Green Banks and Financing Energy Efficiency and Renewables in Industry and Buildings

Sixth Annual Green Bank Congress
Green Financing to Scale
Building Energy Efficiency

Presented by Carolyn Szum, China Energy Group,
Lawrence Berkeley National Laboratory
What’s the Problem?

◆ According to IEA, cumulative global investments in building EE must reach $13.4 trillion by 2035 to keep global surface temperature rise below 2°C Celsius (C) (Rugova 2016).

◆ This scale exceeds the capacity of public funding and mobilization of private capital is necessary (IPEEC 2016).

◆ However, few structures exist in the market today for institutional investors to deploy capital, resulting in the absence of EE as an asset class (EEFIG 2015).

◆ In other words, EE projects are not “developed, delivered, maintained, verified, and measured in a consistent manner” (ICP 2017).
1. **Technical Barriers**
   - Lack of information/asymmetric information.
   - Lack of standardized protocols and tools for originating EE projects.
   - Lack of technical capacity for EE.

2. **Credit/Market Barriers**
   - Balance sheet prioritization (self-finance thresholds).
   - Loan not secured by property or equipment.
   - Inability to “lock-box” or “escrow” future streams of cost-savings.
   - Quality/availability of host credit information.
   - Disconnect between occupancy time horizon in property and contract tenor.
   - Split incentive (landlord/tenant).
Credit/Market Barriers

1. Credit quality and availability
2. Loan not secured by property or equipment
3. Inability to lock-box or escrow
4. Tenant pays utility costs?
5. Occupancy time horizon
6. Tenant pays utility costs?

Property (Host) Equipment

Owner or Tenant

Length of Contract / Tenor of Loan (X)

X x Y = Total Costs (Z)

Utility Savings (Y)

Utility Cost

Year


Balance sheet prioritization

Credit/Market Barriers
Exploratory Solutions to Technical Barriers

◆ Advancing **data transparency** to expand the market for EE.
◆ Developing open-source **virtual assessment tools** to target cost-effective EE opportunities.
◆ Developing **standardized procedures for originating EE projects** which mitigate risk.

1. Processes building and weather data using Python code.

2. Automatically generates five coefficients of building performance with physical meaning.

   - Benchmarking Statistics Model
   - Heating-sensitive consumption
   - Cooling-sensitive Consumption
   - Baseload Consumption (Lighting, plug-loads, ventilation, etc.)

3. Working with Johnson Controls Inc. (JCI) to augment Python code to identify building technology and performance upgrades and estimate associated cost savings.
Exploratory Solutions to Credit/Market Barriers

◆ Partnering with banks to develop and scale innovative EE financial products.
◆ Systematically analyzing the risk profile of EE loans.
◆ Working with institutions to create next-generation credit information products.

April 2018 Launch: Innovative Green Financial Product

- **Green mortgage product**: MRCB and LANDSEA proposing low interest rate mortgage product for green homes and apartments (3-Star or LEED certified).

- **Green building product**: MRCB proposing a derivative product for non-residential green buildings and mid-size corporate energy efficiency upgrades
How Do We Leverage Secondary Market Capital for EE?

Meet the requirements of capital markets:

◆ Sufficient scale.
◆ Standardization.
◆ Ability to efficiently understand credit quality in many market segments.

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Sector</th>
<th>Type</th>
<th>Credit</th>
<th>Size</th>
<th>Aggregation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware Sustainable Energy Utility</td>
<td>MUSH</td>
<td>Bond</td>
<td>Public Investment-Grade</td>
<td>$72.5mm</td>
<td>State properties; Multi-agency</td>
</tr>
<tr>
<td>Corporate</td>
<td>Bond</td>
<td>Corporate</td>
<td>$324mm</td>
<td>Corporate facilities; international</td>
<td></td>
</tr>
<tr>
<td>Single-Family</td>
<td>PACE ABS</td>
<td>Tax lien</td>
<td>$232mm (10) $2+b total</td>
<td>Pool</td>
<td></td>
</tr>
<tr>
<td>RENEW FINANCIAL WHEEL</td>
<td>Single-Family</td>
<td>Unsecured</td>
<td>Unsecured</td>
<td>$12.5mm</td>
<td>Pool</td>
</tr>
<tr>
<td>Fortune 100 + METRUS ENERGY</td>
<td>Commercial</td>
<td>Efficiency Services Agreement</td>
<td>Two Factor Backstop?</td>
<td>$14mm</td>
<td>Property Management</td>
</tr>
</tbody>
</table>

Secondary Market Examples in the United States (Citi 2017)
Thank You!

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Our website: http://china.lbl.gov
Dr. An Guojun, Green Finance Committee of China Society for Finance and Banking

Sixth Annual Green Bank Congress
Green Banks: Accelerating Energy Efficiency and Renewables in Industry and Buildings

Green Bank Congress
29 Nov 2018
Commercial
PACE
What is C-PACE?

100% low-cost, long-term financing for cost saving energy upgrades

Paid back over time via property assessment; remains with property

Energy cost savings create more competitive property

Assessment structure allows costs to be passed through to tenants

C-PACE provides building owners with:

1. Confidence
2. Control \textit{and}
3. Comfort
Green energy financing that builds better businesses

C-PACE (Commercial Property Assessed Clean Energy) financing makes green energy upgrades more accessible and affordable. This innovative financing program is accelerating the green energy movement, and making a positive impact on many different stakeholders across Connecticut.

What type of stakeholder are you?

Building Owner

Contractor

Developer

Municipality

Capital Provider

Mortgage Holder

Appraiser

Apply Now

Contact Us

About Us
Role of Contractor

- Integrate C-PACE financing in proposal & project development

- Paradigm shift:
  - FROM: “Old Way” - owner self-funded, short-term payback focused
  - TO: “New Way” - 3rd party long-term financed, cash flow focused
    - Where “well-designed” projects typically:
      - Require no owner out-of-pocket expense
      - Generate immediate positive cash flow

  …Providing a “too good to be true” opportunity for the building owner
C-PACE Projects Require SIR > 1

- Savings-to-Investment Ratio ("SIR"):
  - "S" = projected energy cost savings over ECMs effective useful life (EUL)
  - "I" = cost of equipment, installation and financing costs

\[
\frac{\text{Savings}}{\text{Investment}} > 1
\]
## SIR Calculation Example

### Savings:
- Energy savings over the EUL: $720,000
- Recurring incentives (e.g. RECs): $0
- Cash value of Investment Tax Credit: $0
- Cash value of MACRS depreciation: $0

### Investment:
- Installed cost net of one-time utility incentives: $350,000
- Loan interest (20 year term, 6.0%): $251,802
- Total: $720,000, $601,802

### Savings-to-Investment Ratio (SIR):
\[
\frac{\text{Savings}}{\text{Investment}} = \frac{720,000}{601,802} = 1.2
\]
Almost all facilities can use an energy upgrade

example: old gas boiler to new high efficiency boiler system
Peter Corbett is a PACEsetter. He thought that by going solar and optimizing energy efficiency, InSports might serve as a model for renewable initiatives and conservation. C-PACE helped Peter make it happen quickly with simple financing that bundled multiple upgrades into one package. Detailed up front analysis gave him confidence that he was making a good investment. Now he's saving money and leading by example. That's how PACEsetters like Peter are sparking the green energy movement.
Energy on the Line

- Launched April 2016
- $800,000 in funding from MIF / DECD used for grants equal to 1% IRR
- 17 C-PACE projects (including GWL projects) + additional pipeline
- Nearly $6M in financing
- Over $200,000 remaining
- Approx. $80,000 in marketing spend
  - Direct Mail
  - Web
  - Digital Media
  - Relationship Manager / Project Development
- Approx. 150 leads / 50 applications
Contractor Focused Efforts

Contractor Engagement strategies have included:

- Networking and Informational Events (1 – 2 annually)
- Annual PACEsetter Awards
- Advanced and Registered contractor recognition
- Monthly Email Communications
- Webinars and Trainings
- AMP (Accelerated Marketing Platform) [retired]
- Project Accelerator Service
New Website & Digital Strategy

• **Persona-based version of cpace.com website launched January 2018**
  • Provides building owners and contractors (as well as other stakeholders) with custom experiences that better delivers relevant information
  • Currently revising site with additional ‘contact’ prompts and tools to increase conversion of visitors to leads

• **Digital campaign to launch in CY 18/19 to drive building owner leads**
  • Targeted as using search, video, display, etc.
Small Business Lending (On-Bill)
Small Biz or Muni Customers
Utility bills customer for loan amount
Customer repays through on-bill mechanism

Customer and utility enter into financing agreement
Efficiency incentives
Efficiency projects & equipment
SBEA Recapitalization - Current Structure

Funding provided to utilities annually based on anticipated budget
Connecticut Energy Efficiency Fund (CEEF)
Provides:
• Rate Buydown
• Loan Loss Coverage
• Administrative Expense Recovery

SBEA Contractors
Small Biz or Muni Customers

Utility bills customer for loan amount
Customer repays through on-bill mechanism

Efficiency projects & equipment

SBEA Contractors

Utility enters into a “Master Sale & Purchase Agreement” with Lenders
Under the MSPA Utility sells completed loans to Lenders at a discount from face value

Connecticut Energy Efficiency Fund (CEEF)
Provides:
- Rate Buydown
- Loan Loss Coverage
- Administrative Expense Recovery

Funding provided to utilities annually based on anticipated budget

$5.5m Subordinated Capital
$50m senior capital

10%
90%

Capital Providers

“Commercial Bank”
SBEA Recapitalization - Future Structure

Customer and utility enter into financing agreement

Utility bills customer for loan amount

Customer repays through on-bill mechanism

Efficiency projects & equipment

Small Biz or Muni Customers

SBEA Contractors

Efficiency incentives

Utility enters into a "Master Sale & Purchase Agreement" with Lenders

Under the MSPA Utility sells completed loans to Lenders at a discount from face value

Connecticut Energy Efficiency Fund (CEEF)

Provides:
• Rate Buydown
• Loan Loss Coverage
• Administrative Expense Recovery

Funding provided to utilities annually based on anticipated budget

Upon collection from customers, utilities transmit loan repayments to Lenders

CEEF funds
• Loan losses reimbursed as requested

Purchased Loans & Payments

Purchased Loans and remittances of Payments

Capital Providers

$5.5m Subordinated Capital

"Commercial Bank" $50m senior capital

10%
90%
Q&A

Thank You!

Bert Hunter
EVP / Chief Investment Officer
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Rocky Hill, CT 06067
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Who We Are

Centralized hub of local infrastructure investment in Rhode Island

Our mission is to actively support and finance investments in Rhode Island’s local infrastructure. We do so through a variety of means, including the issuance of bonds, the making of loans and grants, and the engagement with and mobilization of sources of public and private capital. Through its activities the Bank fosters infrastructure improvements that enhance the environment, create jobs, and promote economic development.
Our Impact Since 2015

$370 MM in new lending, 66% from private capital sources

We have generated $126 MM in financial and energy savings for local communities

C-PACE program saving small businesses $8.1 MM in energy costs

Awards from EPA for clean water project at TF Green Airport & GFOA for excellence in financial reporting and transparency

Supported almost 9,000 direct and indirect jobs

Greenhouse gas emission reduction equivalent to 131 MM miles driven by the average passenger car

Fully deployed new financial & loan management software

Proactive customer & stakeholder engagement strategy
**Clean Energy offerings**

### EBF | Improvement Type

- **Municipally-owned wind turbines and solar investments**
- **Energy efficiency improvements in municipal facilities across 36% of municipalities**

### C-PACE | Building Type

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golf Courses</td>
<td>6%</td>
</tr>
<tr>
<td>Multi-family</td>
<td>12%</td>
</tr>
<tr>
<td>Multi-use</td>
<td>12%</td>
</tr>
<tr>
<td>Non-profits</td>
<td>13%</td>
</tr>
<tr>
<td>Retail</td>
<td>13%</td>
</tr>
<tr>
<td>Office</td>
<td>44%</td>
</tr>
</tbody>
</table>

### EBF | Energy Measure

- **Renewable Energy:** 28%
- **Energy Efficiency:** 72%

### C-PACE | Energy Measure

- **Renewable Energy:** 87.5%
- **Energy Efficiency:** 12.5%

### EBF | Savings

- **Emission reduction equivalent to the annual carbon footprint of 3,400 homes**
- **Over $66 MM USD in savings to local governments**

### C-PACE | Savings

- **Emission reduction equivalent to the annual carbon footprint of 1,700 homes**
- **Over $8 MM USD in savings to small / mid sized businesses**

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**RHODE ISLAND INFRASTRUCTURE BANK**

32 11/29/2018
Efficient Buildings Fund Overview

- Revolving loan fund for local governments, schools and quasi-state entities to invest in renewable energy and energy efficiency projects
- Lifetime energy savings must exceed the cost of the project
- Each borrower pays a below-market interest rate, which is approximately 80 – 85% of its applicable market interest rates

<table>
<thead>
<tr>
<th>#</th>
<th>Borrower</th>
<th>Amount ($MM)</th>
<th>% of Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Barrington</td>
<td>2.5</td>
<td>8%</td>
</tr>
<tr>
<td>2</td>
<td>Cranston</td>
<td>2.1</td>
<td>7%</td>
</tr>
<tr>
<td>3</td>
<td>Cumberland</td>
<td>1.3</td>
<td>4%</td>
</tr>
<tr>
<td>4</td>
<td>East Providence</td>
<td>2.3</td>
<td>7%</td>
</tr>
<tr>
<td>5</td>
<td>Hopkinton</td>
<td>0.2</td>
<td>1%</td>
</tr>
<tr>
<td>6</td>
<td>Newport</td>
<td>1.1</td>
<td>4%</td>
</tr>
<tr>
<td>7</td>
<td>North Kingstown</td>
<td>0.9</td>
<td>3%</td>
</tr>
<tr>
<td>8</td>
<td>Pawtucket</td>
<td>3.5</td>
<td>11%</td>
</tr>
<tr>
<td>9</td>
<td>Providence</td>
<td>1.1</td>
<td>4%</td>
</tr>
<tr>
<td>10</td>
<td>Scituate</td>
<td>1.7</td>
<td>5%</td>
</tr>
<tr>
<td>11</td>
<td>Warren</td>
<td>0.5</td>
<td>2%</td>
</tr>
<tr>
<td>12</td>
<td>West Warwick</td>
<td>12.7</td>
<td>40%</td>
</tr>
<tr>
<td>13</td>
<td>Westerly</td>
<td>1.5</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.4</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Engineering service to help borrowers develop projects

![Pie chart showing borrower distribution](chart.png)
Capitalized Pool Financing Model

- The Bank’s business model is to combine a number of smaller infrastructure loans into a “pool”
- Pool is financed with program capital and proceeds from a public market bond sale
- Benefits:
  - Lower cost of issuance and debt service to borrowers
  - Risk transfer
  - Capital is recycled and supports new loans as older loans are paid back
**Efficient Buildings Fund Bond Issue**

*Efficient Buildings Fund Revenue Bonds Series 2018 A (Green Bonds)*

- **Use of bond proceeds:**
  - Refunding the Bank’s $23.3 MM Efficient Buildings Fund Revenue Bond Anticipation Note
  - Funding a new loan to the Town of North Kingstown

- **Security:**
  - Cross-collateralized with Municipal Road & Bridge Fund
    - Added layer of lender and bondholder security
  - Special obligation of the Bank payable solely from revenues generated by loans or other program capital
  - Step-Up mechanism
  - Small capital reserve

- **Key Details:**
  - Par Amount: $18.3 MM
  - Premium: $1.9 MM
  - Credit Rating: AA (S&P)
  - Green Evaluation: E1 (S&P)
  - Principal Payment Dates: October 1, 2019 to October 1, 2033
  - Call Structure: 11-year par call
  - Tax Status: Federal & State Exempt
Contact Information

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ON THE GREEN PATH

TEIMOUR BAGIROV
Independent member of the Supervisory Board

Green Bank Congress 2018
29 November 2018
Universal bank with a focus on green finance

Principal place of business: Ukraine

Major shareholder: State of Ukraine (since 2009), 95%

1.2 million customers

245 branches in 153 cities and towns

Country ranking¹, #

4
5

Market share², %

6.1%
6.4%

Share of green loans

25%

Profit/loss³, UAH millions

3Q2018 425
YE2014 -3,383

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¹ 3Q2018 IFRS Financial Statements, Unaudited.
² Bank calculation according to NBU data as of 3Q2018.
FOCUSED GREEN BANKING STRATEGY

aimed to utilize resilient universal banking platform
to become the leading green bank in Ukraine
and to cover 30% of total Ukraine’s green finance needs

RENEWABLE ENERGY
Wind-, solar-, hydro-power,
biomass

ENERGY EFFICIENCY
Energy saving equipment and measures for enterprises, housing and municipal objects

ENVIRONMENT PROTECTION
Harmful emissions reduction measures
GREEN PROJECTS
financed and committed since May 2016

GREEN LOAN PORTFOLIO BREAKDOWN
USD 476 MILLION

projects
87 SOLAR POWER PLANTS
11 BIO FUEL POWER PLANTS
4 WIND FARMS
17 SMALL HYDRO-POWER PLANTS
264 ENERGY EFFICIENCY THERMAL ENERGY TRANSPORT OTHER

TOTAL FINANCED AND COMMITTED SINCE MAY 2016

USD 641 MILLION
404 PROJECTS
974,000 tons/year EMISSIONS REDUCTION
... A NEW IMPETUS TO UKRAINE’S RENEWABLE ENERGY MARKET

Capacities of Renewable Energy Facilities with Feed-in Tariff | MW

- Renewable energy market capacity
- Renewable energy capacities financed by Ukrgasbank

25% of all renewable energy facilities operating in Ukraine as of Oct 2018 were financed or refinanced by Ukrgasbank

64% Share of Ukrgasbank financing in total renewable energy capacities with feed-in tariff put into operation in Ukraine since YE2016

Launch of IFC + Ukrgasbank joint green banking project

Source: National Energy and Utilities Regulatory Commission of Ukraine data, Bank calculation
The leader in financing new clean energy facilities in Ukraine. Share of green loans in the bank loan portfolio is 25% as of 3Q2018

Every second megawatt of new installed RE facilities that received feed-in tariff in 3Q2018 was financed with the help of Ukrgasbank

Ukrgasbank is a pioneer among Ukrainian banks to introduce Environmental and Social Risk Management System

Ukrgasbank became the first Ukrainian partner of Carbon Pricing Leadership Coalition to advocate and promote climate change combatting in Ukraine
兴业银行绿色金融助力工业建筑业发展
IB’s green finance promote industry and building sector development

兴业银行  绿色金融部
Green Finance Department of IB

2018-11-29  Shanghai
1、持续探索和实践

green finance keep developing

2006
推出中国节能减排融资项目一期(CHUEE I)，begin EE financing exploration and practice

2008
公开承诺采纳赤道原则，成为中国首家“赤道银行”Adopting Equator Principles

2010
推出中国首张低碳信用卡issue low carbon credit card

2012
首推合同能源管理未来收益权质押融资专项产品future usufruct pledged EPC financing model

2016
境内首批发行500亿元绿色金融债; the first 50 billion RMB green finance issuer

2017
与浙江等五个绿色金融改革试验区省政府签订战略合作协议signing strategic cooperation agreement with five green finance reform & innovation pilot provincial government respectively

2018
发布“点绿成金（GFP）”绿色金融专业系统; Public release the professional operation management system-- Green Finance Platform
### 2、集团化的绿色金融产品和服务体系

**Integrated Green Finance Products and Services**

<table>
<thead>
<tr>
<th>绿色产品体系</th>
<th>Green Finance Product</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>企业金融</strong></td>
<td></td>
</tr>
<tr>
<td>Corporate Finance</td>
<td>绿色项目融资、绿色流动资金贷款 Green Project loans and liquidity loans</td>
</tr>
<tr>
<td><strong>零售金融</strong></td>
<td></td>
</tr>
<tr>
<td>Retail Finance</td>
<td>绿色按揭贷款 Green mortgage loans</td>
</tr>
<tr>
<td><strong>投资银行与金融市场</strong></td>
<td></td>
</tr>
<tr>
<td>Investment Banking and Financial Markets</td>
<td>绿色债券承销 Green debt underwriting</td>
</tr>
<tr>
<td><strong>基金</strong></td>
<td></td>
</tr>
<tr>
<td>Funds</td>
<td>绿色产业基金 Green industrial fund</td>
</tr>
<tr>
<td><strong>信托</strong></td>
<td></td>
</tr>
<tr>
<td>Trusts</td>
<td>绿色信托贷款 Green entrusted loan</td>
</tr>
<tr>
<td><strong>金融租赁</strong></td>
<td></td>
</tr>
<tr>
<td>Financial Leasing</td>
<td>绿色直接租赁 Green direct leasing</td>
</tr>
<tr>
<td><strong>证券服务</strong></td>
<td></td>
</tr>
<tr>
<td>Securities</td>
<td>绿色股权投资 Green equity investment</td>
</tr>
</tbody>
</table>
3、采纳赤道原则 强化防范环境和社会风险

Adopting the Equator Principle

➢ 截至2018年9月底，兴业银行累计对1048笔项目开展适用性判断，其中376笔适用赤道原则，涉及1.6万亿元。Up to the end of September 2018, IB has conducted applicability judgement for 1048 projects, of which 376 are applicable to the Equator Principle, involving 1.6 trillion yuan.

➢ 2013年，本行利用赤道原则的理念、方法、工具，主动将赤道原则应用到钢铁、水泥、电解铝、平板玻璃等行业的项目贷款。In 2013, IB applied the Equator Principle initiatively to project loans in steel, cement, electrolytic aluminium, flat glass and other industries, using the concept, methods and tools of the Equator Principle.

➢ 2014年，自主开发赤道原则项目评审系统 In 2014, IB independently developed Equator Principles Project Evaluation System

4、开发专业系统提升绿色金融服务质效

Professional green finance system

业务管理
Business management
- 绿色项目识别
- 环境效益测算
- 绿色客户管理
- 业务营销管理

风险管理
Risk management
- 环境与社会风险管理
- 赤道原则审查
- 授信业务办理
- 资产质量管理

运营管理
Operation management
- 考评管理
- 团队管理
- 资源管理
- 信息管理
- 报表管理
5、绿色金融同业合作探索

exploration of green finance bank-bank cooperation
6、工业领域典型案例1 cases in industry area

煤层气发电项目贷款
Coalbed methane power generation project loan

排污权抵押融资
Emission right pledge financing

资源循环利用企业绿色债券承销
Resource recycling enterprise green bond underwriting

污水处理厂PPP项目融资
PPP project financing of sewage treatment plant
6、建筑领域典型案例 2 cases in building area

2星级新建绿色建筑项目融资
2 star green public building project finance

合同能源管理未来收益权质押贷款
future usufruct pledged EPC projects

城投公司绿色中期票据
MTN for building envelop energy retrofit

供热公司绿色融资租赁
Green lease for heating network energy retrofit
7、经济效益与环境效益显著

distinct environmental & economical benefits

截至2018年9月末，兴业银行在全国已累计为超过1.6万家企业提供绿色金融融资1.6万亿元，绿色金融融资余额约8000亿元（工业节能节水环保项目融资余额1282亿元，绿色建筑及建筑节能融资余额420亿元），全部绿色贷款不良率0.29%

兴业银行绿色贷款支持的项目可节约2959万吨标煤/年，可实现年减排8399万吨 CO₂，年利用固体废弃物4529万吨，年节水量4.1亿吨。减排的二氧化碳相当于关闭了195座100MW火电站。
Contact information:

赵建勋  Jianxun Zhao

MP:  18610807519

Email:  zhaojianx@cib.com.cn
Capacity, Cognizance, Confidence, and Capital
How Green Banks Are Driving Efficiency in Affordable Housing

2018 Green Bank Congress
Shanghai | November 2018

Bettina Bergöö
Center for Market Innovation
1 OPPORTUNITY AND CHALLENGES

2 BUILDING CAPACITY AND COGNIZANCE

3 BUILDING CONFIDENCE

4 MEETING CAPITAL NEEDS
Opportunity and Challenges
Opportunity

From Community Preservation Corporation’s Underwriting Efficiency Handbook
Challenges to Improving Efficiency in Affordable Housing

**Capacity**
Limited staff time to explore and pursue seemingly complex and noncritical projects.

**Cognizance**
Limited awareness of and familiarity with energy efficiency opportunities, and thus limited comfort managing a project involving them.

**Confidence**
Limited exposure to information on the various benefits of successful projects.

**Capital**
Limited availability of capital reserves or affordable financing options to bring projects to fruition once they are designed.
Building Capacity and Cognizance
Building Capacity and Cognizance Through Predevelopment Support

- Direct technical assistance
- Financing for third party technical assistance

Sherpa Pre-Development Energy Loan
This loan funds a low-risk, one-stop solution to analyze, design and acquire funding for energy upgrades through a process managed by our designated technical service provider, New Ecology, Inc. [Learn More]

Navigator Pre-Development Energy Loan
This loan funds customized analysis and design of energy improvements using owner-selected and managed technical service provider(s). [Learn More]
Building Confidence
Building Market Confidence Through Data Collection and Dissemination

- Project- and portfolio-level performance monitoring
- In-depth case studies
Meeting Capital Needs
### Meeting Capital Needs for Project Development

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<th>Integrate efficiency into major financing events</th>
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☆ Plus: Gap financing for health and safety work ☆
Case Study: CEFC Green Mortgages for New Construction

- SGCH worked with CEFC to construct 500 high-efficiency homes
- CEFC has committed AU$170 million (US$121 million) in mortgage financing
- The high efficiency increases tenant comfort and lowers energy costs
Case Study: Underwriting Anticipated Savings at Heritage Commons

- 89-unit property serving low-income elderly residents
- Two existing mortgages
- Project designed costing over US$ 1 million
- 10% covered by utility incentives, property reserves
- Unsecured loan of US$ 960,000 underwritten by expected energy and O&M savings to meet DSCR requirement
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Visit the Green Bank Network at
www.greenbanknetwork.org

View the full report in our Knowledge Center
Green Banks and Financing Energy Efficiency and Renewables in Industry and Buildings

Questions & Discussion

Sixth Annual Green Bank Congress