



Property Assessed Clean Energy - PACE

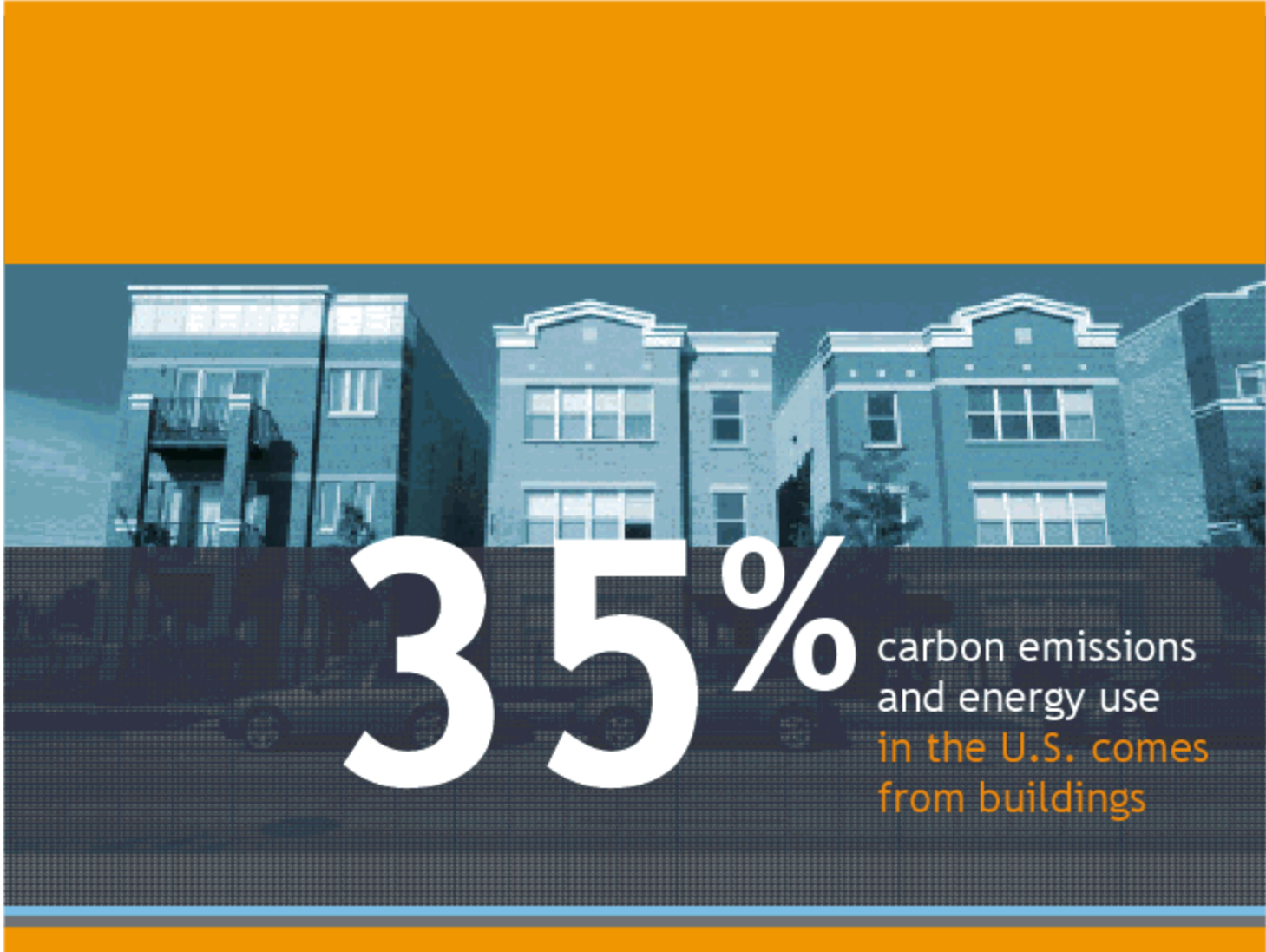
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June 11, 2010



MSBA Construction Law Section's Symposium

A new option for Minnesota cities and counties, PACE enabling legislation was signed into law as part of the "Jobs Bill", HF 2695



35%

carbon emissions
and energy use
in the U.S. comes
from buildings

22.5%



unemployment
U.S. construction
industry, 12/09

PACE: Simple, Effective Tool

City or county creates type of land-secured financing district or similar legal mechanism



Property owners voluntarily sign-up for financing and install energy projects



Proceeds from Clean Energy Bond or other Financing provided to property owner to pay for energy project



Property owner repays bond through property tax bill (up to 20 years)



Key Benefits for Cities & Counties

Helps meet
energy and
climate goals



Tax neutral and
no exposure to
General Fund



Promotes
local jobs



Key Benefits for Property Owners

Saves money on
utility bills



Not based on
personal credit



Repayment
transfers to
new owner





Advantages of PACE Financing

Our Nation:

- Significant job creation
- Accelerates movement toward energy independence & reduces GHG emissions
- Very low fiscal cost & high probability of success

Property Owner:

- Lower energy bills and substantially reduced upfront costs for energy retrofits
- Improved return on investment/positive cash flow on retrofits (annual savings>cost)

States, Cities & Municipalities:

- Immediate job creation
- No credit or general obligation risk
- Obligation is liability of real estate owner
- Greenhouse gas reductions/energy independence
- Opt in: Only those real estate owners who opt in pay for it

Lender:

- Virtually no risk of loss as property tax liens are senior to mortgage debt
- 97% of property taxes are current & losses are less than 1%

Finance Overview

✿ Key Issues

- Municipal financing is used for large capital projects. PACE requires seamless, on-demand availability of funds for individual projects
- Goal is deep capital without government obligation

✿ Emerging Models

- Aggregated Bond Issuance
 - ✿ Boulder County, CO
- Interim Financing Model
 - ✿ City/ County Funds: Sonoma, Palm Desert
 - ✿ Private Capital: Berkeley, San Francisco, San Diego, CaliforniaFIRST, Santa Fe



Commercial Market Size Assumptions

- 72 Billion sq/ft of commercial space
- Annual Energy Expenditure: \$100 billion (\$1.40 / sf)
- 22% achievable energy savings
- 10 years to capture the full opportunity
- Average ESCO retrofit cost of \$2.50 / sf (8:1 cost/savings ratio)
- Building Stock: 40% of nations energy needs and accounts for roughly one-third of our greenhouse gas emissions.



	Commercial	Homes
Number of Units	5 million	100 million
Approximate % of US Energy Consumption	20%	20%
Number of Units Per 1% of Nation's Energy Usage	250,000	5 million

Note: This information was created by Johnson Controls



Potential Commercial Market Size

- \$180 - \$190 billion over next ten years
- Roughly \$18 billion annually
 - Method 1: $\$100\text{B} * 22\% * 8:1 / 10 \text{ years} = \$17.6\text{B} / \text{Year}$
 - Method 2: $72 \text{ billion sf} * \$2.50/\text{sf} / 10 \text{ years} = 18.0 \text{ B} / \text{Year}$
- Jobs: 360,000
 - 5 direct, 5 indirect, and 10 induced jobs for every million dollars invested.
 - $20 * 18 \text{ billion} / 1 \text{ million} = 20 * 18,000 = 360,000$



Guaranteed Energy Savings Contracts add another layer of security to PACE financed Commercial/Industrial buildings

Note: This information was created by Johnson Controls

Renewable Funding Services

BerkeleyFIRST
Financing Initiative for Renewable and Solar Technology

[Learn More](#) [Apply Now](#) [Check Status](#) [Contact Us](#)

Go Solar with BerkeleyFIRST! Berkeley has launched a new program to help property owners "go solar". Property owners install solar now and pay for it over 20 years on their property tax bill.

[Learn More »](#) [Apply Now »](#) [Check Status »](#)

Welcome from the City of Berkeley!

- ❁ Adoption
- ❁ Education & Administration
- ❁ Financial Package

Application Process Overview

[Start Application >](#)

Requires Registration

Payment Calculator

Current Rate: 7.0%

Rate is subsidized by the City and County of San Francisco for a limited time.

Project Costs:

\$

Term:

years

Estimated Repayment

Bi-annual payment:

\$

Equivalent monthly payment:

\$

Application Checklist: Make sure you're ready to apply

Most homes will need an energy audit. It is highly recommended that you get an energy audit to help you identify the projects that will save you the most money and energy. Once you know which projects make the most sense, you'll need to get a bid for each project you want to finance from one or more of the contractors listed on this website.

If you don't want to get an audit, you'll need to include a basic energy efficiency package as one of the projects you finance.

[▶ See the basic energy efficiency package.](#)

If you want to finance a renewable energy project such as solar PV, you have two options:

1. Include a basic energy efficiency package as one of your projects
2. Get an energy audit and include energy efficiency projects that will reduce your overall energy use by at least 20%.

Application Process



Online application and approval

Fill out the simple online application and pay the application processing fee (\$300). You'll need to provide us with a copy of your energy audit, all vendor bids for your proposed projects and a copy of your signed lender notification letter. We'll let you know when you're approved.

[Download a printable application checklist \(pdf\)](#)



Complete projects

You have 180 days from the date of approval to work with your contractors and complete your project and request funding.

Commercial Applications:

Your application will need to be taken directly by our staff. Please call **1-800-803-6930** for details.

[Find an Auditor >](#)

commercial

Commercial ClimateSmart Loan Program

Application Deadline: Extended to July 12th

Commercial and institutional properties including non-profits, apartment buildings, small manufacturing facilities and multifamily, low-income and/or elderly housing complexes are all eligible for the ClimateSmart Loan Program.

Commercial property owners choose a set of energy efficiency and renewable energy measures from the [eligible measures list](#) (pdf) and apply for a minimum **\$3,000** and up to a maximum of **\$210,000*** loan to fund the improvement. Each property owner who receives financing through the program will be responsible for repaying the loan via a special assessment on the improved property. **Please view our updated PowerPoint Presentation** for more information.

Important Documents

Commercial Loan Program Application (Hand in by July 12)

Contractor Cover Sheets (Bring to loan origination)

Lender Consent Form (Bring to loan origination)

Rebates & Incentives

Commercial Timeline & Process

Steps of the Process



carbon free ENERGY

RESIDENTIAL IMPROVEMENTS

COMMERCIAL IMPROVEMENTS

WAYS YOU CAN SAVE ENERGY

CUSTOM IMPROVEMENTS

create a carbon
free ZONE right in your
own backyard



Install solar panels

Upgrade heating and cooling systems

Add reflective roofing

Use smart irrigation controllers

Add high efficiency attic and wall insulation

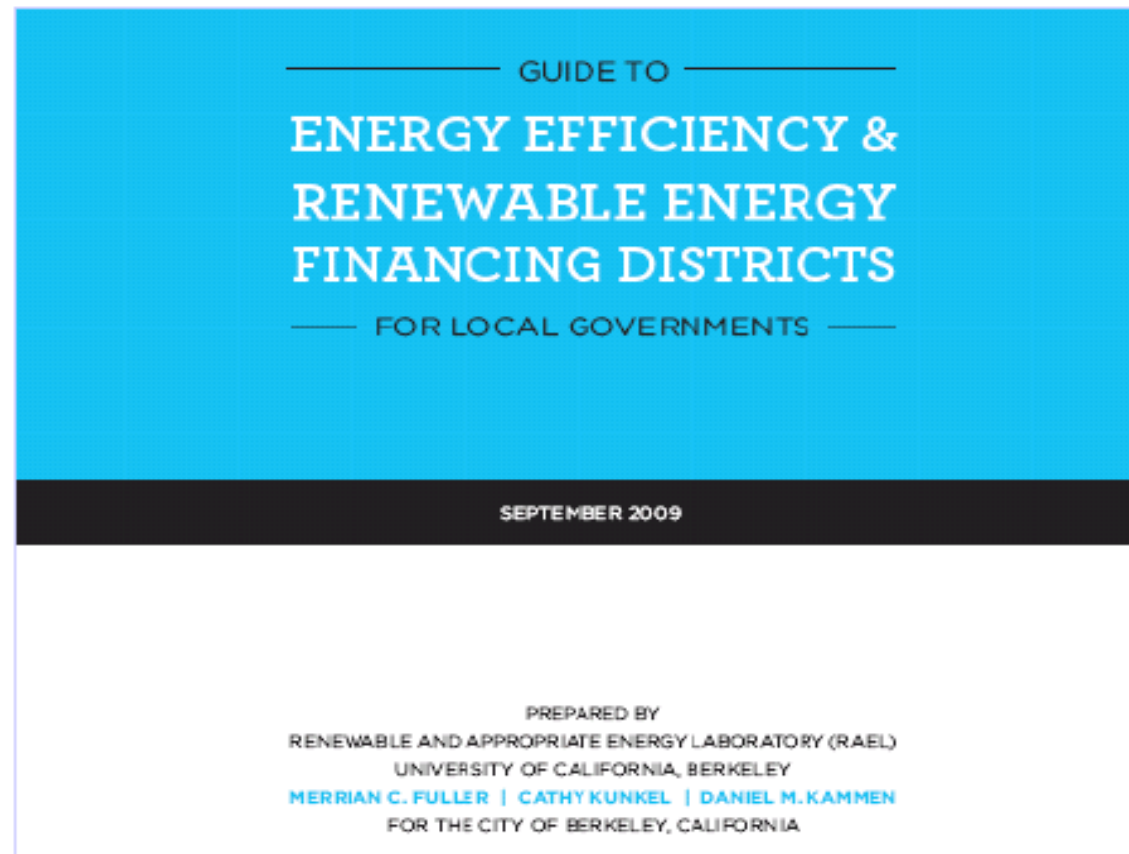
How much do you spend a month in electricity and natural gas?

Does your bill skyrocket in the winter with home heating? Or does your summer air conditioning bill drive you crazy? A few simple home upgrades such as insulating your air ducts and sealing any air duct leaks, replacing old and inefficient HVAC units, upgrading your water heater or installing attic fans and insulation can save you a lot with a small investment. Your home will be more comfortable with stable inside temperatures and you'll feel better about not wasting precious energy.

Here are over 20 ways you can save on energy bills, reduce your carbon footprint and live in a more comfortable home:

- High efficiency HVAC systems and HVAC system sealing
- Duct and home sealing
- Evaporative coolers
- Efficient natural gas storage water heaters
- Tankless water heaters
- Solar water heater systems
- Cool roof systems
- Reflective roofs and coatings
- Attic and wall insulation
- Reflective insulation or radiant barriers
- Whole-house fans and attic fans
- High efficiency windows and glass doors
- Window film
- Weather-stripping
- Efficient skylights
- Solar tubes
- Additional building openings to provide additional natural light
- High efficiency lighting installation
- High efficiency pool equipment
- Electric vehicle plug-in stations
- Geothermal exchange heat pumps
- Solar thermal systems for pool heating

<http://rael.berkeley.edu/files/berkeleysolar/HowTo.pdf>



DOE Resources

To request specific Technical Assistance go to the TAC website at

<https://tac.eecleanenergy.org/Default.aspx>

DOE Resource website on financing, including PACE programs:

<http://www.eecbg.energy.gov/solutioncenter/financialproducts/>

How to Guide for PACE Programs

<http://rael.berkeley.edu/files/berkeleysolar/HowTo.pdf>

Webinars, including 3 on aspects of PACE programs:

<http://www.eecbg.energy.gov/solutioncenter/webcasts/>

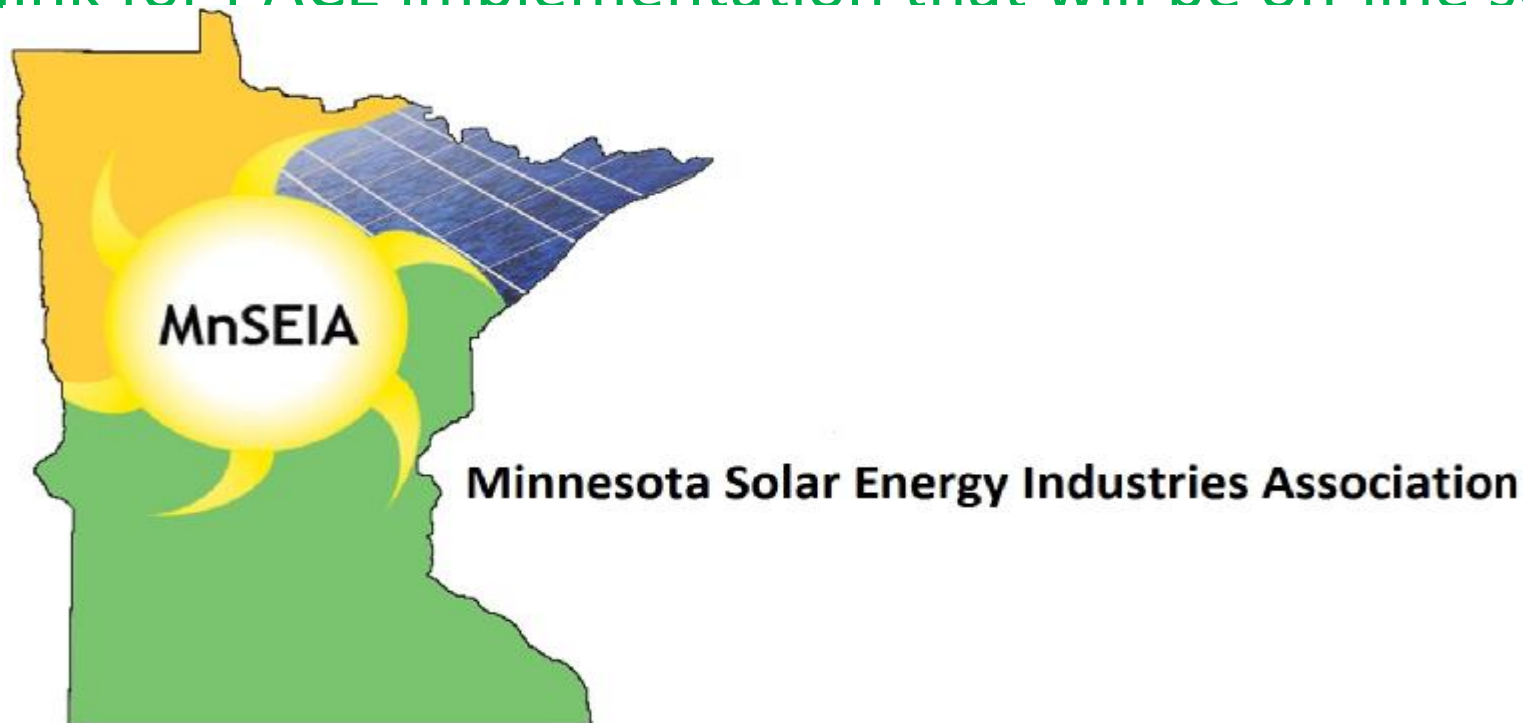
Federal Government's Policy Framework for PACE Financing Programs

http://www.whitehouse.gov/assets/documents/PACE_Principles.pdf

State legal authority for PACE programs is tracked by the DSIRE database

<http://www.dsireusa.org/incentives/index.cfm?EE=1&RE=1&SPV=0&ST=0&searchtype=PTFAuth&sh=1>

Thank You for your interest in implementing PACE in Minnesota: The League of Minnesota Cities is creating a link for PACE implementation that will be on-line soon.



Contact: Lynn Hinkle at lhinkle@mnseia.org 612-310-4742

Handouts Available: 1 page overview, PACE FAQs for Cities and Counties, PACE FAQs for Bonding and Assessments