

Energy Efficiency and Clean Energy Financing in the Northeast- Midwest Region



October 21, 2014



Presenters

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National Conference of State Legislatures



- Jessica Bailey, Connecticut Clean Energy Finance and Investment Authority



- Eleni Pelican, U.S. Department of Energy



- Moderator: Colleen Cain, PhD, Northeast-Midwest Institute



Topics

- Residential and commercial Property Assessed Clean Energy (PACE) financing programs in the Northeast-Midwest region, generally
- An exemplary commercial PACE program in Connecticut
- Federal policy issues around PACE implementation



Residential and Commercial PACE Programs in the Region



Jocelyn Durkay

Policy Associate, Energy

National Conference of State Legislatures



Property Assessed Clean Energy (PACE) Financing: Program Overview & State Activity



Jocelyn Durkay
National Conference of State Legislatures



- Brief overview of NCSL
- What is PACE financing?
 - Residential and Commercial PACE
- What are states doing with PACE?



National Conference of State Legislatures (NCSL)

*NCSL is committed to the success of all legislators and staff.
Our mission is to*

- *Improve the quality and effectiveness of state legislatures.*
- *Promote policy innovation and communication among state legislatures.*
- *Ensure state legislatures a strong, cohesive voice in the federal system.*



The Challenge

Aging, inefficient buildings



High up-front costs for energy (and water) efficiency upgrades or renewable energy installations



Building owners move regularly, making it difficult to make property investments that cannot be recouped quickly.



The need for a innovative financing

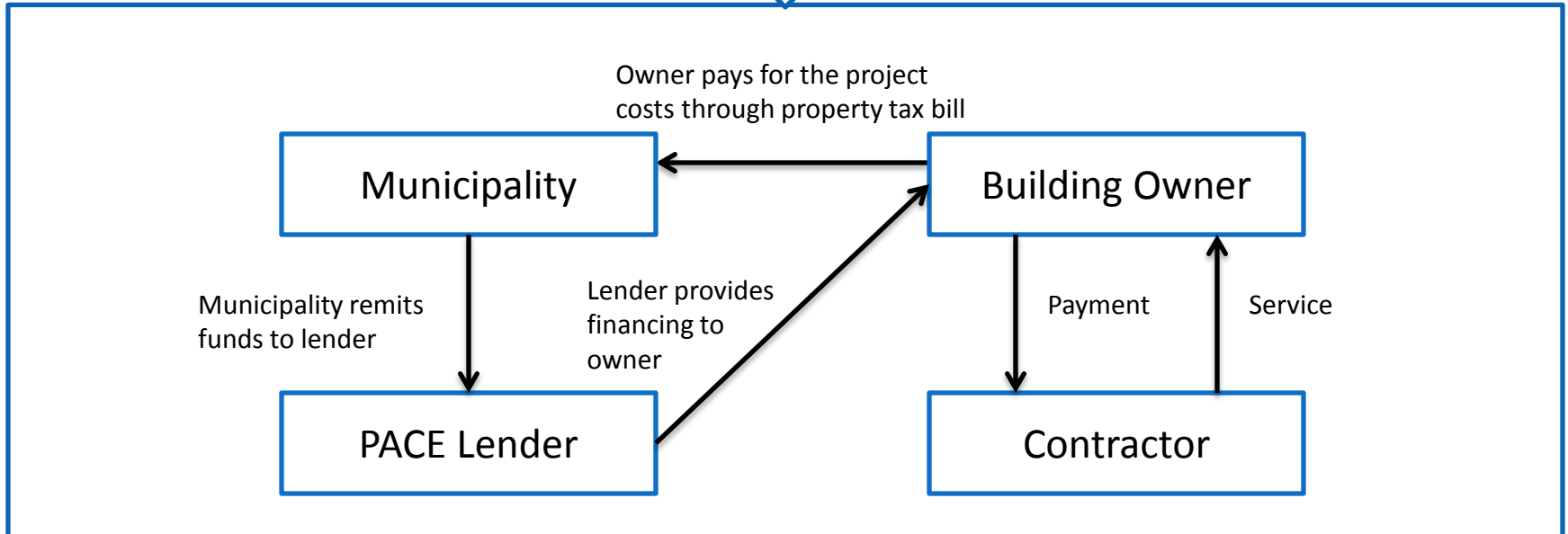


PACE Financing

- Immediate benefits, flexible payback periods
- Decreases energy bills
- Streamlined process
- Financing transfers across building owners
- Benefits older building stock; building owners
- Economic development tool



State Legislation Enabling PACE





Residential & Commercial PACE

Commercial

- According to [PACE Now](#)'s 2013 annual report, 180 commercial building projects have been funded in 7 states and Washington, D.C.
- 2013, C-PACE investments totaled \$33 million

Residential

- Originally took precedence over existing liens
- May require acknowledgment or consent from existing lien (mortgage) holder



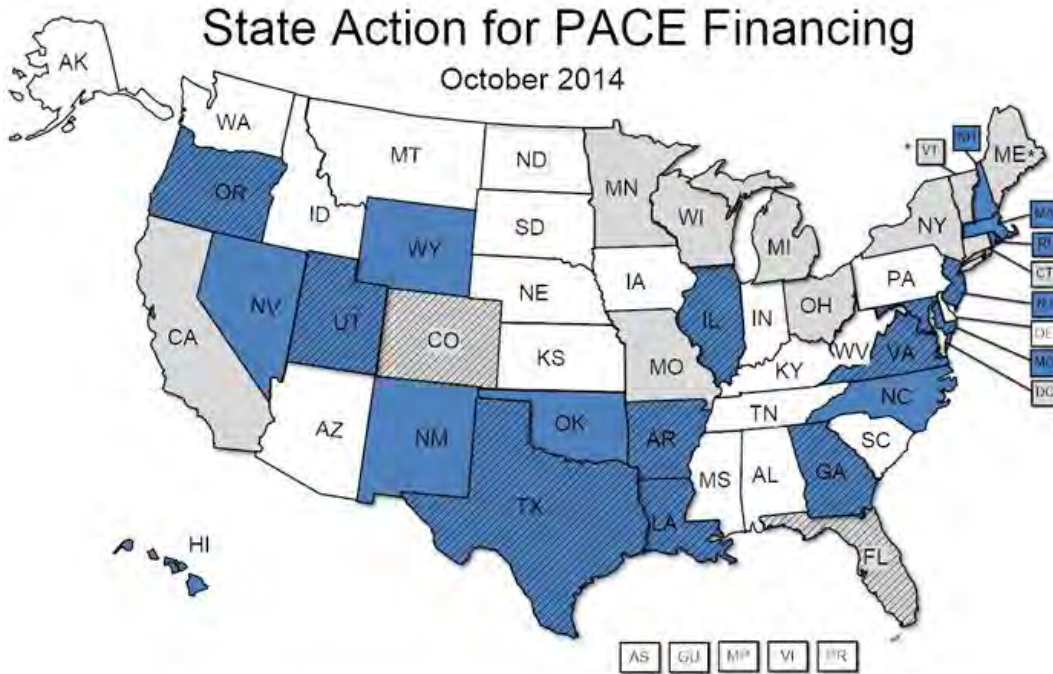
State & Local Process

State Legislation

- Program purpose
- Program basics
- Benefits districts or voluntary assessments

Local Program Design

- Land-secured financing district
- Bonding
- Program development
- Pre-approve contractors



PACE is authorized in 31 states and Washington, D.C.

Currently 12 states and Washington, D.C. have active programs

LEGEND

- States with PACE authorization
- States with PACE authorization and active programs
- States with PACE authorization and programs in development
- No action

**Maine and Vermont have active PACE programs that operate differently than standard programs. A program in Maine does not hold a lien against properties while a residential program in Vermont operates under a subordinate lien.*



2014 Policy Developments

- Connecticut: residential PACE feasibility report
- Delaware: exploring financing to expand energy efficiency
- Maryland: administrative surcharges allowed
- New Hampshire: credit requirements; notification of lien holders; foreclosure stipulations; and increases loan maximums



Thank you!

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View our PACE Financing 2014 Update at:

<http://www.ncsl.org/default.aspx?tabid=28614>



An exemplary Commercial PACE Program in Connecticut



Jessica Bailey

**Director, Commercial and Industrial Programs
Connecticut Clean Energy Finance and Investment
Authority**



Empowering you to make
smart energy choices

C-PACE:

A financing tool for CRE owners

Northeast-Midwest Institute

Energy Challenge in Connecticut



High Cost

CT has THE highest cost for electricity in the "lower 48"



Old, Energy Inefficient Building Stock

CT has some of the oldest and most energy inefficient building stock



Need for "Cleaner / Cheaper" Energy Sources

Programs that will diversify our energy mix into renewable/clean power



"More Reliable" Grid

5 major storms in 2 years with widespread outages

Who is CEFIA?



Help ensure Connecticut's energy security and community prosperity by realizing its environmental and economic opportunities through clean energy finance and investments.



Support the Governor's and legislature's energy strategy to achieve cleaner, cheaper and more reliable sources of energy while creating jobs and supporting local economic development

Property Assessed Clean Energy

- An innovative financing structure that enables commercial, industrial, and multi-family property owners to access financing for qualified energy upgrades and repay through a benefit assessment on their property tax.

**CEFIA provides 100%
upfront, low-cost,
long-term funding**

**Owner repays over
time through
property taxes**

**A senior PACE lien is
put on the property
and stays regardless
of ownership**

Connecticut Special Session

Public Act 12-2 (June 2012)

- Commercial, industrial & multi-family property
- Requires the consent of the existing mortgage lender
- Requires $SIR > 1$; permanently affixed
- Enables municipalities to opt-in
- Enables CEFIA to administer a statewide program

THE C-PACE PROCESS

1 GETTING STARTED



Building owner works with contractor to develop a project plan.



Owner submits project plan and financing application to C-PACE.



Application is reviewed.

2 GETTING PROJECT DONE



C-PACE contacts local municipality and a lien is placed on property.



C-PACE loan is closed and funding goes to building owner.



Project begins.

3 PAYING IT OFF



Owner begins saving money on their energy bills.



Owner repays C-PACE loan through a benefit assessment charge on their municipal tax bill.



Through improved property, owner enjoys increased cash flow and lower operating costs.

C-PACE Addresses Key Barriers

Lack of funding?

Near term plan to sell?

Insufficient payback/ROI?

Split incentives?

Uncertain savings/technical expertise?

100% upfront, 20 year financing

Tax obligation fixed to property

Positive cash flow in year 1

Assessment/savings pass to tenants

Technical underwriting / SIR>1

C-PACE Advantage to other stakeholders

Capital Providers

- Low risk investment opportunity
 - Senior lien
 - Secure repayment mechanism (taxes)
- Legal and technical structure administered by CEFIA

Mortgage Lenders

- Improves Building Financials/Risk
 - Lowers OPEX
 - **SIR>1**
 - No acceleration
- Creates a more attractive building for occupants and owners
- Finances deferred maintenance needs

Municipalities

- Creates economic development & jobs
- Reduces energy costs for businesses
- Reduces pollution

Reflect: Snapshot of progress

- What have we done
 - \$27M closed (37) deals;
 - \$23.7M (26) approved (not including following deals)
 - Over \$50MM since inception
 - 99 towns = 85% eligible market covered
 - 25 banks have provided mortgage lender consent
 - 30 contractors have approved projects
 - Over 100 contractors registered

What does the Green Bank do?



Statutory

- Bring on municipalities
- Design technical standards and approve SIR
- Secure lender consent
- Establish credit enhancement
- Require muni to place lien and collect assessments



Programmatic

- Marketing and outreach
- Solve problems (ex audit or appraisal fund)
- Support to building owners and contractors
- CDMP review process



Warehouse

- Prescreen
- Check for all financials
- Financial underwriting and diligence memo
- Prepare for closing: title search, insurance review, service contract review
- Close: alert municipality, file lien
- Disburse: manage disbursement requests from owner/contractor, check permits, work with Cortland
- File final payment schedule with town; alert QDS
- Sell-down process

C-PACE Technical Underwriting Team

3rd Party Technical Underwriting Manager



**SUSTAINABLE
REAL ESTATE
SOLUTIONS™**

- Industry leader in building energy performance assessment software and support services
- Nationwide PACE program experience
- Energy efficiency program technical management expertise

SRS's technical underwriting team evaluates C-PACE projects

Multi-Measure Projects
(Full Assessment: HVAC, controls, windows)
Celtic Energy, Inc.

Targeted ECM Projects
(Fast Track: Solar PV, Lighting)
J.E. Ekegren Assoc.

Specialty Technologies
(Hydro)
GZA, Inc.

C-PACE Technical Underwriting Team

3rd Party Technical Underwriting Manager



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What upgrades are eligible?

Anything that saves energy from baseline ... *as long as it isn't going anywhere*

- High efficiency lighting
- HVAC upgrades
- New automated building and HVAC controls
- Variable speed drives (VSDs) on motors fans and pumps
- High efficiency chillers, boilers, and furnaces
- High efficiency hot water heating systems
- Combustion and burner upgrades
- Fuel switching
- Water conservation
- Heat recovery and steam traps
- Building enclosure/envelope improvements
- BMS
- Renewable energy systems
- District heating and cooling
- Micro grids

What buildings are eligible?

- LTV must not exceed 80%
- Positive operating profit and net income in each of last 2 years
- Positive cash from operations in each of last 2 fiscal years
- Debt service of at least 1.25x for last fiscal year
- Current ratio of at least 1.00:1.25
- Total Liabilities/ Tangible Net Worth not in excess of 2.00:1.00
- Interim statements disclose no material adverse changes
- CEFIA exposure must not exceed 35% of property's value

C-PACE

Greentech Media

In a 'Watershed' Deal, Securitization Comes to Commercial Efficiency

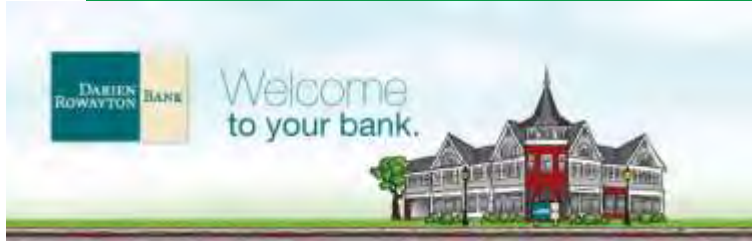


Connecticut's green bank executes the first securitization of commercial efficiency assets.

Nick Lombardi
May 19, 2014

Securitization, the holy grail of energy efficiency finance, has finally arrived in the commercial sector.

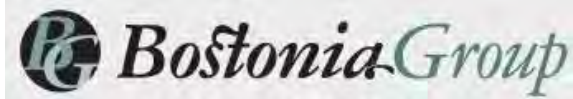
CEFIA Capital Partners



Bank of America



**Deutsche Bank
USA**



PACEConnecticut.



Renew Energy Partners

A Smart Approach to Making Energy Efficient Upgrades

Brookfield



structured finance ASSOCIATES, LLC

Case Study: Energy Efficiency Upgrade in Simsbury

Project

- \$675,000 energy efficiency upgrade, including
 - Installation of Air Leakage Improvements
 - High Efficiency lights
 - Occupancy Sensors and Upgraded Energy Management System
 - New Rooftop Units

Utility Incentives

- \$165,850

Impact

- Annual savings \$61,000
- 18M kBTU saved



Case Study: Solar and Energy Efficiency Upgrade in Middletown

Project

- \$2,535,766 including
 - the installation of air units, variable frequency drives, high efficiency lights, occupancy sensors, air leakage improvements, an upgraded energy management system,
 - and a 260 kW ground-mounted photovoltaic system.

Utility Incentives

- \$387,885

Impact

- Energy savings of \$224,272 annually
- 51M kBTUs saved
- 8.5M kWh clean energy produced



Case Study: Solar System at Polamer Precision

Project

- \$2,502,975 for 954 kW solar PV installation

Utility Incentives

- Received ZREC contract through CL&P

Financing

- \$2,502,975 financed through 20-year C-PACE financing at 6% interest rate
- Annual C-PACE assessment of \$218,918

Impact

- Cost savings of \$253,920 annually
- 24,133 MWh saved over finance term
- 30% investment tax credit



Case Study: Solar and Lighting Upgrade Norwalk Shopping Center

Project

- \$550,000 exterior LED lighting upgrade and solar parking canopy.

Utility Incentive

- \$54,584 utility incentives for lighting

Financing

- \$185,000 of lighting upgrade financed through 13 year C-PACE assessment. CEFIA providing construction financing.
- \$365,000 solar parking canopy received a ZREC
- Savings of \$55,000 plus 30% ITC

Impact

- 741k kBTUs saved
- Produces 5.8M kWh in clean energy





Empowering you to make
smart energy choices

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Federal Policy Issues around PACE Implementation

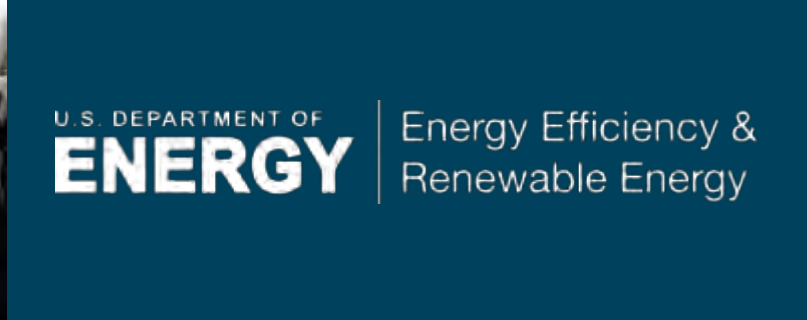
Eleni Pelican

Policy Advisor

Weatherization and Intergovernmental Affairs

Office of Energy Efficiency and Renewable Energy

U.S. Department of Energy



PACE Webinar
Northeast-Midwest Institute

October 21, 2014

Eleni Pelican, Policy Advisor



PACE Overview

- Brief Overview of PACE
- Current Status of PACE
- Resources for State and Local Governments



Timeline of Events

- October 2009-Whitehouse Issues “Policy Framework for PACE Financing Programs”
- May 2010- Fannie and Freddie Issue “Lender Letters”
- May 2010- DOE issues “Guidelines for Pilot PACE Financing Programs”
- July 2010- FHFA Issues “Statement on Certain Energy Retrofit Loan Programs”
- July 2010-OCC Issues “Supervisory Guidance” to National Banks
- July 2010: The PACE Assessment Protection Act Introduced and Referred to Committee
- Fall 2010: Florida, California, and New York File Lawsuits

Timeline of Events

- February 2011- FHFA's Second Directive to Fannie and Freddie
- August 2011- California District Court Directs FHFA to Conduct Formal Rulemaking
- July 2011- PACE Assessment Protection Act Introduced and Referred to Committee
- June 2012- FHFA Publishes Proposed Rule and Appeals California District Court Ruling
- March 2013- Circuit Court Overturns Prior Decision Direction FHFA to Conduct Rulemaking
- September 2013- CA Governor Announces Intent to Create PACE Reserve Fund to FHFA

Timeline of Events

- December 2013-Mel Watt Confirmed as New FHFA Director
- March 2014- California Establishes \$10M Loan Loss Reserve Fund
- March 2014- PACE Assessment Protection Act Introduced and Referred to Committee

Significant Successes

- To date, 31 states and the District of Columbia have PACE enabling legislation
- HERO PACE: Western Riverside Council of Governments heroprogram.com
- PACE Toledo-Lucas County Port Authority
- C-PACE: Connecticut c-pace.com
- Lean and Green Michigan www.leanandgreenmi.com

Resources for State and Local Governments

Visit our Commercial PACE pages on the TAP *Solution Center*

The screenshot shows the Energy.gov website page for Property-Assessed Clean Energy Programs. The page has a green header with the Energy.gov logo and navigation links for SERVICES, EFFICIENCY, RENEWABLES, TRANSPORTATION, ABOUT US, and OFFICES. The main content area is titled "PROPERTY-ASSESSED CLEAN ENERGY PROGRAMS" and includes a breadcrumb trail: Home > State & Local Solution Center > Financing > Financing Structures > Property-Assessed Clean Energy Programs. On the left, there is a sidebar menu with links to various programs and offices. The main text is divided into two columns: "ADVANTAGES" and "DISADVANTAGES".

ENERGY.GOV
Office of Energy Efficiency & Renewable Energy

SERVICES EFFICIENCY RENEWABLES TRANSPORTATION ABOUT US OFFICES >

Home > State & Local Solution Center > Financing > Financing Structures > Property-Assessed Clean Energy Programs

PROPERTY-ASSESSED CLEAN ENERGY PROGRAMS

Weatherization & Intergovernmental Programs Office Home
About the Office
Weatherization Assistance Program
State Energy Program
Energy Efficiency & Conservation Block Grant Program
Tribal Energy Program
State & Local Solution Center
About the State & Local Solution Center
Strategic Energy Planning
Energy Policies & Programs
Financing
Financing Overview
Financing Structures
Financing Program Design & Implementation
Financing Program Market Segments

The property-assessed clean energy (PACE) model is an innovative mechanism for financing energy efficiency and renewable energy improvements on private property. PACE programs allow local governments, state governments, or other inter-jurisdictional authorities, when authorized by state law, to fund the up-front cost of energy improvements on commercial and residential properties, which are paid back over time by the property owners.

PACE financing for clean energy projects is generally based on an existing structure known as a "land-secured financing district," often referred to as an assessment district, a local improvement district, or other similar phrase. In a typical assessment district, the local government issues bonds to fund projects with a public purpose such as streetlights, sewer systems, or underground utility lines.

The recent extension of this financing model to energy efficiency (EE) and renewable energy (RE) allows a property owner to implement improvements without a large up-front cash payment. Property owners voluntarily choose to participate in a PACE program repay their improvement costs over a set time period—typically 10 to 20 years—through property assessments, which are secured by the property itself and paid as an addition to the owners' property tax bills. Nonpayment generally results in the same set of repercussions as the failure to pay any other portion of a property tax bill.

A PACE assessment is a debt of property, meaning the debt is tied to the property as opposed to the property owner(s), so the repayment obligation may transfer with property ownership depending upon state legislation. This eliminates a key disincentive to investing in energy improvements, since many property owners are hesitant to make property improvements if they think they may not stay in the property long enough for the resulting over the upfront costs.

ADVANTAGES

- Allows for secure financing of comprehensive projects over a longer term, making more projects cash flow positive.
- Spreads repayment over many years and removes the requirement that the debt be paid at sale or refinance.
- Can lead to low interest rates because of the high security of loan repayments attached to the property tax bill.
- Helps some property owners deduct payments from their income tax liability.
- Allows municipalities to encourage energy efficiency and renewable energy without putting general funds at risk.
- Taps into large sources of private capital, such as the municipal bond markets.

DISADVANTAGES

- Available only to property owners.
- Cannot finance portable items (crown-in-light bulbs, standard refrigerators, etc.).
- Can require dedicated local government staff time.
- High legal and administrative setup.
- Not appropriate for investments below \$2,500.
- Potential resistance by lenders/mortgage-holders.

energy.gov/eere/wipo/property-assessed-clean-energy-programs

Solution Center: Template Documents

Application Templates

- Program Handbook
- Eligible Measures List
- Application Form
- Lender Acknowledgment Form

Marketing Templates

- Customizable Press Release
- Program Overview
- Program FAQ
- Program Brochure
- Social Media Toolkit

Template: Program Handbook

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Client Energy Finance Guide | March 2011

Description of Marketing Templates

The launch of your commercial PACE program provides an excellent opportunity to gain attention and build interest in the financing product. These template marketing materials can be used at the launch and throughout the life of your program, to educate property owners, contractors, and other stakeholders about PACE financing.

Due to limited marketing budgets, most programs have focused their efforts on distributing their messages through key channels to reach property owners and contractors. Channels you may want to consider include:

- Associations of property owners and managers
- Large portfolio property owners/managers
- Trade associations
- Other contractor associations

Below is a brief description of each resource and some suggestions on disseminating marketing materials to local media and key stakeholders:

DOE Supported PACE Activity in 2015

- **NASEO: Analysis of Statewide Property Assessed Clean Energy (PACE) Programs**
- **Technical Assistance Program: PACE in the Box Analysis**
- **Better Buildings Challenge: Milwaukee PACE Implementation Model**



The screenshot shows the SEE Action website, which is the State & Local Energy Efficiency Action Network. The header features a map of the United States with an arrow pointing to the right, followed by the text "SEE Action STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK". Below the header is a navigation menu with links for "Our Network", "Resources", "News", "Events", "Technical Assistance", and "Energy Efficiency Benefits". The main content area is divided into three columns. The left column has a "Policy & Program Resources" sidebar and a "Publications" section. The middle column is titled "ENERGY EFFICIENCY FINANCING" and contains a paragraph about financing strategies, an image of a hand using a calculator, and a "Key Focus Areas" section. The right column is titled "Guidance Documents from the Network" and lists several documents, including "Credit Enhancement Overlay Guide" and "Energy Efficiency Finance Programs: Use Case Analysis to Define Data Needs and Guidelines".



The screenshot shows the Better Buildings Challenge website, part of the U.S. Department of Energy's Energy Efficiency & Renewable Energy division. The header includes the "Better Buildings CHALLENGE" logo and the U.S. Department of Energy logo. Below the header is a navigation menu with links for "Home", "Partners", "Better Buildings Challenge", "Subsites", "Media", and "About". The main content area features a large image of President Obama with the text "President Obama speaks on American energy. View video". To the right of this image is a "Highlights" section with a list of links: "Better Buildings Challenge: Progress Update - Spring 2014", "Leadership in Energy Efficiency: 8 Months", "Better Buildings Sunset Recap", "Partner Solutions: Implementation Models", "Partner Progress Against Energy Performance Goals", and "Demonstrating Results: Showcase Projects". Below the highlights are three sections: "Partners & Allies Represent" with statistics "3 Billion Smart Pwts Connected" and "600+ Benchmarking Practices"; "Featured Video" with a video thumbnail; and "Follow our News on Twitter" with social media handles.

Questions & Next Steps

- **Resources on Solution Center:**

<http://energy.gov/eere/wipo/state-and-local-solution-center-0>

- *Commercial PACE materials*

energy.gov/eere/wipo/property-assessed-clean-energy-programs

- Additional Resources

➤ pacenow.org



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Thank you!

**DOE's Technical
Assistance Program
welcomes your
questions and
feedback at**

**[TechnicalAssistanceProgram@ee.
doe.gov](mailto:TechnicalAssistanceProgram@ee.doe.gov)**



Questions?

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