs have visibility in to the product features, and have the ability participate in the product offering through partnerships or sponsorships?
   c) Are borrowers confident that the product is provided by a reputable source?

3. *Convenience:*

a) Is it easy for contractors to use the product, or does it require specialized knowledge to incorporate the product into the sale?
b) Is it easy for borrowers to understand and interact with the product, and is the information about the product easy to obtain?
c) Is it easy for lenders to use the product without unwieldy requirements that require IT upgrades, major changes to their origination or servicing systems or other changes that require large amounts of time or effort?

Step 2: *The Pennsylvania Analysis*

Based upon responses to the above questions, HB&C assigns a rating for each of the 3 C's. The rating designations are defined as follows:

1. *Excellent*—Research lead HB&C to believe the particular "C" met the highest standards based on HB&C expertise. The "C" requires no changes.
2. *Average*—Research lead HB&C to believe the particular "C" met modest standards based on HB&C expertise. Some minor changes to this "C" may be required in order for the product to work well in the market.
3. *Poor*—Research lead HB&C to believe the particular "C" did not meet standards based on HB&C expertise. Significant changes to this "C" may need to occur in order for the product to work well in the market.

HB&C identifies gaps after establishing the 3 C's ratings for each product.

NOTE:

1) In the Large Commercial & Industrial and Large Agricultural Sectors, Revolving Line of Credit and Secured Loan (Business loan) did not receive a 3 C analysis because neither of these products are applicable for energy efficiency financing.

2) In the Multi-Family Affordable (Low Income Housing Tax Credit and Section 8 HUD Insured Properties), Commercial PACE did not receive a 3 C analysis because this product is not applicable to this sector.

PRODUCT OVERVIEW

Table 1 provides an overview of the universe of potential financing products and the market they currently either serve or could serve in the future. While some products are structurally unfit to serve certain sectors (such as service agreements for the single-family residential market), each sector contains at least two products that are currently serving it, or could currently serve it, under the right conditions and assistance.

Table 1. Overview of Energy Efficiency Finance Instruments and the Sectors in Which They Can Be Applied

KEY

▨ = *Product not applicable*

✖ = *Product could serve this sector, but is not currently available*

✔ = *Product available*

CAPITAL TYPE	RESIDENTIAL SECTOR			COMMERCIAL SECTOR		MUSH / NONPROFIT SECTOR			
	SINGLE FAMILY	MULTI FAMILY AFFORDABLE	MULTI FAMILY MARKET-RATE	LARGE COMMERCIAL, INDUSTRIAL AND LARGE AGRICULTURE	SMALL COMMERCIAL & SMALL AGRICULTURE	K-12	MUNICIPAL	STATE	NONPROFIT AND INSTITUTIONAL
Revolving Credit									
Line of Credit/Credit Card	✔	▨	▨	✔	✔	▨	▨	▨	▨
Closed End Loans									
Secured Bank Loans	✔	✔	✔	✔	✔	✔	✔	✔	✔
Unsecured Loans	✔	▨	▨	▨	✔	▨	▨	▨	▨
Equipment Finance									
Capital Lease/Equipment Finance Agreements	▨	✔	✔	✔	✔	▨	▨	▨	✔
Tax Exempt Municipal Leases	▨	▨	▨	▨	▨	✔	✔	✔	✔
On Tax Bill									
Commercial PACE	✖	✖	✖	✖	✖	▨	▨	▨	▨
Service Agreements									
Energy Service Agreement	▨	▨	✔	✔	✔	▨	▨	▨	✔

APPENDIX

This paper contains an appendix with tables of all individual financing products serving the energy efficiency sector in Pennsylvania and their key features.

INDIVIDUAL SECTOR GAP ANALYSIS

INTRODUCTION

This section is broken out by market sectors and financing product sub-sectors. It contains an introduction of each sector, as well as an analysis based on the elements of "capital, confidence and convenience" to help the reader quickly understand the key issues facing energy efficiency products serving the sector. To conclude, the sections contain a Gaps Summary identifying and elaborating on the identified gaps.

Small Commercial & Small Agricultural

Table 2a. Locally Available Small Commercial Energy Efficiency Financing Products

Product Name or Type of Financing	**National and Local Conventional Business Loan**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**	**Sustainable Energy Fund Supported Energy Loans**	**Locally Supported Energy Loan—PPAA Energy Loan**
Product Type	Secured Loan	Secured Loan	Secured Loan	Secured Loan
Eligible Borrowers	Credit-worthy businesses	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	Small Business

Table 2b. Nationally Available Small Commercial Energy Efficiency Financing Products

Product Name or Type of Financing	**Conventional Business Line of Credit**	**National and Local Conventional Business Loan**	**Capital Lease/ Equipment Finance Agreement**	**Energy Service Agreement**
Product Type	Revolving Credit	Secured Loan	Capital Lease/ Equipment Finance Agreement	Energy Service Agreement
Eligible Borrowers	Credit-worthy businesses	Credit-worthy businesses	Commerical, MF and non-profits	Based on credit worthiness and project savings potential

Introduction

For this gap analysis, HB&C categorizes small commercial and small agricultural by the project size, rather than by the size of the business itself. Thus, HB&C correlates small business with the typical cutoff for what would be considered "small ticket" project in the finance world. Projects listed in the small commercial and small agricultural sectors typically fall under $250,000 in size. Products that can efficiently serve for-profit, commercial and agricultural projects of this size are included.

Overall, the small business sector sees very little participation in energy efficiency financing products relative to the plentiful amount of capital available for lending in these markets. Businesses can be put off by lack of knowledge or understanding of these financing mechanisms, have concerns about their ability to repay the debt, or prefer to look at their own balance sheet to fund projects instead of relying on third-party capital. Small businesses significantly benefit from products that can provide a cash flow positive situation. Complexity within this sector and the amount of time required for a non-expert to fully explore available options likely represent the single largest barriers.

Contractors serving this sector may also need education on the available products for this market and education on how to "sell" with the product. If a product allows for a contractor to tailor the product (i.e. using a credit enhancement like an interest rate buydown), the more likely they will use the product and close more deals.

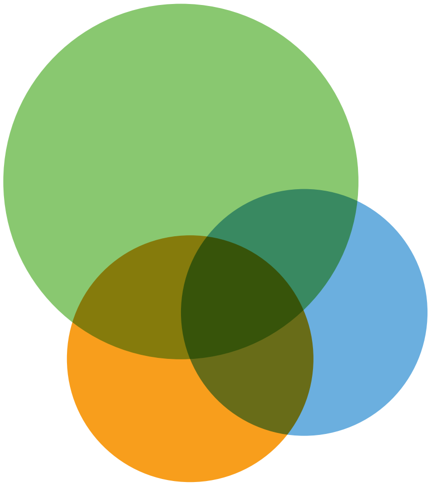
REVOLVING CREDIT

3 C'S	RATING	ANALYSIS
Capital	Excellent	Many banks and finance companies offer this traditional product, likely most popular source of capital, credit checks mean not all borrowers qualify. Revolving credit typically have a high interest rate of above 20%. Customers may prefer to use revolving credit for core business initiatives instead of energy efficiency.
Confidence	Average	Partners such as utilities and government programs have no visibility/can't participate in revolving credit product offerings. Manufacturers and distributors can often participate with rate buydowns etc.
Convenience	Average	Convenient for customer if line of credit already exists. Inconvenient for contractors given limited visibility into the financing process and inability to tailor the project to the finance offer (by offering rate buy-downs, etc.).

PRODUCT SUMMARY

KEY

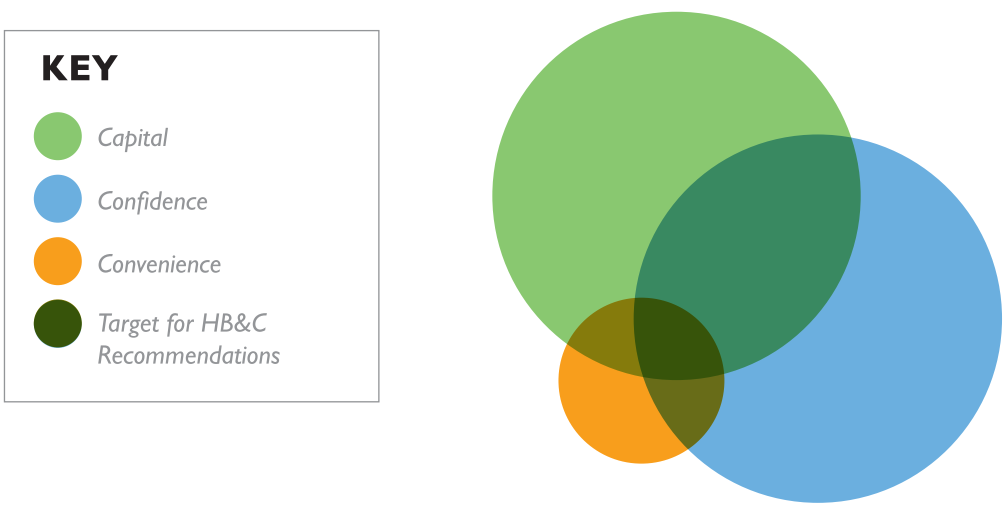
- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



SECURED LOANS

3 C's	RATING	ANALYSIS
Capital	Excellent	Rates are the lowest of any available instrument and terms are the longest. Product is commonly available from many banks.
Confidence	Excellent	Lenders are comfortable with secured loans. Borrowers are comfortable as they are trusted financial institutions. It is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs have no visibility/can't participate.
Convenience	Poor	Secured loans are not convenient for contractors because 1) they have no control of the process and can not tailor the offer and 2) loans take a long time to close. The product is not convenient for borrowers because 1) loans take a long time to close 2) loans require significant documentation and 3) the cost to close is significant.

PRODUCT SUMMARY



UNSECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Average	Rates are higher than for secured loans. Terms tend to be shorter than secured loans. Not all financial institutions offer unsecured loans and typically do so only for their most credit worthy customers.
Confidence	Excellent	Lenders are comfortable with unsecured loans. Borrowers are comfortable as banks are trusted financial institutions. It is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs have no visibility/ can't participate.
Convenience	Average	Unsecured loans are convenient for everyone except for the contractor due to their lack of visibility into the financing process and ability to participate in the offer. Also, the loans typically do not cover 100% of project cost. Product is generally fast and easy to deliver.

PRODUCT SUMMARY

CAPITAL LEASES/EQUIPMENT FINANCE AGREEMENTS

3 C'S	RATING	ANALYSIS
Capital	Average	Rates are excellent for large projects with good credit (above $250k) and range much higher for smaller projects and poorer credits. Terms typically extend out far enough to achieve positive cash flow but not always. There is no shortage of capital for this product.
Confidence	Excellent	Specialized lease providers are comfortable extending credit to borrowers based on a credit-based underwriting process. It is possible for utilities, contractors and governments entities to ally with lease providers in order to increase confidence in the finance project.
Convenience	Average	Typically easy application and fast underwriting process for the contractor and the borrower. Contractors have the ability to ally with the lease/ EFA provider to tailor the finance offer.

PRODUCT SUMMARY

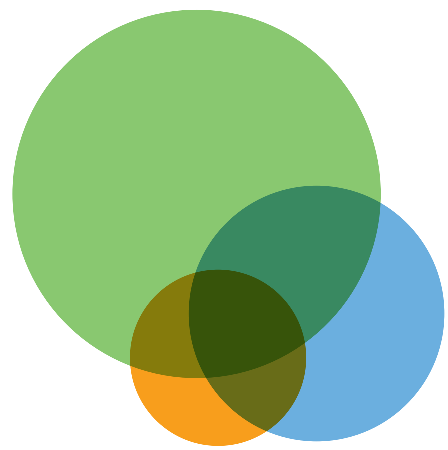
COMMERCIAL PACE (NOT AVAILABLE IN PENNSYLVANIA)

3 C's	RATING	ANALYSIS
Capital	Average	Not available in PA. Terms are the longest available for non-mortgage efficiency projects which allow contractors to offer their customers a positive cash flow, no money down option. Rates far exceed real-estate secured bank loans and often exceed unsecured loans. Costs to close are typically high.
Confidence	Excellent	Property assessment creates high level of investor confidence. Borrower confidence is high because of government explicit endorsement. There may be a lack of confidence for contractors because they are unfamiliar with the product.
Convenience	Poor	PACE requires lengthy underwriting/project vetting process.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



ENERGY SERVICE AGREEMENTS

3 C's	RATING	ANALYSIS
Capital	Average	There is not a substantial amount of capital available given investors' perception that a service agreement is a riskier product. Cost of capital tends to be higher because of inherent risk of instrument (repayment depends on performance of project). Frequently term can be manged to provide for positive cash flow. From customer perspective off balance sheet treatment is often attractive. Transaction costs tend to be higher than typical lease/ESA financing. Available through outside capital sources (non-PA entities) and TRF in Pennsylvania.
Confidence	Average	Many investors lack confidence because payment is based on project performance. Customers may not have confidence that they will achieve off balance sheet treatment. Contractor confidence varies depending on contractor comfort with a new product. Guaranteed savings can boost confidence, particularly when insurance policy is included. Confidence can be difficult because risk involves two layers: repayment risk and project performance risk.
Convenience	Average	Once a contractor completes an initial enrollment with an ESA provider, the process is simple and fast. Contractors may be able to tailor the offer. The process for the customer is simple and fast as well. Few capital providers offer this project because ESAs require complex legal documentation.

PRODUCT SUMMARY

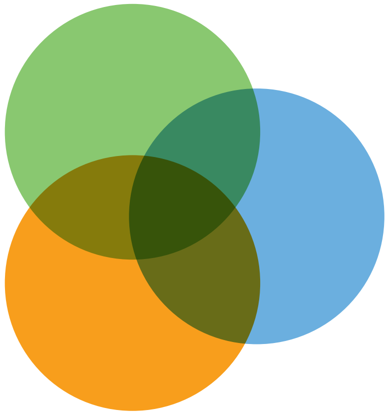
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



3 C's Summary

Capital

- Capital is plentiful for these sectors
- A new product – Commercial PACE – could benefit this sector
- Some of the products could benefit from modifying or enhancing design features of the product such as rates and terms
- Increased awareness for contractors and customers about capital leases could benefit these sectors

Confidence

- Contractors' confidence varies per product, but overall there is a lack of confidence in the products because contractors are unfamiliar with products and they cannot tailor most of the products to help with their specific needs.
- Customer confidence varies per product. There is some confidence given they 1) know some products and 2) trust some of the financial institutions or the government sponsorships of a program. A lack of confidence comes from a lack of understanding/trust about some of the lenders and available products.
- For many of the products, it is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs do not have an opportunity to engage, understand or follow the financing process.

Convenience

- Some of the products in this sector (leases, EFAs, some service agreements) are very convenient for contractors and customers, but some (mortgages) have cumbersome processes.

Overall, HB&C identifies the following gaps for these sectors:

- *Product gaps*—Commercial PACE: The addition of this financing product could benefit these markets.
- *Delivery gap*—HB&C believes this to be the biggest gap for these sectors. There is sufficient capital available across a wide array of products, but businesses have a difficult time connecting with that capital to enable energy efficiency upgrades to happen. Also, better education/communication about capital leases could benefit these sectors.

Large Commercial, Industrial & Large Agriculture

Table 3a. Locally Available Large Commercial and Industrial Energy Efficiency Financing Products

Product Name or Type of Financing	Sustainable Energy Fund Supported Energy Loans	National and Local Conventional Business Loan	Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)
Product Type	Secured Loan	Secured Loan	Secured Loan
Eligible Borrowers	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	Credit-worthy businesses	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*

Table 3b. Nationally Available Large Commercial and Industrial Energy Efficiency Financing Products

Product Name or Type of Financing	Conventional Business Line of Credit	Capital Lease/ Equipment Finance Agreement	Energy Service Agreement
Product Type	Revolving Credit	Capital Lease/ Equipment Finance Agreement	Energy Service Agreement
Eligible Borrowers	Credit-worthy businesses	Commerical, MF and non-profits	Large and small commercial, MF Affordable and Market-Rate properties

Introduction

Large commercial, industrial and large agricultural sectors are combined here because of the similarities in products and gaps. These sectors are defined by projects with capital requirements that exceed $250,000. Industrial projects, which may focus on a certain type of equipment are defined less by project size; however, it is safe to assume that industrial projects typically are larger than those listed in the small commercial sector.

The gaps are similar to small commercial as well. Sufficient capital is available across a wide array of products, but the sectors have a difficult time connecting with that capital to enable energy efficiency upgrades.

Financing for energy efficiency in these sectors can be difficult to sell, and may have a long sales cycle. CFOs, CEOs or facility managers, all with inherently different motives, may be the key decision maker, or all three may be involved. Likewise, many contractors are unlikely to present financing as an option due to their lack of specialized knowledge on the topic. As in small commercial, borrowers and contractors may be unsure of the correct financing vehicle and which lender can best meet the needs of their energy efficiency project, so they may avoid the topic of financing altogether.

Two products, unique to PA, currently serving this market include: a real estate secured loan offered by each of the Sustainable Energy Funds and the Pennsylvania Green Energy Loan Fund (GELF) real estate secured loan.

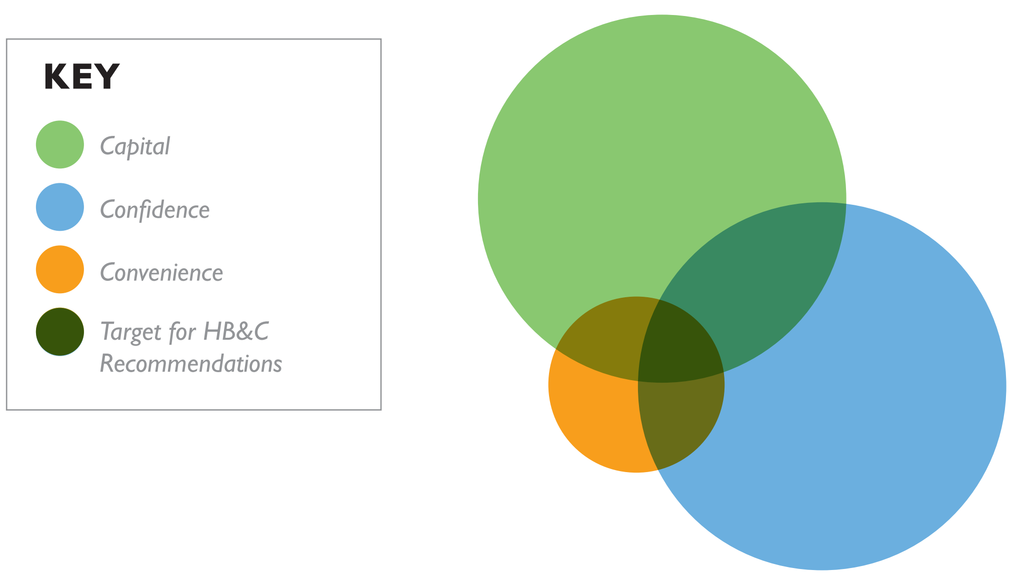
The local loan options above are acceptable products; however, finance companies from outside the state that specialize in energy efficiency capital leasing appear not to have made significant inroads into the PA market. The capital lease base products, unsecured and funding 100% of project costs remain or propose a gap for these sectors, and a capital lease fills that gap.

NOTE: In evaluating the large commercial, industrial and agricultural sectors, HB&C determined that among several financing product options, two are unviable. These unviable products are (a) Revolving Credit, which is available but not typically used for these sectors; and (b) the Unsecured Loan, or Business Loan, which is also available, but not a well-suited option for energy efficienicy projects. The following four tables identify available financing products.

SECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Excellent	Rates are the lowest of any available instrument and terms are the longest. Product is commonly available from many banks.
Confidence	Excellent	Lenders are comfortable with secured loans. Borrowers are comfortable as they are trusted financial institutions. It is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs have no visibility/can't participate.
Convenience	Poor	Secured loans are not convenient for contractors because 1) they have no control of the process and can not tailor the offer and 2) loans take a long time to close. The product is not convenient for borrowers because 1) loans take a long time to close 2) loans require significant documentation and 3) the cost to close is significant.

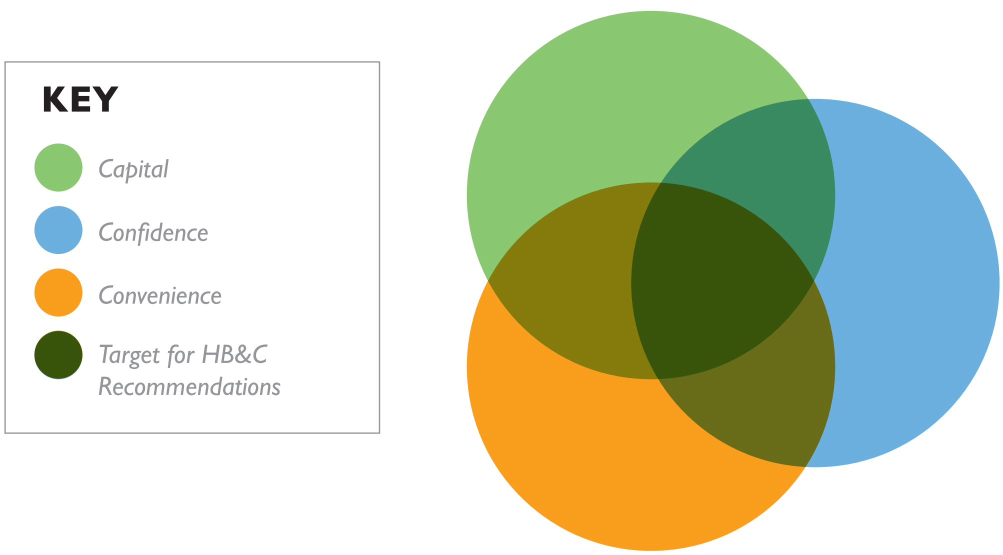
PRODUCT SUMMARY



CAPITAL LEASES/EQUIPMENT FINANCE AGREEMENTS

3 C'S	RATING	ANALYSIS
Capital	Excellent	Rates are excellent for large projects with good credit (above $250k) and range much higher for smaller projects and poorer credits. Terms typically extend out far enough to achieve positive cash flow but not always. There is no shortage of capital for this product.
Confidence	Excellent	Specialized lease providers are comfortable extending credit to borrowers based on a credit based underwriting process. It is possible for utilities, contractors and governments entities to ally with lease providers in order to increase confidence in the finance project.
Convenience	Excellent	Typically easy application and fast underwriting process for the contractor and the borrower. Contractors have the ability to ally with the lease provider to tailor the finance offer.

PRODUCT SUMMARY



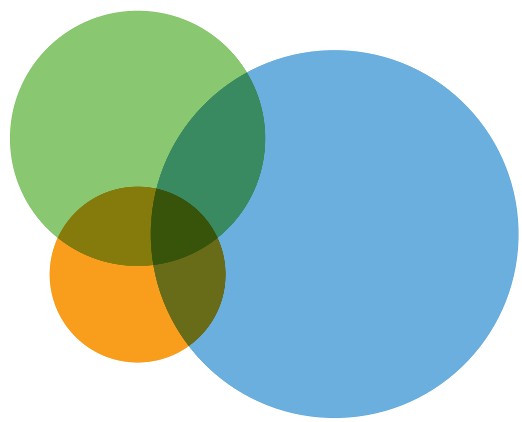
COMMERCIAL PACE (NOT AVAILABLE IN PENNSYLVANIA)

3 C'S	RATING	ANALYSIS
Capital	Average	Not available in PA. Terms are the longest available for non-mortgage efficiency projects which allow contractors to offer their customers a positive cash flow, no money down option. Rates far exceed real-estate secured bank loans and often exceed unsecured loans. Costs to close are typically high.
Confidence	Excellent	Property assessment creates high level of investor confidence. Borrower confidence is high because of government explicit endorsement. There may be a lack of confidence for contractors because they are unfamiliar with the product.
Convenience	Poor	PACE requires lengthy underwriting/project vetting process.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



ENERGY SERVICE AGREEMENTS

3 C'S	RATING	ANALYSIS
Capital	Average	There is not a substantial amount of capital available given investors' perception that service agreements are a riskier product than a typical loan. Cost of capital tends to be higher because of inherent risk of instrument (repayment depends on performance of project). Frequently term can be manged to provide for positive cash flow. From customer perspective off balance sheet treatment is often attractive. Transaction costs tend to be higher than typical lease/ESA financing. Available through outside capital sources (non-PA entities) and TRF in PA.
Confidence	Average	Investors lack confidence because payment is based on project performance. Customers may not have confidence that they will achieve off balance sheet treatment. If the product offers a guarantee option, this increases customer confidence. Contractor confidence varies depending on contractor comfort with a new product. Guaranteed savings can boost confidence, particularly when insurance policy is included. Confidence can be difficult because risk involves two layers: repayment risk and project performance risk.
Convenience	Average	Once a contractor completes an initial enrollment with an ESA provider, the process is simple and fast. Contractors may be able to tailor the offer. The process for the customer is simple and fast as well. Few capital providers offer this project because ESAs require complex legal documentation.

PRODUCT SUMMARY

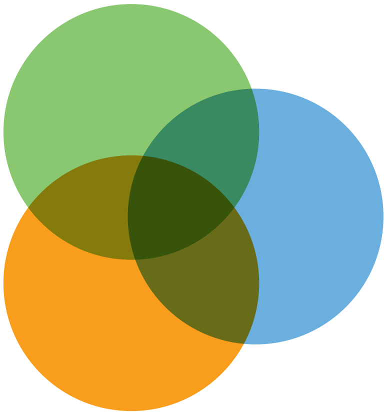
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



3 C's Summary

Capital

- Capital is plentiful for these sectors
- A new product – Commercial PACE – could benefit these sectors
- The attractiveness of rates and terms vary throughout these products.
- Increased awareness for contractors and customers about capital leases could benefit these sectors

Confidence

- Contractors' confidence varies per product, but overall there is a lack of confidence in the products because contractors are unfamiliar with the products.
- Customer confidence varies per product, but overall there is confidence given they 1) know some of the products and 2) trust some of the financial institutions or the government sponsorships of a program. A lack of confidence comes from a lack of understanding/trust about some of the lenders and available products.
- For many of the products, it is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs have no visibility/can't participate.

Convenience

- Some of the products in this sector (leases, EFAs, some service agreements) are very convenient for contractors and customers, but some (mortgages) have cumbersome processes.

Overall, HB&C identifies the following gaps for these sectors:

- *Product gap*—Commercial PACE: The addition of this financing product could benefit these markets.
- *Delivery gap*—HB&C believes this to be the biggest gap for these sectors. There is sufficient capital available across a wide array of products, but businesses have a difficult time connecting with that capital to enable energy efficiency upgrades to happen. Also, better education/communication about capital leases could benefit these sectors.

MUSH/Non-Profit/In (K-12 Public School Districts, Municipal, State, Nonprofit/Institutional)

Table 4a. Locally Available MUSH Market Energy Efficiency Financing Products

Product Name or Type of Financing	**Locally Supported Energy Service Agreement: *Sustainable Energy Fund (SEF)***	**Locally Supported Energy Loan: *Sustainable Energy Fund (SEF)***	**Locally Supported Tax-Exempt Bond: *PennSEF***	**Locally Supported Energy Loans**	**Locally Supported Energy Loan: *The Pennsylvania Green Energy Loan Fund (GELF)***
Product Type	Energy Service Agreement	Secured Loan	Tax Exempt Bond	Secured Loan	Secured Loan
Eligible Borrowers	Non-profit entities with the exception of governmental entities such as municipalities. Typical can be fire companies, private schools, nursing homes...	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	MUSH	Commercial, industrial, Local government, non-profit, schools, state government, agricultural	Commercial properties, non-profit facilities, local government buildings, multi-family residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*

Table 4b. Nationally Available MUSH Market Energy Efficiency Financing Products

Product Name or Type of Financing	**National Providers—Tax Exempt Municipal Lease**
Product Type	Tax Exempt Municipal Lease
Eligible Borrowers	MUSH

Introduction

The MUSH/Non-Profit markets have been favorite targets for years among energy services companies (ESCOs). Projects are typically financed with tax-exempt municipal leases (TEML) combined with an energy savings performance contract (ESPC). Government bonds also have been used regularly to finance very large facility upgrades.

Capital is available in this sector, although it typically may take time to achieve approvals to proceed with TEML and government bonds. Also, the benefit of working with a public entity is the confidence that doesn't exist in other sectors. Because the bond and municipal markets are relatively stable, bond issuance and tax-exempt municipal leases also are viewed as more secure instruments, so financial institutions are relatively confident about the risks they are undertaking.

COMMERCIAL PACE (NOT AVAILABLE IN PENNSYLVANIA)

3 C'S	RATING	ANALYSIS
Capital	Poor	Not available or allowed in PA. HB&C does not view PACE as a robust alternative to TEMLs (which have similar terms but significantly lower interest rates). Therefore, HB&C does not view PACE as a strong option in the MUSH market.
Confidence	Excellent	Property assessment creates high level of investor confidence. Borrower confidence is high because of government explicit endorsement. There may be a lack of confidence for contractors because they are unfamiliar with the product.
Convenience	Poor	PACE requires lengthy underwriting/project vetting process.

PRODUCT SUMMARY

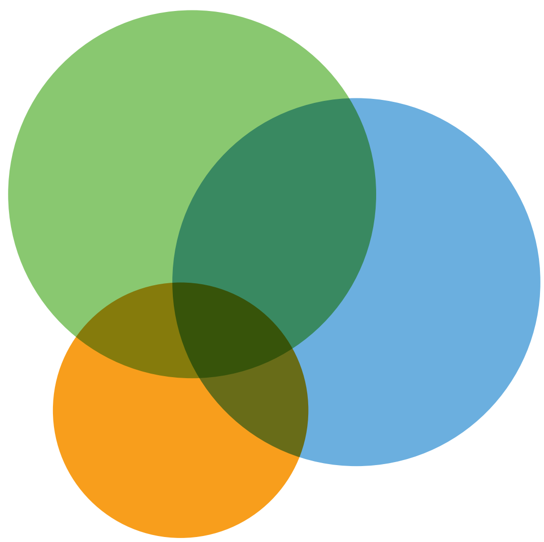
SECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Excellent	Rates are the lowest of any available instrument and terms are the longest. Product is commonly available from many banks.
Confidence	Excellent	Lenders are comfortable with secured loans. Borrowers are comfortable as they are trusted financial institutions. It is difficult to build additional confidence through potential partnerships because partners such as contractors, utilities and government programs have no visibility can't participate.
Convenience	Average	Secured loans are not convenient for contractors because 1) they have no control of the process and can not tailor the offer and 2) loans take a long time to close. The product is not convenient for borrowers because 1) loans take a long time to close 2) loans require significant documentation and 3) the cost to close is significant.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



TAX EXEMPT MUNICIPAL LEASE

3 C'S	RATING	ANALYSIS
Capital	Excellent	Plenty of capital available from well-established banks and other sources. Rates very low with long 15-20 year terms available. Can be difficult to apply these TEML to performance contracting for smaller projects. The availability of the PennSEF program may reduce the cost of capital due to the PennSEF structure. PennSEF has had limited uptake as a result of challenges such as synchronizing multiple projects for the same bond issuance. NOTE - QECBs represent a significant opportunity to achieve lower rates.
Confidence	Excellent	General confidence among those used to working with TEML financing, generally well understood and secure instrument. PennSEF may further increase confidence in TEML financing structures.
Convenience	Average	Timing can be slow for access to TEML due to legal and other reviews and approvals required; involved process may discourage small facilities from participating. Interviews with PennSEF identified the need to coordinate multiple projects for a single issuance. NOTE: QECB potential is limited due to multiple small allocations spread to local governments around the state and consequential low priority that many local governments place on these small QECB allocations.

PRODUCT SUMMARY

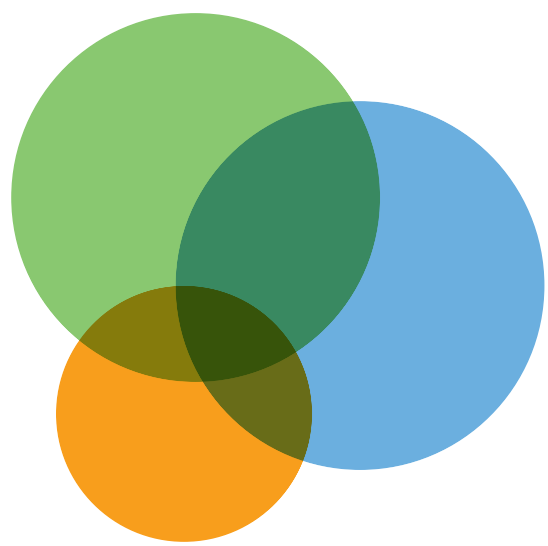
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



ENERGY SERVICE AGREEMENTS (NON-PROFIT ONLY)

3 C'S	RATING	ANALYSIS
Capital	Average	There is not a substantial amount of capital available given investors perception as service agreements being a riskier product. Cost of capital tends to be higher because of inherent risk of instrument (repayment depends on performance of project). Frequently term can be manged to provide for positive cash flow. From customer perspective off balance sheet treatment is often attractive. Transaction costs tend to be higher than typical lease/ESA financing. Available through outside capital sources (non-PA entities) and TRF.
Confidence	Average	Investors lack confidence because payment is based on project performance. Customers may not have confidence that they will achieve off balance sheet treatment. If the product offers a guarantee option, this increases customer confidence. Contractor confidence varies depending on contractor comfort with a new product. Guaranteed savings can boost confidence, particularly when insurance policy is included. Confidence can be difficult because risk involves two layers: repayment risk and project performance risk.
Convenience	Average	Once a contractor completes an initial enrollment with an ESA provider, the process is simple and fast. Contractors may be able to tailor the offer. The process for the customer is simple and fast as well. Few capital providers offer this project because ESAs require complex legal documentation.

PRODUCT SUMMARY

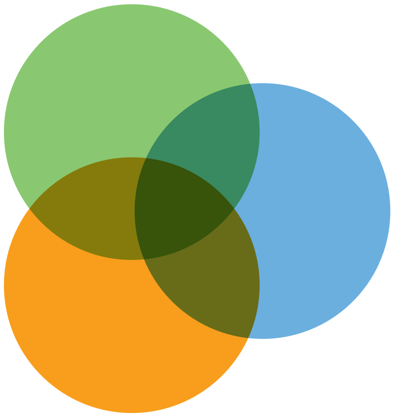
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



3 C's Summary

Capital

- Capital is plentiful for these sectors.
- Rate and terms for the available products are attractive.

Confidence

- Customers and contractors are very confident when it comes to using TEML and bond financing products.
- Customers and contractors are also confident using the Sustainable Energy Funds loan products across the state.
- For the non-profit sector: contractors are confident in the ESA offered in PA, but customers may still lack confidence in this type of product.

Convenience

- Tax-exempt municipal leasing convenience is low for customers and contractors.
- Secured Loans convenience is low for customers and contractors.
- ESA convenience is more attractive to contractors and customers in the non-profit sector.
- Timing can be slow for access to TEML due to legal and other reviews and approvals required; involved process may discourage small facilities from participating. Interviews with PennSEF identified the need to coordinate multiple projects for a single issuance.
- QECB potential is limited due to multiple small allocations spread to local governments around the state and consequential low priority that many local governments place on these small QECB allocations.

Overall, HB&C identifies the following gaps for these sectors:

- *Product gap*—Despite heightened interest in ESAs, the locally-supported ESA for non-profits is geographically limited through only one of the SEFs. In addition, TEML providers are typically able to finance projects with capital needs exceeding at least several hundred thousand dollars; smaller projects that cannot be served by the SEF products have few alternatives in this sector.
- *Delivery gap*—HB&C believes this to be the biggest gap for these sectors. There is sufficient capital available across the available products, but organizations in this sector have a difficult time connecting with that capital to enable energy efficiency upgrades.

Single-Family Residential

Table 5a. Locally Available Single Family Market Energy Efficiency Financing Products (1–4 units)

Product/ Product Provider Name	Home Equity Line of Credit	Home Equity Loan	Keystone HELP Loan Program	PHFA HEELP Loan Program
Product Type	Revolving Credit	Secured Loan	Unsecured Loan	Secured Loan
Eligible Borrowers	Homeowners with sufficient equity	Homeowners with sufficient equity	PA Homeowners with acceptable credit	Homeowners (and families) with income limits at 80% Area Median Income (AMI). The Agency may make exceptions to these limits. These limits may be increased up to 150% Area Median Income (AMI) based upon individual circumstances.

Table 5b. Nationally Available Single Family Market Energy Efficiency Financing Products (1–4 units)

Product/ Product Provider Name	Credit Cards	Home Equity Line of Credit	Home Equity Loan	National Home Improvement Loan Product(s)
Product Type	Revolving Credit	Revolving Credit	Secured Loan	Unsecured Loan
Eligible Borrowers	Most will qualify	Homeowners with sufficient equity	Homeowners with sufficient equity	Homeowners

Introduction

Single-family residences traditionally are defined as one to four-unit buildings. Thus, the owner of a property comprising anywhere from one to four individual units can benefit from energy efficiency financing products described in this section. Owners of a single unit within a multi-family building, such as a condominium, who wish to borrow capital for an energy efficiency improvement, also may qualify for many of the products included here.

By far the largest sources of financing for energy efficiency upgrades in single-family housing are credit cards, bank loans and lines of credit, primarily due to the convenience factor associated with their use (credit cards), and familiarity with the products (bank loans and lines of credit).

The Keystone HELP program is one of the most successful energy efficiency focused unsecured loan programs in the U.S. However, this program is going through a retooling period. This retooling may affect price, terms and availability of capital. Interviewees report that interest rates may increase significantly for lower credit borrowers. To complement this program, the HEELP program serves lower income and possibly credit challenged populations.

REVOLVING CREDIT

3 C'S	RATING	ANALYSIS
Capital	Average	Many banks and finance companies offer this traditional product; likely most popular source of capital; credit checks mean not all borrowers qualify. Cards typically have a high interest rate of above 20%.
Confidence	Average	Partners such as utilities and government programs have no visibility/can't participate in revolving credit product offerings. Manufacturers and distributors can often participate with rate buydowns etc.
Convenience	Excellent	Typically very convenient with approvals within seconds of application and short and easy application processes. Underwriting is automated, fast and inexpensive. Contractor may not have the option to tailor this offer.

PRODUCT SUMMARY

SECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Average	Significant amounts of capital available with special features for energy efficiency. However, few lenders offer these energy efficient mortgages (EEM). This type of first mortgage has excellent rates and terms.
Confidence	Poor	First mortgage product credit underwriting and security are very well understood. Energy efficient mortgages are much less understood and used.
Convenience	Poor	Mortgage lenders, real estate agents and customers can be averse to using an EEM because they slow down the process and can interfere with the sale.

PRODUCT SUMMARY

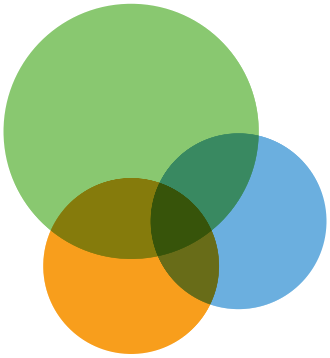
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



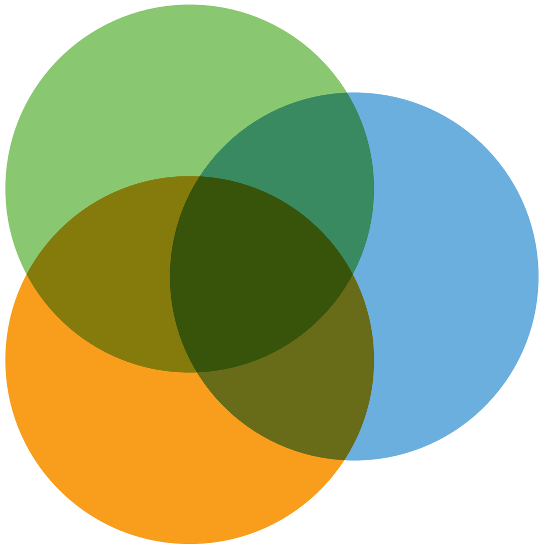
UNSECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Excellent	PA has one of the most well established energy efficiency focused unsecured loan programs in the U.S., however this program is going through a retooling period. This retooling may affect price, terms and availability of capital. Interviewees report that interest rates may increase significantly for lower credits. In addition, funding is available for lower income consumer through the HEELP program offered through PHFA.
Confidence	Excellent	Endorsement of the Keystone HELP Programcreated significant confidence for borrowers and contractors. However, forthcoming changes may represent a threat to the longstanding confidence this program has enjoyed.
Convenience	Excellent	Keystone HELP program has offered near instant approvals with an easy and well-designed contractor interface.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



3 C's Summary

Capital

- No lack of capital for this market sector.
- Rates and terms vary across the products.

Confidence

- Contractor and customer confidence levels varies across the available products, but the confidence level related to the Keystone HELP product is high.

Convenience

- Convenience is high for all products except for the energy efficient mortgage.

Overall, HB&C identifies the following gaps for this sector:

- *Delivery gap*—Given the information about the future Keystone HELP program, HB&C believes better communication between that program and the PHFA HEELP program would help satisfy this market given the fact that the HEELP program can offer a complementary product that reaches the credit challenged populations.

Multi-Family (Market Rate)

Table 6a. Locally Available Multi-Family (Market Rate) Energy Efficiency Financing Products

Product/ Product Provider	**The Pennsylvania Green Energy Loan Fund (GELF)**
Product Type	Secured Loan
Eligible Borrowers	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*

Table 6b. Nationally Available Multi-Family (Market Rate) Energy Efficiency Financing Products

Product/ Product Provider Name	**Fannie Mae multi-family green initiative**	**Capital Lease/ Equipment Finance Agreement**	**Energy Service Agreements**
Product Type	Secured Loan	Capital lease/Equipment finance agreement	Energy Service Agreement
Eligible Borrowers	Multi-family properties complying with Fannie Mae selling guidelines	Commercial, MF, Non-profits	Large and small commercial, MF Affordable and Market-Rate properties

Introduction

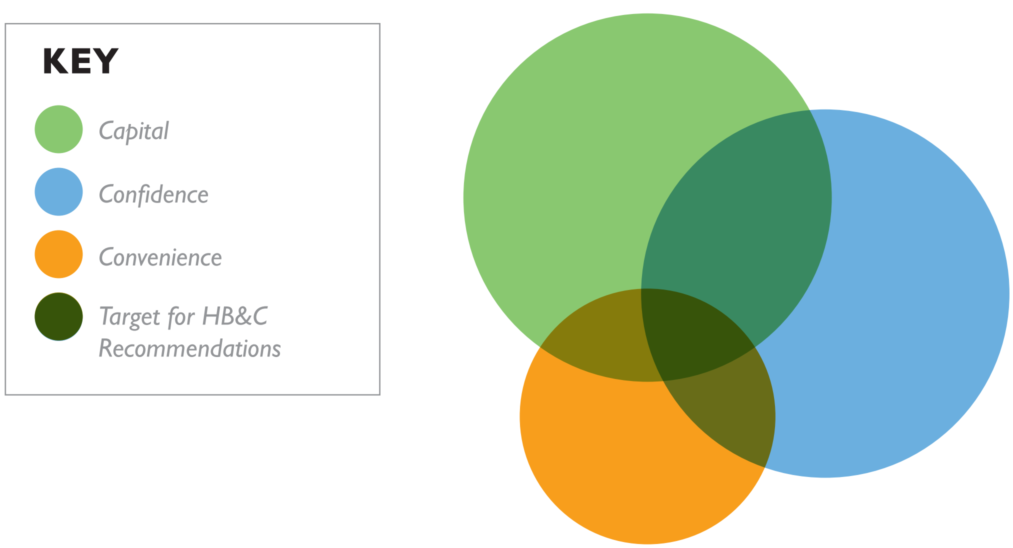
Market rate multi-family housing developers and owners do not receive federal Housing and Urban Development (HUD) or related subsidies available to affordable housing, nor do they need to abide by HUD rules for rent calculations. A borrower in the multi-family market rate sector would be the owner(s) of a multi-family rental property (not the tenants).

Market rate multi-family housing borrowers face financing issues related to mortgage holder consent issues. These issues can create difficulties in leveraging some types of financing products. While there are several products available, the only viable product is a secured mortgage product used during the time of refinance.

SECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Excellent	Fannie Mae and Freddie Mac offer mortgages at attractive rates and great terms with green features.
Confidence	Excellent	Fannie Mae and Freddie Mac are lynchpins in the federal housing finance structure and provides an excellent level of confidence to the industry.
Convenience	Average	Multi-family properties are refinanced infrequently and it is a complex and time consuming process. Unless the energy project timing coincides with a planned refinancing, this product will not be used.

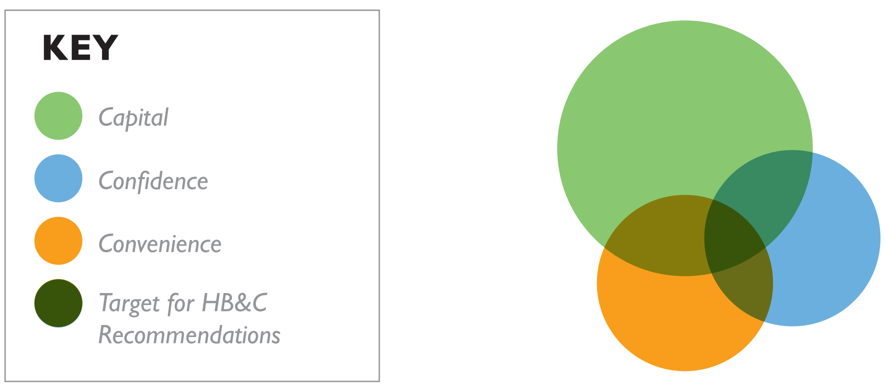
PRODUCT SUMMARY



CAPITAL LEASES/EQUIPMENT FINANCE AGREEMENT

3 C's	RATING	ANALYSIS
Capital	Average	Many lease companies exist with capital ready to deploy into leases; lower rates for larger projects. Lenders willing to work with this sector may be limited due to complexity of deal. However, a market rate multi-family property often have senior mortgage agremements that have been securitized by Fannie Mae or Freddie Mac. These securitized mortgage agreements will typically make it difficult or impossible to layer in additional subordinated financing, thus making the capital lease a less viable option.
Confidence	Poor	Not applicable, given consent issues above.
Convenience	Poor	Consent requirements from Fannie Mae and Freddie Mac significantly reduce the convenience of capital leases in this sector.

PRODUCT SUMMARY



COMMERCIAL PACE (NOT AVAILABLE IN PENNSYLVANIA)

3 C'S	RATING	ANALYSIS
Capital	Average	While Commercial PACE investors may be willing to provide capital to market rate multi-famly properties, any Commercial PACE financing will need to secure the consent of any mortgage holders. HB&C views this consent process to be highly problematic.
Confidence	Poor	Not applicable, given consent issues above.
Convenience	Poor	The consent process that will be required will significantly reduce the convenience of commercial PACE in this sector.

PRODUCT SUMMARY

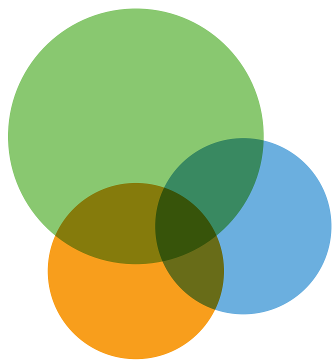
KEY

Capital

Confidence

Convenience

Target for HB&C Recommendations



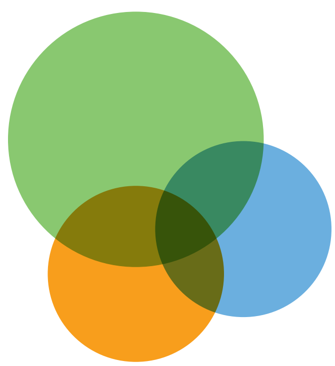
ENERGY SERVICE AGREEMENTS

3 C's	RATING	ANALYSIS
Capital	Average	Capital exists to fund market rate properties through energy service agreements. However,energy service agreements require that a third party an (energy service provider or its agent) own the equipment installed in the property. This third party ownership structure is likely to be challenging for any existing lien holders. As a result energy service agreements are not likely to be a viable finance option for this sector.
Confidence	Poor	There are significant barriers due to equipment ownership structures and esiting mortgage holder consent issues noted above.
Convenience	Poor	There are significant barriers due to equipment ownership structures and esiting mortgage holder consent issues noted above.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



3 C's Summary

Capital

- No lack of capital for this market sector.
- Rate and terms are attractive for this market.

Confidence

- Confidence is high for customers and contractors.

Convenience

- Convenience is low for this sector because refinance events only happen every so often and the process is complex and time consuming.

Overall, HB&C identifies the following gaps for this sector:

- *Product gap*—No robust product exists to serve the multi-family market rate sector that can serve properties that are between the time of initial capitalization and refinance.

Multi-Family Affordable (Low Income Housing Tax Credit and Section 8 HUD Insured Properties)

Table 7a. Locally Available Multi-Family (Affordable) Energy Efficiency Financing Products

Product/ Product Provider	The Pennsylvania Green Energy Loan Fund (GELF)
Product Type	Secured Loan
Eligible Borrowers	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*

Table 7b. Nationally Available Multi-Family (Affordable) Energy Efficiency Financing Products

Product/ Product Provider Name	Fannie Mae multi-family green initiative	Capital Lease/ Equipment Finance Agreement	Energy Service Agreements
Product Type	Secured Loan	Capital lease/Equipment finance agreement	Energy Service Agreement
Eligible Borrowers	Multi-family properties complying with Fannie Mae selling guidelines	Commercial, MF, Non-profits	Large and small commercial, MF Affordable and Market-Rate properties

Introduction

Affordable multifamily properties benefit from various subsidies that impact ownership, allowable debt and operations. The subsidies come with rules that limit acquisition of new debt without approval from HUD (mortgage insurance), mortgage lenders and equity owners (including limited partners). In addition, these properties have complex capital structures, typically with multiple mortgages making them difficult to underwrite, and their free cash flow is limited or non-existent. Therefore, while first or second mortgage based financing and refinancing is common for their properties, supplemental financing for energy efficiency is not.

MULTI-FAMILY "AFFORDABLE" (LOW INCOME HOUSING TAX CREDIT AND SECTION 8 HUD INSURED PROPERTIES) SECTOR

Product 1 of 4

COMMERCIAL PACE (NOT AVAILABLE IN PENNSYLVANIA)

3 C'S	RATING	ANALYSIS
Capital	Poor	HB&C notes that particularly in the affordable sector, securing senior lien holder consent will be challenging. Therefore, HB&C does not see significant potential for commercial PACE to serve much of the affordable market. (Commercial PACE programs generally seek to have senior lien holders consent to be subordinated to the new PACE financing placed on the property).
Confidence	Excellent	Property assessment creates high level of investor confidence. Borrower confidence is high because of government explicit endorsement. There may be a lack of confidence for contractors because they are unfamiliar with the product.
Convenience	Poor	PACE requires lengthy underwriting/project vetting process.

PRODUCT SUMMARY

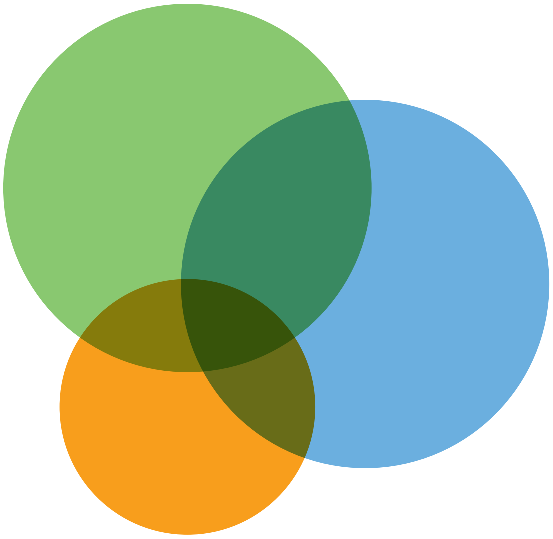
SECURED LOANS

3 C'S	RATING	ANALYSIS
Capital	Excellent	Capital is plentiful to serve the multi-family sector with strong involvement from Freddie Mac, Fannie Mae and HUD. Fannie Mae and HUD make significant allowance for their first and second mortgages products for energy efficiency features. HB&C does view capital availability or cost as a barrier in the multi-family sector for new construction, major rehabilitation or at the time of refinancing. Because of the need to secure senior lender consent it is almost impossible to secure first or second lien mortgages for energy efficiency outside of these major capitalization events.
Confidence	Excellent	Lenders are very comfortable with the process and funding for these products—because of HUD, Fannie Mae and Freddie Mac engagement. Borrowers and contractors also feel comfortable with these products.
Convenience	Average	These mortgage products are well-suited to energy efficiency projects being incorporated into larger rehabilitation projects. These products are innapropriate to fund energy efficiency projects that occur outside of major rehabiliatation purchase or capitalization events.

PRODUCT SUMMARY

KEY

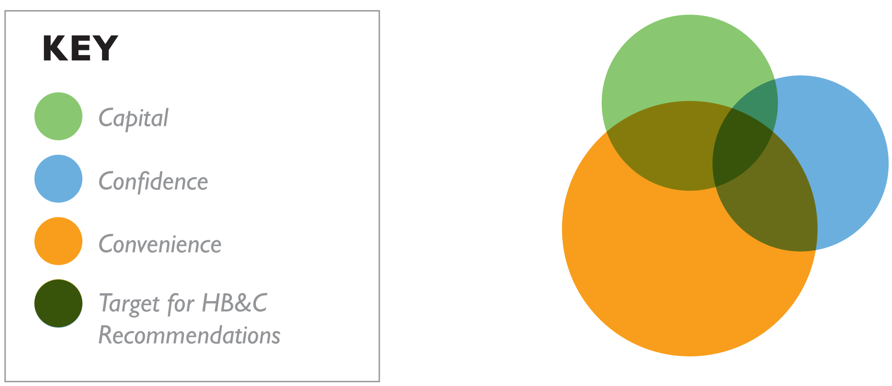
- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



CAPITAL LEASE/EQUIPMENT FINANCE AGREEMENT

3 C'S	RATING	ANALYSIS
Capital	Poor	There is abundant capital for these products however, HUD, Fannie Mae and Freddie Mac are *currently* not comfortable with any type of subordinate lien associated with these products. If this product were acceptable, the rates and terms would vary depending on credit and project size.
Confidence	Poor	Lease companies may have less confidence in this market, smaller projects, complex ownership, etc. Property owners may also be uncomfortable with financing. Existing mortgage holders may be uncomfortable with additional suboordinated debt. Partners such as utilities and government programs can participate in lease/EFA finance offerings.
Convenience	Average	This is a very convenient product that can fund 100% of the project. The documentation approval process is typically fast and simple.

PRODUCT SUMMARY



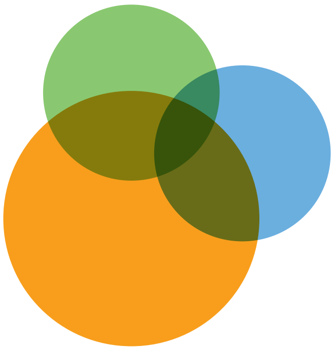
ENERGY SERVICE AGREEMENTS

3 C'S	RATING	ANALYSIS
Capital	Poor	Capital is available in PA and outside the state for ESAs that may work for multi-family properties. Typically cost of capital for ESAs exceed traditional loan and leases due to project performance risk. A major issue for ESAs is that in order to achieve off-balance sheet accounting treatment for the property owner, the lenders agent must own equipment that is installed in the property. HUD, Fannie Mae and Freddie Mac are likely going to be highly uncomforatble with a third party owning equipment installed in the building, especially in cases of property owner bankruptcy.
Confidence	Poor	Many ESAs require a guaranteed energy savings agreement that increases property owner confidence that the project will meet energy savings expectations. Many ESA providers are relatively unknown which may decrease contractor confidence. Partners such as utilities and government programs can participate in ESA offerings.
Convenience	Average	Once a contractor completes an initial enrollment with an ESA provider, the process is simple and fast. Many multi-family contractors tend to be smaller organizations and may have difficulty complying with ESA provider requirements. Contractors may be able to tailor the offer. The process for the customer is simple and fast as well. Few capital providers offer this project because ESAs require complex legal documentation.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



3 C's Summary

Capital

- No lack of capital for this market sector.
- Rate and terms are attractive for this market.

Confidence

- Confidence is high for customers and contractors.

Convenience

- Convenience is low for this sector because use of the only viable product is only appropriate when major rehabilitation, purchase or capitalization events occur.

Overall, HB&C identifies that the gap in this sector is related to securing supplemental, energy efficiency-focused financing for properties that currently have mortgages outstanding (and particularly mortgages with a HUD guarantee), or tax equity investors with funds at risk. The gap is not related to a lack of capital that would be available if it were possible for supplemental financing sources to layer themselves in to the capital stack. Nor is the gap primarily related to a lack of confidence in or convenience of the capital sources and products that might be available to fund these supplemental financings for energy efficiency, or the convenience of the process. Instead, the sector is challenging because of the complexity of securing the consent of the various mortgage holders, mortgage guarantors and tax equity investors—all of whom may be engaged in a single project. This barrier is more structural, in the industry as a whole, than related to the specific products offered in the market.

Multi-Family Affordable (Public Housing)

Table 8a. Locally Available Multi-Family (Public Housing) Energy Efficiency Financing Products

Product/ Product Provider	**The Pennsylvania Green Energy Loan Fund (GELF)**
Product Type	Secured Loan
Eligible Borrowers	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*

Table 8. Nationally Available Multi-Family (Public Housing) Energy Efficiency Financing Products

Product/ Product Provider Name	**Tax Exempt Municipal Lease Financing**
Product Type	Tax Exempt Municipal Lease
Eligible Borrowers	Public housing property owners

Introduction

Public housing properties are eligible for tax-exempt municipal lease (TEML) financing and this product is widely available and used for funding energy projects. Municipal governments are familiar with this form of financing and consider it an effective source of funds.

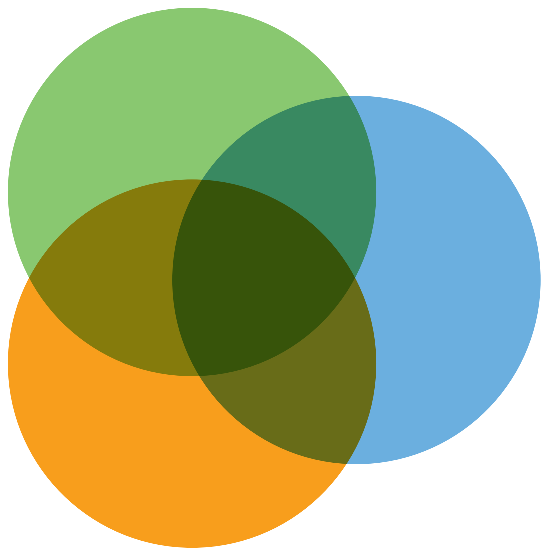
TAX EXEMPT MUNICIPAL LEASE FINANCING

3 C'S	RATING	ANALYSIS
Capital	Excellent	Public housing properties are eligible for tax exempt financing and this product is widely available and used for funding energy projects. TEML financing can provide low rates (150 bps above comparable treasuries) and long terms (in excess of ten years).
Confidence	Excellent	Municipal goverments are familiar with this form of financing and consider it an effective source of funds.
Convenience	Excellent	The TEML industry has made the origination process very efficient. Municipal procurement typically recognizes this instrument and municipal lawyers are familiar with the documentation.

PRODUCT SUMMARY

KEY

- *Capital*
- *Confidence*
- *Convenience*
- *Target for HB&C Recommendations*



MULTI-FAMILY "AFFORDABLE" (PUBLIC HOUSING) SECTOR

3 C's Summary

Capital

- No lack of capital for this market sector.
- Rate and terms are attractive for this market.

Confidence

- Confidence is high for customers and contractors.

Convenience

- Convenience is high for customers and contractors.

There are no identifiable gaps for this sector.

CONCLUSIONS

SUMMARY

The gaps identified from this analysis fell into four main categories: capital gap, product gaps, design gaps, delivery gaps and process gaps. Product gaps represent products that either do not exist in Pennsylvania or exist in such a limited scope that their impact is negligible. Design gaps represent product features such as rate, term or processes that hinder the uptake of the product but can be modified or enhanced to help create more demand for the product. Delivery gaps represent communication issues that keep the products from reaching the contractors and ultimately the customers. Process gaps represent the various steps it takes for an energy efficiency project to actually get completed.

Identified Delivery Gap:

A wide variety of products are available with capital to deploy. Projects are seeking capital. Yet, the delivery of this capital is restricted.

This delivery gap could benefit from facilitated discussions amongst key stakeholders in particular sectors to help bridge the divide between financial products and energy efficiency projects.

The local loan options are acceptable products; however, finance companies from outside the state that specialize in energy efficiency capital leasing appear not to have made significant inroads into the PA market. The capital lease products, unsecured and funding 100% of project costs are available, but have not been used extensively in Pennsylvania for energy efficiency.

Identified Capital Gap: *QECBs*

Overall, capital is abundant and attractively priced for energy efficiency projects, and the overall capital gap is small. Nonetheless, one gap is related to a large but dispersed allocation of Qualified Energy Conservation Bonds (QECBs) spread throughout local governments in the state. These "locked in" QECB allocations could be used to fund efficiency projects at far below-market interest rates, often less than 1%. Total allocations available exceed $80 million. An important note about QECBs: the federal allocation of QECBs has no expiration date, which may partly be responsible for the fact that QECBs have not received a high priority in many states. With a new administration at the federal level, it is conceivable that the federal government could seek to claw back unused QECB allocations and it appears worthwhile to find ways to use those allocations sooner, rather than run the risk that they are clawed back.

Qualified Energy Conservation Bonds (QECBs) offer additional options to fund energy efficiency or renewable energy in the private sector that were not easily or clearly available a number of years ago. These are worth consideration—especially if the State can find ways to facilitate the use of the more than $80 million allocation available in jurisdictions around Pennsylvania.

These two options are:

a. Private Activity uses: Up to 30% of the total allocation can be used for private use activities—meaning that the proceeds of the bond benefit a private entity rather than a government entity.

b. Green Community Program: If the QECB issuance is tied to a stated government policy related to the purpose of QECBs, then QECBs may be used to support private sector activities. Unlike the Private Activity use, this use of QECBs is not restricted to a 30% of total allocation. This Green Community Program is somewhat unique to the QECB, and was unclear when QECBs first were authorized. With clarification from the US Treasury, it is now clear that Green Community Program QECBs are viable, and could provide a significant new source of funding for energy efficiency or renewable energy projects in Pennsylvania.

Identified Product Gap: *Commercial PACE*

Every financial product that supports energy efficiency is available in PA (loans, capital leases, tax-exempt leases and service agreements) except Commercial PACE. (Note that while some states have used residential PACE, the strong performance history of the Keystone HELP unsecured loan likely makes residential PACE unnecessary in the state.)

The current barriers to the implementation of this product revolve around the issues of 1) development and enacting legislation to enable commercial PACE and 2) developing an infrastructure for the product.

Identified Product Gap: *Capital Leases*

The local loan options are acceptable products; however, finance companies from outside the state that specialize in energy efficiency capital leasing appear not to have made significant inroads into the PA market. The capital lease products, unsecured and funding 100% of project costs are available, but have not been used extensively in Pennsylvania for energy efficiency.

Identified Product Design Gaps:

The products available from lenders outside and inside the state appear to be well designed with rates as low as 1.5% and terms out to 10 years. HB&C did not identify major product design gaps related to rate and term in the state. However, if a credit enhancement were available, the rates and terms could be better than they already are and therefore increase uptake.

SPECIFIC RECOMMENDATIONS

Some specific actions HB&C identified that could remedy gaps across all products and sectors include the following:

Note that the purpose of this report has been to identify gaps—the high level recommendations below are not deeply or thoroughly described, as a result.

- Convene key stakeholder (contractors, lenders etc.) meetings facilitated by an expert in the energy efficiency finance for each sector. These meeting can help connect the most appropriate financing products to customers to enable energy efficiency upgrades to happen.
- In the commercial sector, consider engaging a finance facilitator who can serve to translate, coordinate, and provide a communication bridge between contractors and finance providers.
- Consider other mechanisms such as specific finance product or market facilitation to connect the large amount of capital available, yet un-deployed, from investors with energy efficiency projects.
- Provide product enhancements for the small commercial and small agriculture sectors, such as buy-downs, loss reserves and other credit enhancements to make financing products more marketable and accessible. Product enhancements could improve use of/participation in energy efficiency products by making them more marketable and attractive to borrowers, improving access to them, and improving cash flows associated with their use by improved rates and terms.
- Work with a consultant to unlock the remaining QECB allocations to increase the amount of capital available for energy efficiency projects
- Support the development of a Commercial PACE program

APPENDIX

PRODUCT TABLES

This section of the document contains tables for each sector. Each table identifies the individual financing products serving it, along with the key features of each product.

Table 9. Small Commercial Energy Efficiency Financing Products Available in Pennsylvania

Product Name or Type of Financing	**Conventional Business Line of Credit**	**National and Local Conventional Business Loan**	**Capital Lease/ Equipment Finance Agreement**	**Sustainable Energy Fund Supported Energy Loans**	**Locally Supported Energy Loan—PPAA Energy Loan**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**	**Energy Service Agreement**
Product Type	Revolving Credit	Secured Loan	Capital Lease/ Equipment Finance Agreement	Secured Loan	Secured Loan	Secured Loan	Energy Service Agreement
Eligible Measures	Unrestricted to EE and RE	EE and RE	Energy Efficiency Equipment	EE and RE	EE and RE	EE and RE and CHP	EE and RE
Rate Range	Prime + and up to 3%	Prime +	4%–12%	1.5%–10%	2%	4%–5%	N/A
Term Range (years)	Minimum payments required	3–5 years	3–7 years	Up to 7 years	Up to 10 years	Up to 15 years	3–7 years
% of Project Finance-able	Up to 100%	Up to 100% *May require equivalent of 20% down payment*	100%	100%	75%	100%	100%
Eligible Borrowers	Credit-worthy businesses	Credit-worthy businesses	Commerical, MF and non-profits	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	Small Business	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*	Based on credit worthiness and project savings potential

Table 9 (continued)

Security	Optional to pledge receivables	May required personal guarantee	Equipment being financed	Subordinate lien or personal guarantee	A lien on the asset financed will be required. The secuirty required for the loan will be based on a case-by-case review of the credit-worthiness of the project	Loans will be secured by the assets being financed or such other collateral as may be required by Reinvestment Fund, including corporate and personal guarantees.	UCC-1
Min–Max Loan Amounts	No defined min or max	No defined min or max	$10,000+	From $5,000 to $2 million	Max $100,000	$100,000–$2,500,000 or more	$500,000+
Capital Source	Bank	Bank, Credit union, Financial institution	Multiple Lenders	Initially funded from a settlement approved by tje Pennsylvania Public Utilities Commission during the Commonwealth electric deregulation proceedings. At this time, a SEF may have other sources of funding such as: *PRI activities, repayments, interest, investments in the market*	PA DEP	PA DEP	Third-party investors
Notes	Most financial institutions will offer this	Most financial institutions will offer this	Ascentium, Keybank, Sparkfund, US Bank	Info Links: SEF.org wppsef.org Penelec SEF Reinvestment	Info Link: PA DEP	Projects must result in a 25% reduction in energy consumption	None

Table 10. Large Commercial and Industrial Energy Efficiency Financing Products Available In Pennsylvania

Product Name or Type of Financing	**Conventional Business Line of Credit**	**National and Local Conventional Business Loan**	**Capital Lease/ Equipment Finance Agreement**	**Sustainable Energy Fund Supported Energy Loans**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**	**Energy Service Agreement**
Product Type	Revolving Credit	Secured Loan	Capital Lease/ Equipment Finance Agreement	Secured Loan	Secured Loan	Energy Service Agreement
Eligible Measures	Unrestricted to EE and RE	Unrestricted to EE and RE	Energy Efficiency Equipment	EE and RE	EE and RE and CHP	EE and RE
Rate Range	Prime + and up to 3%	Prime +	4%–12%	1.5%–10%	4%–5%	N/A
Term Range (years)	Minimum payments required	3–5 years	3–7 years	Up to 7 years	Up to 15 years	3–7 years
Eligible Borrowers	Credit-worthy businesses	Credit-worthy businesses	Commerical, MF and non-profits	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*	Large and small commercial, MF Affordable and Market-Rate properties
Security	Optional to pledge receivables	May required personal guarantee	Equipment being financed	Subordinate lien or personal guarantee	Loans will be secured by the assets being financed or such other collateral as may be required by Reinvestment Fund, including corporate and personal guarantees.	UCC-1
% of Project Finance-able	Up to 100%	Up to 100% *May require equivalent of 20% down payment*	100%	100%	100%	100%
Min–Max Loan Amounts	No defined min or max	No defined min or max	$10,000+	From $5,000 to $2 million	$100,000–$2,500,000 or more	$500,000+

Table 10 (continued)

Capital Source	Bank	Bank, Credit union, Financial institution	Multiple Lenders	Initially funded from a settlement approved by tje Pennsylvania Public Utilities Commission during the Commonwealth electric deregulation proceedings. At this time, a SEF may have other sources of funding such as: *PRI activities, repayments, interest, investments in the market*	PA DEP	Third-party investors
Notes	Offered but not typically used in these sectors	Most financial institutions will offer this	Ascentium, Keybank, Sparkfund, US Bank	Info Links: SEF.org wppsef.org Penelec SEF Reinvestment	Projects must result in a 25% reduction in energy consumption	None

Table 11. MUSH Market Energy Efficiency Financing Products Available in Pennsylvania (Municipal)

Product Name or Type of Financing	**National Providers—Tax Exempt Municipal Lease**	**Locally Supported Energy Loan—Sustainable Energy Fund Supported Energy Loans**	**Locally Supported Energy Service Agreement—(Sustainable Energy Fund (SEF))**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**
Product Type	Tax Exempt Municipal Lease	Secured Loan	Energy Service Agreement	Secured Loan
Eligible Measures	Energy Efficiency and Renewable Energy Improvements	EE and RE	EE	EE and RE and CHP
Rate Range	2.5%–4.5%	1.5%–10%	N/A	4%–5%
Term Range	5–15 years	Up to 7 years	The longest term done to date is 16 years	Up to 15 years
Eligible Borrowers	MUSH	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural	Non-profit entities with the exception of governmental entities, such as municipalities. Typical can be fire companies, private schools, nursing homes, etc...	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*
Security	UCC-1 Filing in some cases	Subordinate lien or personal guarantee	SEF maintains ownership of the equipment	Loans will be secured by the assets being financed or such other collateral as may be required by Reinvestment Fund, including corporate and personal guarantees.
% of Project Finance-able	100%	100%	100%	100%
Min–Max Loan Amounts	$10,000+	From $5,000 to $2 million	Smallest has been approximately $40,000, largest just under $1,000,000	$100,000–$2,500,000 or more
Capital Source	None	PRI activities, repayments, interest, investments in the market.	Initially funded from a settlement approved by the Pennsylvania Public Utility Commission during the Commonwealth's electric deregulation proceedings. At this time, a SEF may have other sources of funding.	PA DEP
Notes	www.aglf.org	Info Links: SEF.org wppsef.org Penelec SEF Reinvestment	None	Projects must result in a 25% reduction in energy consumption

Table 12. MUSH Market Energy Efficiency Financing Products Available in Pennsylvania (State)

Product Name or Type of Financing	National Providers—Tax Exempt Municipal Lease	Sustainable Energy Fund Supported Energy Loans
Product Type	Tax Exempt Municipal Lease	Secured Loan
Eligible Measures	Energy Efficiency and Renewable Energy Improvements	EE and RE
Rate Range	2.5%–4.5%	1.5%–10%
Term Range	5–15 years	Up to 7 years
Eligible Borrowers	MUSH	Commercial, Industrial, Local Government, Non-profit, Schools, State Government, Agricultural
Security	UCC-1 Filing in some cases	Subordinate lien or personal guarantee
% of Project Finance-able	100%	100%
Min–Max Loans	$10,000+	From $5,000 to $2 million
Capital Source	None	Initially funded from a settlement approved by the Pennsylvania Public Utilities Commission during the Commonwealth's electric deregulation proceedings. At this time, a SEF may have other sources of funding such as: *PRI activities, repayments, interest, investments in the market*
Notes	www.aglf.org	Info Links: SEF.org wppsef.org Penelec SEF Reinvestment

Table 13. MUSH Market Energy Efficiency Financing Products Available in Pennsylvania (Non-profit)

Product Name or Type of Financing	**National Providers—Tax Exempt Municipal Lease**	**Locally Supported Energy Service Agreement—(Sustainable Energy Fund (SEF))**	**Locally Supported Energy Loans**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**
Product Type	Tax Exempt Municipal Lease	Energy Service Agreement	Secured Loan	Secured Loan
Eligible Measures	Energy Efficiency and Renewable Energy Improvements	EE	EE and RE	EE, RE, and CHP
Rate Range	2.5%–4.5%	N/A	1.5%–10%	4–5%
Term Range (years)	5–15 years	The longest term done to date is 16 years	Up to 7 years	Up to 15 years
Eligible Borrowers	MUSH	Non-profit entities with the exception of governmental entities such as municipalities. Typical can be fire companies, private schools, nursing homes...	Commercial, industrial, Local government, non-profit, schools, state government, agricultural	Commercial properties, non-profit facilities, local government buildings, multi-family residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*
Security	UCC-1 filing in some cases	SEF maintains ownership of the equipment	Subordinate lien or personal guarantee	Loans will be secured by the assets being financed or such other collateral as may be required by Reinvestment Fund, including corporate and personal guarantees.
% of Project Finance-able	100%	100%	100%	100%
Min–Max Loan Amounts	$10,000 +	Smallest has been approximately $40,000. Largest has been just under $1,000,000	From $5,000 to $2 million	$100,000 to $2,500,000 or more
Capital Source	None	Initially funded from a settlement approved by the Pennsylvania Public Utilities Commission during the Commonwealth's electric deregulation proceedings. At this time, a SEF may have other sources of funding.	Initially funded from a settlement approved by the Pennsylvania Public Utilities Commission during the Commonwealth's electric deregulation proceedings. At this time, a SEF may have other sources of funding.	PA DEP
Notes	http://www.aglf.org	—	Info Links: SEF.org wppsef.org Penelec SEF Reinvestment	Projects must result in a 25% reduction in energy consumption.

Table 14. MUSH Market Energy Efficiency Financing Products Available in Pennsylvania (Public Schools)

Product Name or Type of Financing	**Locally Supported Tax-Exempt Bond—PennSEF**	**Locally Supported Energy Service Agreement—(Sustainable Energy Fund (SEF))**	**Locally Supported Energy Loans**	**National Providers—Tax Exempt Municipal Lease**
Product Type	Tax Exempt Bond	Energy Service Agreement	Secured Loan	Tax Exempt Municipal Lease
Eligible Measures	EE and RE	EE	EE and RE	Energy Efficiency and Renewable Energy improvements
Rate Range	0.57–3.92%, depending on credit rating	N/A	1.5%–10%	2.5%–4.5%
Term Range (years)	Up to 20 years	The longest term done to date is 16 years	Up to 7 years	5–15 years
Eligible Borrowers	MUSH	Non-profit entities with the exception of governmental entities such as municipalities. Typical can be fire companies, private schools, nursing homes...	Commercial, industrial, Local government, non-profit, schools, state government, agricultural	MUSH
Security	Equipment	SEF maintains ownership of the equipment	Subordinate lien or personal guarantee	UCC-1 filing in some cases
% of Project Finance-able	100%	100%	100%	100%
Min–Max Loan Amounts	$1.5 million +	Smallest has been approximately $40,000. Largest has been just under $1,000,000	From $5,000 to $2 million	$10,000 +
Capital Source	Bond purchasers	Initially funded from a settlement approved by the Pennsylvania Public Utilities Commission during the Commonwealth's electric deregulation proceedings. At this time, a SEF may have other sources of funding.	PRI activities, repayments, interest, investments in the market.	None
Notes	PennSEF	TheSEF.org	Info Links: TheSEF.org wppsef.org Penelec SEF Reinvestment	http://www.aglf.org

Table 15. Single-Family Energy Efficiency Financing Products Available in Pennsylvania

Product/ Product Provider Name	**Credit Cards**	**Home Equity Line of Credit**	**Home Equity Loan**	**National Home Improvement Loan Product(s)**	**Keystone HELP Loan Program**	**PHFA HEELP Loan Program**
Product Type	Revolving Credit	Revolving Credit	Closed End, Secured Loan	Unsecured Loan	Unsecured Loan Program	Secured Loan Program
Eligible Measures	None/not a "specialized" product	None/not a "specialized" product	None/not a "specialized" product	EE and PV	EE and 25% for "other" home improvements	Roof replacement; caulking, sealing & insulation; heating & cooling systems repair/replacement; window & door replacement; and limited other repairs that permit federal Weatherization assistance or replicate its assistance for non-eligible households
Rate Range	8%-27%	Prime+ 1%-4%	Prime -	Typically 6% +	4.99% fixed	1.00% fixed
Term Range (years)	N/A	None/minimum payments are required	Typically up to 20 years	Up to 15 years	5, 7, 10 years	10 years (although they can be repaid earlier without penalty)
Eligible Borrowers	Most will qualify	Homeowners with x% equity	Homeowners with x% equity	Homeowners	PA Homeowners with acceptable credit	Homeowners with family income at 80% AMI, unable to obtain affordable credit elsewhere
Security	Unsecured	2nd lien	3rd lien	UCC-1 or mechanics lien	Unsecured	1st lien
% of Project Finance-able	100%	100%	100%	100%	100%	100%
Min–Max Loan Amounts	No min or max. Varies.	Typically to 80% of equity on 1st home, 65% equity on 2nd home	Typically to 80% of equity on 1st home, 65% equity on 2nd home	Varies, $1,000 +	Up to $20,000	Up to $10,000
Minimum FICO	Typically 580	Varies	Varies	Varies, 600s typically	640+	No FICO, driven by income limits 80% AMI and family size

Table 15 (continued)

Capital Source/ Structure	Consumer credit cards	Banks, credit unions, mortgage banks	Banks, credit unions, mortgage banks	GreenSky, EnerBank, LendKey, RenewFinancial	Public/private partnership between Renew Financial, the Pennsylvania Treasury, and PENNVEST	Pennsylvania Housing Finance Authority
Notes	Highest scores for convenience, but capital becomes expensive when interest begins accruing	Fees will apply, time to close 2–3 weeks	Fees will apply, time to close 2–3 weeks	Multiple capital providers using multiple structures and capital sources make up this market.	RenewFinancial	PHFA.org

Table 16. Multi-Family (Market-Rate) Energy Efficiency Financing Products Available In Pennsylvania

Product/ Product Provider Name	**Fannie Mae multi-family green initiative**	**Capital Lease/Equipment Finance Agreement**	**Energy Service Agreements**
Product Type	Mortgage Refinance with "green features"	Capital lease/Equipment finance agreement	Energy Service Agreement
Eligible Measures	Cost-effective EE/RE and water improvement	Energy Efficiency Equipment	EE and RE
Rate Range	Market- and credit-based	4%-12%	N/A
Term Range (years)	Up to 30 years	3 to 7 years	3 to 7 years
Eligible Borrowers	Multi-family properties complying with Fannie Mae selling guidelines	Commercial, MF, Non-profits	Large and small commercial, MF Affordable and Market-Rate properties
Security	1st lien	Equipment being financed	UCC-1
% of Project Finance-able	100%	100%	100%
Min–Max Loan Amounts	N/A, Projects must be cost-effective	$10,000+	$20,000+
Capital Source/ Structure	Fannie Mae	Multiple lenders	Third party investors
Notes	Approximately $100 million available. Rate can be reduced by .10% with green building certification. Fannie Mae Fact Sheet	Ascentium, Keybank, Sparkfund, US Bank	Sparkfund, Joule Assets

Table 17. Multi-Family (Affordable) Energy Efficiency Financing Products Available In Pennsylvania

Product/ Product Provider Name	**Fannie Mae Multi-Family Green Initiative Program**	**Capital Lease/Equipment Finance Agreement**	**Energy Service Agreement**
Product Type	Mortgage refinance with "green features"	Capital lease/Equipment finance agreement	Energy Service Agreement
Eligible Measures	Cost-effective EE/RE and water improvements	EE Equipment	EE and RE
Rate Range	Market- or credit-based	4-12%	N/A
Term Range (years)	Up to 30 years	3-7 years	3–7 years
Eligible Borrowers	Multi-family properties complying with Fannie Mae selling guidelines	Commercial, MF, Non-Profits	Large and small commercial, MF Affordable and Market-Rate properties
Security	1st lien	Equipment being financed	UCC-1
% of Project Finance-able	100%	100%	100%
Min–Max Loan Amounts	Projects must be cost effective	$10,000 +	N/A, Projects must be cost-effective
Capital Source/ Structure	Fannie Mae	Multiple lenders	Third party investors
Notes	Approximately $100 million available. Rate can be reduced by .10% with green building certification. Fannie Mae Fact Sheet	Ascentium, Keybank, Sparkfund, US Bank	Sparkfund, Joule Assets

Table 18. Multi-Family (Affordable Public Housing) Energy Efficiency Financing Products Available In Pennsylvania

Product/ Product Provider Name	**Tax Exempt Municipal Lease Financing**	**Locally Supported Energy Loan—The Pennsylvania Green Energy Loan Fund (GELF)**
Product Type	Tax Exempt Municipal Lease	Secured Loan
Eligible Measures	EE and RE	EE and RE and CHP
Rate Range	2.5-4.5%	4%–5%
Term Range (years)	5-15 years	Up to 15 years
Eligible Borrowers	Public housing property owners	Commercial properties, Nonprofit facilities, Local government buildings, Multifamily residential buildings, industrial plants. *Applicants for a GELF loan may include building owners, developers or commercial tenants.*
Security	UCC-1 filing in some cases	Loans will be secured by the assets being financed or such other collateral as may be required by Reinvestment Fund, including corporate and personal guarantees.
% of Project Finance-able	100%	100%
Min–Max Loan Amounts	$10,000 +	$100,000–$2,500,000 or more
Capital Source/ Structure	None	PA DEP
Notes	—	Projects must result in a 25% reduction in energy consumption