

PACE. Property Assessed Clean Energy

Innovative. Voluntary. Efficient.

What is PACE?

PACE is Property Assessed Clean Energy, a new and innovative way for commercial property owners to pay for energy efficiency upgrades, on-site renewable energy projects, and water conservation measures. PACE funding is provided or arranged by a local government for 100% of a project's costs, and is repaid with an assessment over a term of up to 20 years. Local government assessment financing has been used efficiently for decades throughout the United States to fund improvements to private property that meet a public purpose.

- PACE financing is available for all types of commercial and industrial properties, large and small, and may be available to non-profits and government facilities as well.
- Financing approvals are simple, but PACE projects must be permanently affixed to the property and save money for the property owner.
- Benchmarking, energy audits and evaluations can be used to ensure that projects make sense, but PACE is 100% voluntary. In communities that adopt PACE, assessments are only paid by participating owners, and only for their own projects.

PACE is a national initiative, but programs are locally based and tailored to meet local market needs. Visit www.pacenow.org to see if PACE financing is available in your community or learn more about how you can support development of a program.

The Opportunity

Energy efficiency is the least expensive energy we can buy. In the U.S., buildings alone consume over 40 percent of the energy we use, and roughly 75 percent of all electricity. A 2012 study by the Rockefeller Foundation and DB Climate Change Advisors sees an investment opportunity of nearly \$280 billion over the next 10 years that would translate to over \$1 trillion in energy savings, over 3 million jobs, and 600 million fewer metric tons of carbon emissions per year. PACE is clearly working because it meets a market need.

- Property owners see an opportunity to save money and make their buildings more valuable
- Existing mortgage lenders support projects that meet their clients' objectives and increase the value of their collateral
- Energy service companies and contractors find PACE can help them make sales
- Local governments like PACE because it creates jobs, economic activity, and helps meet energy conservation goals
- Private market investors like PACE because assessment liens are a proven, strong credit

Benefits of PACE

PACE financing has many features that can uniquely solve barriers to the adoption of energy efficiency measures.

- 100% financing requires no up-front cash investment
- Long-term financing (up to 20 years) results in immediate positive cash flow
- No payoff upon sale because PACE assessments (and energy savings) remain with the property
- Assessment costs and savings can be shared with tenants
- PACE can attract a wide range of private investors with low interest rates
- PACE may be treated as off balance sheet financing
- Non-recourse, non-accelerating financing
- PACE programs are local and community members are motivated to engage in outreach and marketing efforts



WHERE IS PACE AVAILABLE?

PACE can now be used in 31 states and programs are being launched throughout the U.S. Over the past 12 months, financing activity has more than doubled, with more than \$30 million provided to improve over 160 buildings. Projects completed and in the works range from \$10 thousand to over \$3 million. In the coming year, programs in California, Connecticut, Florida, Georgia, Michigan, Minnesota, New York, Ohio, and others could easily triple these results.

PACE financing works for large and small projects on just about any commercial building. Some of the world's largest property owners, including Simon Property Group and Prologis, Inc. have used PACE to finance energy efficiency and renewable upgrades to their buildings.

CONTACT PACENow

www.pacenow.org
info@pacenow.org

The Challenge

Prologis Inc., the world's leading owner, operator & developer of industrial real estate, was looking to implement energy efficiency and renewable energy upgrades at its headquarters in San Francisco. Pier 1 was built in 1918 and converted to office space in 2001. The real estate giant has been a tenant for 10 years and the time came to enhance the sustainability of the building. Project goals included:

- Improve overall building performance and comfort
- Reduce energy use by at least 30%
- Allocate savings and funding to 5 subtenants based on leased space
- Improve cash flow from day 1

The Solution

Prologis chose PACE to fund energy efficiency and renewable energy upgrades. PACE or Property Assessed Clean Energy allows interested property owners to access financing to undertake qualifying energy efficiency and clean energy improvements on their buildings and repay the investment through an additional charge ("assessment") on their property tax bill. Similar to a sewer tax assessment, capital provided under a PACE program is secured by a lien on the owner's property tax bill and paid back over time through the energy savings. Prologis recognized that PACE was specifically designed to overcome a number of financial barriers to energy efficiency investment. The following advantages of PACE were especially attractive for Prologis:

- Zero up-front cash investment
- Immediate positive cash flow
- Long-term financing (up to 20 years)
- PACE assessment stays with the property upon sale
- Ability to pass payments through to tenants

Project Success

Prologis hired Johnson Controls Inc., an international energy service company based in Milwaukee, to identify cost effective energy measures. JCI provided a holistic solution that encompassed: retrocommissioning of heating and cooling systems, comprehensive interior lighting upgrades, and a 200 kW rooftop solar electric array. Clean Fund, a San Francisco-based private investment firm, offered leading-edge PACE expertise and enabled Prologis to reap the most benefit from this financing. Project highlights include:

- Purchased energy reduced by 32%
- Annual estimated cost savings for Prologis: \$98,000
- PACE made it possible for the financing to be allocated pro rata to 5 subtenants
- Projected annual PV production: 245,520 kWh
- Annually, nearly 400, 000 kWh will be saved
- No increase in operating expenses



PACE in San Francisco

GreenFinanceSF offers PACE financing for a wide range of energy efficiency, renewable energy, and water conservation improvements.

Contact Information

GreenFinanceSF
 Rich Chien
richard.chien@sfgov.org
 415.355.3761
www.greenfinancesf.org

Project Financing

PACE Assessment: \$1.4 M
 Term: 20 years
 Rate: 6.93% fixed

Building Details

Size: 151,000 sq. ft.
 Year Built: 1918
 Assessed Value: \$30 M

Improvements

1,500 new lighting fixtures
 200kW Rooftop solar
 HVAC overhaul

The Challenge

An affordable multifamily housing property located in Southwestern DC required an energy efficiency upgrade. Built 7 years ago, this building houses low income tenants. The building manager was looking for opportunities to save money without adding additional debt. This property is part of HOPE VI program administered by the US Department of Housing and Urban Development (HUD). Units within the building are individually metered and the tenants' electricity bills are subsidized through the HUD utility allowance program. Project goals included:

- Improve overall building performance
- Reduce energy costs
- Reduce operating costs

The Solution

PACE financing was especially attractive for this market segment because the property tax assessment repayment mechanism can be accounted for as an operating expense and not debt. Property manager immediately recognized the advantages of PACE. While the initial interest was in solar only, dialogue with DC PACE program staff expanded the scope of improvements to include a number of energy efficiency measures, such as lighting improvements and controls system. The following characteristics of PACE were especially appealing to the property owner:

- Tax-assessment nature of PACE financing
- Zero up-front cash investment
- Immediate positive cash flow
- Long-term financing

Project Success

The DC PACE program provides an attractive financing solution that helps commercial and tax-exempt property owners implement energy efficiency and water conservation improvements. The program sourced this project directly. The building manager was well-versed in energy efficiency and renewable energy technology and financing options. Experienced program staff successfully obtained consent from the lender on the property as well as the investor in the tax credits that made up the bulk of the equity in the project. Project highlights are:

- Energy use reduction of 15%
- 37 kW solar installation will provide 3.5 % of required energy
- Annual benefits totalling \$40,000
- Project included energy control training for building managers



PACE in DC

DC PACE program provides the capital necessary to make critical building upgrades that increase cash flow and future-proof your asset.

Contact Information

DC PACE Program
info@DCPACE.com
www.dcpace.com

Project Financing

PACE Assessment: \$340,000
 Term: 10 years (20 years amortization)
 Rate: 6% fixed

Building Details

Size: 112,000 sq. ft.
 Year Built: 2007
 Building Value: \$19 million

Improvements

Lighting improvements
 Controls system
 37kW solar array

The Challenge

Salut Bar Americain is one of the Edina's most popular neighborhood restaurants known for its great service and carefully chosen eclectic French menu. The Salut's owner, Parasole Restaurant Holdings, had recently installed LED lighting and energy-saving hood vent controls in two new restaurants in the Minneapolis St Paul region. With positive experiences resulting in lower electric bills and improved light quality for the "front of the house," Parasole wanted to try retrofitting an existing restaurant with the same energy saving technologies. The Salut Bar American project goals included:

- Reduce monthly utility bills and maintenance costs
- Ensure quality, dimmable lighting for a high-quality dining experience
- Financing that fits the unique structure of a restaurant group
- Environmental stewardship through energy conservation

The Solution

Salut Bar Americain is located in the heart of Edina, MN; in 2012, Edina adopted Minnesota's first Property Assessed Clean Energy ("PACE") financing platform. The Edina Emerald Energy Program provides an upfront financing that borrowers pay back as a voluntary special assessment on their property taxes. PACE financing allowed Parasole Restaurant Holdings to finance the energy savings projects at Salut by putting the entire project, after subtracting the upfront utility rebate, as an additional charge on their property taxes over five years. The following features of PACE attracted Parasole:

- Zero-down, cash-flow-positive financing structure
- Security through special assessment rather than via owners' personal guarantees
- Energy savings exceeds loan payments every year
- Cash preserved for core business operations, including new kitchen equipment

Project Success

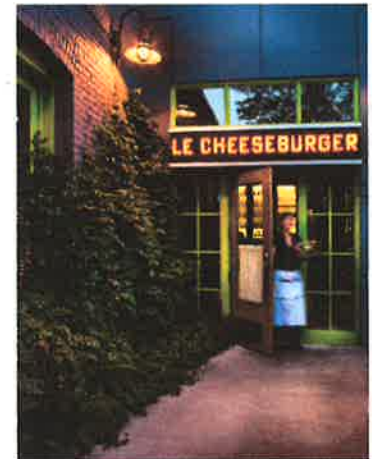
The building owner worked closely with the EnergyMisers LLC to identify the necessary improvements: LED lights and kitchen hood controls. EnergyMisers secured upfront rebates from Xcel Energy, Minnesota's largest electric utility. The contractor and Parasole enlisted Eutectics Consulting to facilitate financing via Edina's PACE program. Eutectics, the Midwest's leading energy financing facilitator, shepherded the Salut project through the Edina Emerald Energy Program, and convinced Bremer Bank to provide the funding.

"Working with Eutectics and with PACE financing was no different from any other project we have proposed - except that it actually got financed, and we were able to get the project completed." Bill Bieganek, Principal, EnergyMisers LLC.

Jeremy Kalin, president of Eutectics Consulting notes "The Salut project is a landmark project for 3 reasons. First, Bremer Bank was the first community bank in the country to fund a PACE project. Second, Salut is the first energy efficiency project in Edina - and in Minnesota - to be financed via PACE. And third - maybe most importantly - without PACE financing, Salut would never have been able to move forward with the project."

This project saved the building owner money, supported the local economy, and reduced greenhouse gas emissions. It was made possible by the collaborative effort between Parasole, Energy Misers, Xcel Energy, and Eutectics Consulting.

"The savings should pay back the investment... It's a no-brainer." Alan Ackerberg, Parasole Restaurant Group.



PACE in Minnesota

The Edina Emerald Energy PACE program is designed to help businesses finance clean energy projects through a special assessment to their property, paid alongside property taxes. Eligible projects include energy efficiency measures and renewable energy systems.

Contact Information

EEEP PACE Program
Jeremy Kalin
612.353.5760
jeremy@eutecticsllc.com

Project Financing

PACE Assessment: \$ 39,308
Term: 10 years
Rate: 7.5% fixed

Building Details

Size: 13,000 sq ft
Year built: 1940
Building Value: \$2.9million

Improvements

LED lights
Kitchen hood controls

Savings

Annual savings for the first 5 years: \$5,569
Annual savings after PACE is repaid: \$15,296



Economic Impacts from the Boulder County, Colorado, ClimateSmart Loan Program: Using Property-Assessed Clean Energy Financing

Marshall Goldberg and Jill K. Cliburn
MRG & Associates

Jason Coughlin
National Renewable Energy Laboratory

Executive Summary

This report examines the economic impacts (including job creation) from the Boulder County, Colorado, ClimateSmart Loan Program (CSLP), an example of Property-Assessed Clean Energy (PACE) financing. The CSLP was the first test of PACE financing on a multi-jurisdictional level (involving individual cities as well as the county government). It was also the first PACE program to comprehensively address energy efficiency measures and renewable energy, and it was the first funded by a public offering of both taxable and tax-exempt bonds. The first phase of the residential CSLP financed about \$9.8 million in residential energy retrofits, most of which were completed in 2009. This report focuses on 598 project invoices and \$9.0 million in project spending.

The report provides a program overview and economic impact analysis of program spending and energy savings using an input-output (I-O) model. The report also provides a qualitative assessment of factors that affected the resulting economic impacts, and profiles some program participants and contractors. The analysis focuses on Boulder County benefits but also includes an assessment of associated statewide economic benefits.

Results of the analysis indicate that:

- CSLP spending in Boulder County alone contributed to 85 short-term jobs, more than \$5 million in earnings, and almost \$14 million in economic activity in the county.
- CSLP spending supported another 41 short-term jobs throughout the state but outside of Boulder County, \$2 million in additional earnings, and almost \$6 million in additional economic activity statewide.
- Assuming the program were extended with the same annual funding and participation, the 5- and 10-year trajectory of economic impacts would forecast additional benefits and sustained job opportunities.
- Reduced energy use saved participants about \$125,000 during the first year on their electric and gas utility bills.

Total CSLP costs for Phase 1, including the development of a risk-management reserve fund, loan fees, loans, and other costs, totaled about \$13 million. Short-term in-county benefits alone exceed this investment. Statewide economic benefits enhance the program value.

From a qualitative perspective, there are indications that declining program implementation costs (including interest rates and costs related to the reserve fund, as well as marketing and administrative fine-tuning) would improve economic results in future CSLP funding cycles.

Program design decisions, including one that brought in a high percentage of out-of-town contractors, resulted in many of the economic benefits leaking from the local economy. Yet the program had a variety of objectives, including not only creating local jobs but also reducing greenhouse gas emissions from a range of measures. Some products and skill sets needed to meet these objectives were not readily available in the county. Further, the CSLP aimed to prime the pump for green jobs development in the county and statewide.

By far, the greatest number of jobs gained (57% of in-county jobs) were related to solar photovoltaic (PV) projects. However, the first-year energy savings from PV are relatively small

compared to the upfront cost of a PV installation, which is designed for long-term (30-year), fuel-free operation.

The qualitative assessment reveals that the CSLP spurred significant energy retrofit spending beyond that reflected on loan applications. Many residents attended CSLP informational sessions to learn more about potential home improvements, but then ended up financing those improvements through channels other than the CSLP, such as home equity lines of credit (HELOC), cash, or in the case of PV systems, leasing the system from a solar company. Cash spending and alternatively financed spending probably increased the total of all program-related spending by 20% or more. Most of this spending escaped documentation because it encompasses many possibilities, from the PV system that was purchased using home-equity lending to the replacement of leaky windows with those of a better quality, that did not meet loan qualification standards. Additionally, there were expenditures for retrofit-related paint jobs and cosmetic improvements, as well as major home remodels inspired by the availability of low-interest financing for at least part of the job. The relationship of these expenditures to the CSLP program was confirmed by surveys of CSLP workshop registrants and energy project contractors. CSLP program participants profiled in this report shed extra light on how the availability of PACE financing spurred the market for energy efficiency and renewables.

The Boulder County ClimateSmart program is one of only a handful of local PACE financing programs that reached implementation before the Federal Housing Finance Agency (FHFA) effectively placed a moratorium on such programs in July 2010. The CSLP proceeded with implementation of a commercial PACE program, but it suspended the residential program, which was poised for Phase 2 implementation. The findings of this study show that continuing the CSLP would have additional benefits well beyond the increased cost-effectiveness from administrative and marketing lessons learned. These benefits include:

- Significant, long-term utility bill savings for participants
- Job creation for Boulder County every year, including more than 90 jobs in 2020 alone if the program were continued to that year
- An increase in overall economic activity in the county every year for the duration of the program. Countywide economic output in 2020 alone would increase by approximately \$15 million
- Expansion of statewide economic impacts and the likelihood that a growing market for energy efficiency and renewables could attract higher-value manufacturing and related job benefits to the state.

Arguably, programs like the CSLP “prime the pump” establish a market for energy efficiency and renewable energy products that could be manufactured profitably in-state, creating much greater job impacts and economic benefits.