Keeping PACE?: The Case Against Property Assessed Clean Energy Financing Programs

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Abstract: Property Assessed Clean Energy (“PACE”) is a method of public financing for energy improvements through special assessments on local government property taxes. Interest in PACE exploded from its origination in 2008, with almost half the states rapidly enacted legislation enabling local governments to use their property collection power for this purpose. The growth in PACE is now suspended, and existing programs have been put on hold, in the face of opposition from the federal secondary mortgage market regulators. Governments and environmental advocates supporting PACE have initiated litigation against the federal regulators and are seeking passage of federal legislation to revive the programs. This Article argues that the theory underlying PACE is fundamentally flawed. PACE has been promoted as an alternative to traditional real estate financing that resolves the impediments to homeowners investing in alternative energy and energy efficiency. A careful analysis of these claims demonstrates that PACE in actual practice will operate similarly to most other types of real estate financing, and that the efforts to reconstruct PACE programs through litigation or legislation are misplaced. Instead, PACE programs should be radically restructured or should be considered a creative yet failed experiment offering valuable lessons for future residential energy investment programs.

Property Assessed Clean Energy (“PACE”) is a creative new method of financing renewable energy systems and energy efficiency improvements for residential buildings. The essential element of a PACE program is public financing of energy improvements with repayment through special assessments on local government property taxes.\(^1\) From 2008 through 2010, almost half the states rapidly enacted legislation enabling local governments to use their property collection power for this purpose.\(^2\) Pioneering programs in California and Colorado are being studied by

\(^{1}\) Property-Assessed Clean Energy (PACE) Financing of Renewables and Efficiency, NAT’L RENEWABLE ENERGY LABORATORY, 1 (July 2010), http://www.nrel.gov/docs/fy10osti/47097.pdf.

\(^{2}\) PACE Financing – PACE Program Information, PACEFINANCING.ORG http://pacefinancing.org/state-financing/california/berkeley/ (last visited Dec. 17, 2010) (noting that the Berkeley ClimateSmart Program was the first in the nation in 2008); PACENOW.ORG, http://pacenow.org/blog/ (last visited Dec. 17, 2010) (noting that twenty-two states allow or have adopted legislation for PACE programs).
numerous cities and counties throughout the United States eager to participate in the critically
needed transition to an environmentally sustainable economy.  

PACE was described in the list of ten “Breakthrough Ideas for 2010” in the Harvard Business
Review, made a list of twenty “World Changing Ideas” in Scientific American and has been
endorsed by a White House report. Until recently, PACE programs were on the verge of being
launched throughout the country. The growth in PACE is now suspended, and existing
programs have been put on hold, in the face of opposition from the secondary mortgage market.

Litigation by governments and environmental advocates in defense of PACE ensued and is on-
going, as are efforts to protect PACE through federal legislation. Aggressive push-back about
the PACE concept from the mortgage lending industry was predictable and likely will persist.

This Article explores the more fundamental question of whether PACE programs are the best
alternative for promoting investment in residential alternative energy, and whether litigation or
legislation to preserve PACE programs are worth the effort. PACE programs promised benefits
to homeowners that the programs could not deliver. The core problem with the promises made
by and about PACE programs is that the structure of these programs do not account for the

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3 Ed Brock, Green Loan Programs Spread At Rapid Pace, AMERICAN CITY AND COUNTY (Jan. 1, 2010), http://americancityandcounty.com/topics/green/green-loan-programs-201001/
5 Christopher Mims, The No-Money-Down Solar Plan, SCIENTIFIC AMERICAN, Dec. 2009, at 50 (including PACE financing on a list of twenty ideas that could change the world).
7 About PACE. PACENOW.org, http://pacenow.org/blog/about-pace/ (last visited Dec. 17, 2010); see also.
reality of real estate transactions and real estate finance markets. PACE has been promoted as a primary national strategy for financing residential energy improvements without sufficient concern for consumer protection in the presentation of the program to homeowners and without careful analysis of the long-term prospects for sustaining the program. Government policymakers and environmental advocates should turn their limited resources to other approaches for increasing residential energy investments.

The primary argument in favor of PACE programs is that tying repayment to property tax obligations removes homeowner concerns about responsibility for the financing when the homeowner sells the property. This assertion fails to account for the existence of bargaining between home buyers and sellers, and for the power of mortgage lenders to require repayment of the loan on transfer. In actual practice, PACE financing is likely to operate similarly to mortgage loans on transfer of the property.

This analytic error is symptomatic of a theoretical flaw in the design of PACE programs. These programs have been conceptualized as an alternative to, rather than as a form of, real estate financing. PACE has been presented as a public investment in energy improvements similar to a local government improving a street and assessing construction costs on property owners. There are important public policy concerns underlying investment in residential energy improvements, but PACE offers a voluntary choice made by a homeowner to accept financing secured by her property. When properly characterized and understood as a home financing technique, PACE loses much of its appeal as a means of resolving long-standing problems with paying for residential energy improvements. The failure of existing PACE programs to adequately anticipate the adverse secondary mortgage market reaction is just a prominent example of this problem with the conceptualization of PACE programs.

Part I briefly explains the mechanics of PACE financing and the basics of residential energy improvement investments. Part II highlights the confusion in the underlying theory used to justify the expansion of PACE. This Part examines why PACE financing does not overturn the market dynamics that make homeowners installing energy improvements responsible for the economic consequences of that decision.

Part III discusses the dispute between PACE programs and mortgage lenders, and the broader problem of how PACE tax liens interact with existing or later acquired mortgage liens. Part IV looks at loan cost and financing availability with PACE—two other areas in which PACE advocates overstate the advantage for this financing method. Finally, Part V of the Article

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12 See infra notes 44-51.
13 See infra Part I.
14 See infra Part II.
15 See infra Part III.
16 See infra Part IV.
suggests some different and more modest models for how PACE may better utilize some of the advantages offered by tax assessed recoupment of financing charges.\textsuperscript{17}

The objective of PACE programs to contribute to the transition to a clean energy economy is more than laudable; it is essential to our survival as a civilized society. The United States, as the world’s largest per capita energy consumer,\textsuperscript{18} bears special responsibility to commit to the transition to a sustainable economy. Yet promising homeowners benefits that cannot be delivered will not achieve this purpose. PACE programs as currently conceived should be applauded for original thinking, but they should not be reconstructed through litigation or legislation. Instead, PACE programs should be radically restructured or should be considered a creative yet failed experiment offering valuable lessons for future residential energy investment programs.

I. How PACE Works

This part sets forth the rationale for PACE programs and how they work. PACE was created to offer longer-term financing that would overcome the impediments to homeowner investment in solar energy and other energy production or efficiency technologies.

A. Homeowner Economics for Residential Energy Improvements

Homeowners can invest in energy improvements by either constructing alternative energy systems that produce electricity or heat or installing energy efficiency measures that save on the consumption level of fuel or electricity. Alternative energy systems available for residences include solar, wind and geothermal mechanisms.\textsuperscript{19} The most popular alternative energy system for homeowners is solar photovoltaic (PV), which transforms solar energy into electricity.\textsuperscript{20}

\textsuperscript{17} See infra Part V.


\textsuperscript{20} JASON COUGHLIN, NAT’L RENEWABLE ENERGY LABORATORY, PHOTOVOLTAICS (PV) AS AN ELIGIBLE MEASURE IN RESIDENTIAL PACE PROGRAMS: BENEFITS AND CHALLENGES 1 (June 2010) (noting that homeowners obtaining PACE loans overwhelmingly chose solar PV even when the PACE program funds other alternative energy production or efficiency investments). Solar thermal systems are used to heat water, and obviously do not create additional value for the homeowner that can be sold back to the system. See NAT’L RENEWABLE ENERGY LAB., 2008 SOLAR TECHNOLOGIES MARKET REPORT 6-10 (2010) (discussing the increase in installation of solar pv energy systems in the United States).
The cost of a solar PV system depends on the size of the system, but even a smaller three kilowatt system has a gross installed cost of approximately $22,500.\(^\text{21}\) Homeowners can obtain a variety of financial incentives for installing either type of solar system, including state and local incentives.\(^\text{22}\) In states with favorable “net metering” and “feed-in tariff” laws, homeowners not only use the electricity produced, but they also can return to the electricity grid any unused generated electricity and obtain payment from the local utility at regulated prices.\(^\text{23}\) The net cost of a solar PV system, therefore, will vary substantially with the incentives and regulatory structure for the location of the installation.

The value of a solar system also varies by location for two reasons. First, the fact that it is much sunnier in Phoenix than Seattle obviously matters, so the amount of electricity produced by the system will vary based on the solar resources of the location.\(^\text{24}\) Second, the price of electricity in

\(^{21}\) Id. at 51 (using $7.50 per watt as the installed cost); see also GALEN BARBOSE ET AL., THE INSTALLED COST OF PHOTOVOLTAICS IN THE U.S. FROM 1998-2009 I (2010) (“The capacity-weighted average installed cost of systems completed in 2009 – in terms of real 2009 dollars per installed watt and prior to receipt of any direct financial incentives or tax credits – was $7.5/Watt, virtually unchanged from 2008.”).

\(^{22}\) A federal tax credit of 30% of the net system cost has been available since 2005. See I.R.C. § 25D (2010); see also RESIDENTIAL RENEWABLE ENERGY TAX CREDIT, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US37F&re=1&ee=1 (last updated Feb. 18, 2010). Many states also have a variety of incentive programs, including rebates, tax credits and the exemption of sales tax on solar installations. See, e.g., Heather Hughes, Enabling Investment in Environmental Sustainability, 85 Ind. L.J. 597, 625-26 (2010). Utilities in some areas contribute to homeowner installation of solar systems by providing rebates or “renewable energy credits,” which are payments to homeowners for renewable energy production that a utility can claim to apply to a state renewable portfolio standard mandating that the utility generate a certain percentage of its power from renewable sources. Megan Hiorth, Note, Are Traditional Property Rights Receding With Renewable Energy on the Horizon, 62 Rutgers L. Rev. 527, 547-48 (2010) (explaining Solar Renewable Energy Certificates in New Jersey).

\(^{23}\) See Sara Bronin, Curbing Energy Sprawl With Microgrids, 43 Conn. L. Rev. 547, 550-51 (2010) (“[A] homeowner with a solar panel installation that produces more electricity than she uses. . . can only “sell” it back to local electric utility companies under state rules governing such transactions, known as net metering.”); Lincoln L. Davies, Power Forward: The Argument for a National RPS, 42 Conn. L. Rev. 1339, 1371-72 (“The feed-in tariff is effectively the RPS’s mirror image. Rather than using the stick of a minimum renewables threshold, the feed-in tariff employs the carrot of a guaranteed price and, often, a purchase obligation.”); Jim Rossi, The Limits of a National Renewable Portfolio Standard, 42 Conn. L. Rev. 1425, 1435-36 (2010); KARLYNN CORY ET AL., NAT’L RENEWABLE ENERGY LABORATORY, FEED-IN TARIFF POLICY: DESIGN, IMPLEMENTATION, AND RPS POLICY INTERACTIONS 2 (March 2009)(“FIT policies may require utilities to purchase either electricity, or both electricity and the renewable energy (RE) attributes from eligible renewable energy generators.”).

different parts of the country can vary substantially.\textsuperscript{25} Because both the cost and the value of a solar system are dependent on local conditions, the payback for solar systems will vary drastically depending on where it is installed. In areas like southern California with substantial incentives, high utility rates and sunny skies, the monthly savings and revenue from a solar energy system can exceed the financed cost of the system.\textsuperscript{26} Solar energy has long payback periods in many other areas of the country.\textsuperscript{27}

Regardless of the economics of the investment, it is clear that many homeowners are motivated to invest in a solar system for social and ideological reasons. Climate change and environmental degradation from nonrenewable energy use motivates many homeowners to be early adopters of solar energy technology.\textsuperscript{28}

Energy Efficiency programs range from tiny measures, such as switching to fluorescent light bulbs, to investments that cost thousands of dollars, such as replacing heating and cooling equipment.\textsuperscript{29} In many cases, energy efficiency results in rapid payback periods for the investment.\textsuperscript{30} State and local governments, utility company and non-profits have developed a vast array of financing incentives and outreach programs to encourage homeowners to invest in energy efficiency measures.\textsuperscript{31}

\textsuperscript{25} See, e.g., Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, U.S. ENERGY INFO. ADMIN., \url{http://www.eia.doe.gov/electricity/epm/table5_6_a.html} (last updated Dec. 27, 2010) (indicating electricity costs ranging from nineteen to nine cents per kilowatt hour in the contiguous United States).

\textsuperscript{26} A 2009 NREL report expresses this idea by noting how much solar PV would have to cost in order to allow a break-even point. In most areas of the country, solar PV would have to cost less than five dollars per watt, whereas in areas with high solar resources and high electricity costs, like California, or high electricity costs and robust incentives, like New York, the break-even cost per watt could be over eight dollars. See PAUL DENHOLM ET AL., NAT’L RENEWABLE ENERGY LABORATORY, BREAK-EVEN COST FOR RESIDENTIAL PHOTOVOLTAICS IN THE UNITED STATES: KEY DRIVERS AND SENSITIVITIES 5-6 (DECEMBER 2009).

\textsuperscript{27} BRAAKSMA ET AL., supra note 11, at 24 (calculating that, depending on the assumptions made in the process, solar PV payback period in Minnesota would be somewhere between 17 and 37 years).

\textsuperscript{28} Id. at 27 (discussing a survey indicating that environmental benefits encouraged homeowners to invest in solar PV, and that they were willing to pay nearly 150\% of their current electricity costs as a result).


\textsuperscript{30} See, e.g., Payback Period Example 1, U.S. DEP’T OF HOUSING & URB. DEV., \url{http://www.hud.gov/offices/cpd/affordablehousing/training/web/energy/cost/example1.cfm} (last updated Mar. 26, 2010) (describing a payback period of less than seven years for the incremental cost of purchasing a new high efficiency furnace).

\textsuperscript{31} See, e.g., Loan Helps Homeowners Upgrade Furnaces, DETROIT NEWS, Nov. 19, 2010, at H10 (describing the Michigan Saves program, which makes low interest loans for energy efficiency improvements); Database of State Incentives for Renewables & Efficiency, DSIRE.ORG, \url{http://www.dsireusa.org/Index.cfm?RE=0&EE=1} (last visited Dec. 30, 2010) (listing state incentives for energy efficiency); Sustainable Home Initiative in the New Economy, CITY OF ATLANTA, \url{http://www.atlantaga.gov/mayor/shine_080410.aspx} (last visited Dec. 30, 2010) (describing a
B. The PACE Financing System

The substantial investment required for many energy improvements, especially alternative energy production systems, means that homeowners unable or unwilling to pay up-front for these improvements must obtain financing. Some homeowners are unable to obtain financing on any terms, and other homeowners cannot obtain financing at a monthly cost that makes the investment affordable relative to the energy cost savings. Even when financing is available, homeowners resist making investments out of concern that they will have to pay the remaining balance on the financing when the home is sold or refinanced. PACE was developed as a public financing solution to all of these concerns.

1. Essential Elements of PACE

PACE relies on property tax special assessments to fund energy improvements for residential property. A unit of local government finances energy improvements by homeowners. The homeowner repays the financing through special property tax assessments. Unlike most property tax assessments, the homeowner voluntarily assumes the obligation to make future property tax payments to repay the PACE financing. A state legislature usually must enact enabling legislation permitting local governments units to create this unusual form of property tax special assessment authority.

Local governments have taken two approaches to obtaining the funds to be lent to homeowners. Most PACE programs rely on bond financing. The local government unit issues a bond and

33 See, e.g., PACENOW.ORG, supra note 2.
35 ANNIE CARMICHAEL, PROPERTY ASSESSED CLEAN ENERGY (PACE) ENABLING LEGISLATION, VOTE SOLAR (Mar. 18, 2010); HANNAH MULLER & SARAH TRUITT, U.S. DEP’T OF ENERGY, SOLAR POWERING YOUR COMMUNITY: A GUIDE FOR LOCAL GOVERNMENTS 35 (July 2009) (“Property assessed clean energy programs are typically 100% opt-in, and property tax expenses remain unchanged for those who choose not to participate.”); Eisen, supra note 34, at 84 ( “[P]roperty owners [have] the option of installing renewable energy projects and paying for them over a period of years by adding specified amounts to their property tax bills.”).
36 CARMICHAEL, supra note 35. In some states, such as Hawaii and Florida, state law is thought to provide inherent authority for PACE programs. See PACE Financing, DSIRE.ORG,
promises repayment based on the proceeds of property tax assessments. Alternatively, some local units of government lend general reserve funds to homeowners for PACE projects.

PACE programs offer homeowners long-term financing, with loan terms ranging up to 20 years. These long loan terms make possible more favorable payback ratios for expensive investments in residential alternative energy systems. Purchase of a solar PV system may seem prohibitive to a homeowner if the monthly savings in electricity use (or payments for electricity production) are substantially less than the monthly payments on the loan for the system. By stretching the loan terms to 15 or 20 years, PACE programs can lower the monthly payments and thereby improve the ratio of monthly savings to monthly costs.

2. Claimed Advantages of PACE Financing

Proponents of the PACE financing system generally voice two types of advantages for homeowners: (1) cost-free property transfers, and (2) lower cost and more readily accessible financing. These alleged advantages stem from different aspects of using property tax assessments as a financing mechanism. The notion that PACE allows for cost-free transfers of the financing obligation is tied to the fact that property tax assessments are made against the current owner of the property rather than being obligations of the person who agreed to the assessment. The argument for PACE as a means of lowering financing costs and broadening loan availability is a function of the priority given to property tax assessments relative to mortgage loans or other liens against the property.

a. Cost Free Transfers By Tying Repayment to Tax Assessments

The most strongly promoted and advantage of PACE programs is that PACE financing resolves homeowner concerns about paying off long-term financing for energy improvements. If the homeowner later sells the property, PACE allegedly transfers the burden of repaying energy improvements from the homeowner originating the PACE financing to whomever owns the property. The argument for PACE programs, therefore, is that homeowners can confidently invest in long-term energy improvements knowing that the burden of repayment will fall on

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38 Id.; see also Eisen, supra note 34, at 84.
39 Robert Selna, Sonoma County Resists Feds on Home Energy Loans, S.F. CHRONICLE, July 29, 2010, at A1 (noting that the Sonoma County “PACE program is funded by $100 million from its treasury”).
40 BfraaksmA et al., supra note 11, at 10 (noting PACE assessment terms ranging from five to twenty years). PACE terms for the Sonoma County program are five to ten years for loan amounts under $5,000 and ten or twenty years for amounts over $5,000. All loans in the Boulder County program are fifteen year terms. Muller & Truitt, supra note 35, at 37-38.
41 Coughlin, supra note 20 at 2-3 (discussing the savings to investment ratio); Nat’l Res. Def. Council et al., supra note 32, at 4 (“PACE is designed to finance projects that are cash positive for participants over the useful life of the retrofit.”).
42 See infra Part I.B.2.a.
43 See infra Part I.B.2.b.
future owners of the home if the property is sold. Because PACE financing is offered for lengthy
loan terms, a cost free transfer to future homeowners has even greater value.

The importance of this purported benefit has been emphasized by PACE programs, analysts
and academics, and environmental advocates in discussing PACE. An influential White
House Report describes PACE financing as “attach[ing] the obligation to repay the cost of
improvements to the property, not the individual borrower.” The Sonoma County, California
PACE program has stated: “Assessments are a lien on the property itself: when the property is
sold, the assessment stays with the property.” An advocacy group states that “property tax
financing solves the problem of “what happens when I sell my home?” The simple ans
wer is that the solar power system and whatever tax liability you have both go to the new owner of your home.”

Homeowners adopting PACE seemed convinced of this assertion. Surveys of participants in the
Berkeley PACE program also cite this purported benefit as a prime motivator for obtaining a
PACE loan. A PACE borrower from the Sonoma County project was quoted in the New York

44 Berkeley FIRST Solar Financing, CITY OF BERKELEY,
stays with the property, so does the tax obligation—if the property is transferred or sold, the new owners will pay
the remaining tax obligation.”); see also PACENOW.ORG, supra note 2 (stating that “PACE assessments stay with a
property upon sale, until they are fully repaid by future owners.”).

45 Coughlin, supra note 20 at 3 (describing the cost-free transfer as “one of the pillars of PACE financing”); Eisen,
supra note 34, at 85 (stating that “[b]ecause the debt is repaid through the property tax, if the homeowner moves
before the system’s payoff period, the debt simply continues to be repaid by the next owner,” but noting concern
about state servitude law on transfer of the property); John C. Dernbach, et. al., Making the States Full Partners in a
National Climate Change Effort: A Necessary Element for Sustainable Economic Development, 40 ENVT. L. REP.
NEWS & ANALYSIS 10597 (2010); Ryan North, et. al., The Evolving Picture of Energy Efficiency Retrofitting for
New York City Commercial Buildings, in GREEN REAL ESTATE SUMMIT 2010: WHAT ATTORNEYS, DEVELOPERS,
REGULATORS, TENANTS & LENDERS NEED TO KNOW 53 (2010) (“An attractive feature of this model is that debt
payments are tied to the property, not the property owner, which makes deeper and more extensive retrofits more
viable since the loan stays with the property even if the current owner moves”).

46 PACENOW.ORG, supra note 2 (“Assessment transfers upon sale - new owner benefits from improvements that
stay with the property.”); Felicia Marcus & Justin Horner, Response to the Quiet Revolution Revived: Sustainable
Design, Land Use Regulation and The States by Sarah Bronin, 40 ENVT. L. REP. NEWS & ANALYSIS 10,743 (2010)
(Marcus and Horner are staff with the Natural Resources Defense Council).

47 WHITE HOUSE FRAMEWORK, supra note 6.


49 PACE Program (Property Assessed Clean Energy) Financing, ONE BLOCK OFF THE GRID,

50 CITY OF BERKELEY, BERKELEY FIRST INITIAL EVALUATION 2 (2009), available at
Times as stating that “part of the draw was that the loan goes with the property to the next owner.”

b. Lower Costs and Broader Availability Through Lien Priority

The other advantages claimed for PACE flow from the super-priority given to tax liens on real property. Real estate liens generally are ordered so that prior liens are paid in foreclosure before liens filed later in time. A first lien mortgage loan used to buy a property takes priority over a later second lien mortgage loan used to remodel the home. If the homeowner defaults on the second lien loan, the first lien mortgage holder retains its lien if the second lien mortgage holder forecloses, but the converse is not true.

Tax assessments are an exception to this lien priority rule. Generally, unpaid property tax assessments have priority over any other liens, regardless of the date the prior liens were recorded or the date that the tax assessments became delinquent. This makes the lien priority for PACE financing senior to liens for mortgage loans closed prior to the homeowner’s acceptance of the PACE financing. In the case of default by the homeowner on the PACE assessment, local governments and investors in PACE bonds can expect to collect the balance owed on a PACE assessment before any recovery by a mortgage lender.

This super-priority has led to two claimed advantages for PACE programs. First, this advantaged lien position and consequent investor security of repayment can lead to lower costs for PACE financing compared to private real estate financing. Second, super-priority for repayment in default means that investors do not need the extensive underwriting and assurances about the homeowner’s repayment ability that would normally be imposed by a mortgage lender. The lack of need to carefully underwrite the risks suggests the possibility of making PACE financing available to a much broader group of homeowners than those who would qualify for private financing.

52 GRANT S. NELSON & DALE A. WHITMAN, REAL ESTATE FINANCE LAW §1.1 and §§7.31-7.32 (West Group 5th ed. 2007).
53 James J. Kelly, Bringing Clarity To Title Clearing: Tax Foreclosure And Due Process In The Internet Age, 77 U. Cin. L. Rev. 63, 73 (2008).
55 Devries, supra note 12 (“One of the remarkable things about PACE is that it really opens up the qualifications to a huge subset of folks. Essentially any property owner who owns their home in good standing, who is up to date on their taxes and their mortgage, and is not underwater on their property, meaning that their property is not worth less
II. PACE Is Real Estate Financing.

The arguments for homeowner advantages with PACE are predicated on the idea that tying repayment to property tax assessments radically changes the characteristics of financing for homeowners. Unfortunately, the ultimate consequences for homeowners with PACE financing are not substantially different than with private financing because the dynamics and constraints of the real estate finance market shape the realities of PACE financing. As a result, the claimed benefits for PACE programs disappear upon closer examination.\(^\text{56}\) This Part analyzes the core argument of PACE advocates that use of property tax financing removes the property transfer risks for homeowners in financing energy improvements. The two advantages resulting from PACE tax lien priority—lower costs and broader loan availability-- are critically examined in Part IV of this Article.\(^\text{57}\)

A. PACE Does Not Eliminate Transfer Risks Associated With Financing.

The notion that PACE financing, as compared to other real estate financing, creates a lien that runs with the property rather than the individual owner is true in a literal sense. A homeowner voluntarily agrees to a tax assessment that only be collected against the property and is not a personal obligation of the homeowner.\(^\text{58}\) The import of the claimed advantage, however, is that on sale of the property the homeowner is not required to pay off the remaining balance on the PACE financing because the lien will simply persist on the property and be repaid in the form of future property tax assessments.\(^\text{59}\) Real estate sale and lending markets will not allow this benefit to occur with any frequency.

A sale of residential real estate generally will not happen without a consideration of all liens on the property, including a PACE assessment.\(^\text{60}\) A property tax special assessment that is the

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\(^{56}\) This Article is limited to an analysis of PACE as a means of residential energy finance. The PACE concept also could be used to fund commercial energy improvements, but an analysis of PACE in the commercial context is beyond the scope of this Article. See 2010 Mich. Pub. Act §270 (limiting PACE program to commercial property); World Business Council for Sustainable Development, US BCSD Explores Options For PACE Funding, http://www.wbcsd.org/plugins/DocSearch/details.asp?DocTypeId=--1&ObjectId=MzkyMzc&URLBack=result.asp%3FDocTypeId%3D-1%26SortOrder%3D-1%26CurPage%3D1

\(^{57}\) See infra Part IV.

\(^{58}\) 5 Powell on Real Property § 39.04 (2008). In a small minority of states, property taxes can be held a personal obligation of the homeowner. Id. at n.1.

\(^{59}\) See Eisen, supra note 34, at 85 (“Because the debt is repaid through the property tax, if the homeowner moves before the system's payoff period, the debt simply continues to be repaid by the next owner.”).

\(^{60}\) See, e.g., Ronald Brown, et. al., Real Estate Brokerage: Recent Changes in Relationships and A Proposed Cure, 29 Creighton L. Rev. 25, 35 (1995); American School of Real Estate, http://www.realestatelicensesexpress.com/ (advising that “Unless there is a written agreement in place stating otherwise, special assessment taxes must be paid in full prior to any transfer of property.”)
subject of negotiation between the seller (the “PACE homeowner” who obtained the financing) and the home buyer has two possible outcomes: (1) the PACE homeowner pays off the remaining balance of the PACE financing at the time of sale; or (2) the buyer assumes responsibility for future special assessment. Under the assumption that all parties are acting rationally, the PACE homeowner will pay for the remaining obligation on sale of the home in either case.

If the PACE homeowner pays off the assessment on sale of the property, it obviously is the same outcome for the seller as with any other form of financing that she would have used to install the energy improvements. In the second scenario, where the PACE homeowner forces the buyer to assume responsibility for future special assessments, the question is whether the buyer will demand a lower sale price or other consideration. Rational buyers will assume responsibility for the PACE financing only if they receive a correspondingly lower sale price for the home, or some other consideration. The result in either case is the same, the PACE homeowner walks away from the sale with less money because of the existence of the PACE financing obligation—either by paying off the assessment prior to or at closing, or by accepting a lower sales price in return. Thus, PACE does not resolve the problem of the homeowner being responsible for the long-term consequence of financing used to install energy-related improvements unless there is reason to believe that the sale of a home with a PACE financing obligation defies the logic of a rationally negotiated real estate transaction.

This result holds regardless of the countervailing increase in home value caused by installing the energy improvements. For example, consider two identical homes sitting next to each other. Home A has a solar system made possible with a $10,000 remaining PACE assessment and Home B has neither a solar system nor a PACE assessment. If a rational buyer values the solar system as worth $12,000 due to the energy savings or environmental concerns, then she will be willing to offer $12,000 more for Home A if the seller pays off the PACE assessment or $2,000 more for Home A if the assessment becomes the obligation of the buyer. In either case, the seller of Home A is $2,000 better off than the seller of Home B. Conversely, if the solar system does not increase the value of Home A in the view of the buyer, then the seller who installed the solar system with PACE financing will take a $10,000 loss on the investment because she will either have to pay off the $10,000 or she will receive $10,000 less for the house price with the buyer taking subject to the repayment obligation, or some combination thereof.

B. Arguments for the cost-free PACE transfer are erroneous.

PACE proponents have responded or could respond to the problem of real estate negotiation in four ways: (1) buyers don’t consider property tax special assessments when negotiating home sale price; (2) buyers won’t negotiate the price because the energy improvements are worth more than the amount of the PACE assessment; (3) PACE provides the option of the buyer assuming the obligation, which is not available for other forms of financing; and (4) PACE programs can
require lien assumption. None of these arguments fundamentally addresses the inaccuracy of claiming PACE financing is essentially cost-free on property transfer.

1. Irrational buyers

The first response is that home buyers will irrationally fail to notice or care about a property tax special assessment because they will treat a property tax assessment differently than another type of obligation. The lack of economic rationality in consumer behavior is well-documented,\(^6^1\) so there may be some validity to this view.

The very limited data available on resale or refinancing of homes with the initial PACE programs supports the view that homeowners will pay-off PACE liens rather than engage in a cost-free transfer of the obligation.\(^6^2\) While more sale data will be helpful in evaluating the extent of economically irrational consumer behavior, the claims of PACE advocates will not be easily resolved through an empirical investigation. In assessing the conduct of home buyers with PACE assessments, a starting point would be to determine the number of PACE homeowners paying off the financing on sale of the property. But even if buyers are taking subject to the property tax assessment in large numbers, evaluating whether irrational buyer behavior exists, and the extent of that conduct, would require determining if the buyer bargained on sales price or other consideration in the negotiation because the property and tax records will not show whether bargaining occurred. Uncovering this information will require interviewing the buyers and perhaps sellers for each property transfer following sale of homes with PACE financing. And even then, evaluating the behavior of buyers with the prototype PACE programs now in existence doesn’t address the realities that will occur if PACE programs reach a large enough scale that real estate agents and buyers are familiar with this type of tax lien.

While information on the rationality of home buyers vis-à-vis PACE obligations will be useful to discover, it won’t resolve the issue of whether PACE programs should be promoted as they are currently promoted. The impression left by the promoters of PACE is that PACE resolves homeowner concerns about being stuck with the cost of a solar system or other improvement if the homeowner sells the property before the loan is repaid. Nothing about a PACE assessment, as opposed to a private mortgage lien, guarantees or even makes likely this result. PACE programs, at best, can claim that they offer the possibility of cost-free transfer if the person buying the home acts with ignorance or otherwise acts economically irrational. This is a much

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\(^6^2\) Coughlin, note 20 at 3. Coughlin reports that there has been one home sold with PACE financing through the Boulder program and that “the lien was paid off by the seller as a condition of the sale.” Coughlin also reports that two homes with PACE loans in Palm Desert program were refinanced and that “In both cases, the PACE liens were paid off as part of the transaction.”
weaker claim than the current promotion of PACE as an essentially risk-free investment on sale of the property.

Finally, relying on home buyer ignorance or irrationality raises the issue of whether local governments should be promoting to its citizens the benefits of a program based on the presumed irrationality of other citizens of that government. Governments arguably have an obligation to ensure full disclosure of all information related to real estate transactions in which they have an interest.

2. Cost savings

PACE advocates stress that PACE financing is different than traditional financing because monthly savings from the investment exceed the monthly cost of investment. The second argument for risk-free transfer is that this favorable investment payback means that new owners will benefit from assuming the investment and thus a homeowner taking subject to a PACE assessment will have no costs on transfer of the property. This notion is just analytic error.

Unless a home buyer has an unusual interest in how the seller of the home financed improvements, the only facts of concern to the buyer are the value of the improvement to him or her, perhaps including his or her beliefs about how the improvement changes the market value of the property. Assume, for example, the buyer values a solar PV system and insulated walls at $5,000. It doesn’t matter if the PACE financing to achieve those improvements was for $1,000 or $20,000-- the buyer will pay $5,000 more. Or if energy prices rise drastically and the value of these improvements increase the value of homes with such improvements more than the cost of any PACE assessment, the PACE homeowners will not decrease the market price for the properties because the decision to make the improvement with PACE financing was a bargain. Accordingly, the value of energy improvements is irrelevant to whether the PACE homeowner

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63 The White House Report, for instance, supports PACE funding only for an investment that will “pay for itself,” meaning an investment for which the “expected total utility bill savings are estimated to be greater than expected total costs (principal plus interest).” WHITE HOUSE FRAMEWORK, supra note 6, at 4-5.

64 See, e.g., Responding to Concerns with Municipal Financing of Energy Improvements, NEW RULES PROJECT, http://www.newrules.org/energy/publications/responding-concerns-municipal-financing-energy-improvements (April 2010) (“Since PACE financing is attached to the property, not to the borrower, the energy savings and the costs stay with the property. While the PACE assessment – like any other – is negotiated during the sale of the property, it is the only financing model that allows the property owner to keep the financing costs tied to the energy savings or generation from PACE improvements.”). Underlying this argument may be a broader misunderstanding that PACE somehow transforms the financing of energy improvements into a special purpose loan whose obligations to repay are tied to the performance of the energy improvements. There are businesses, at least in the commercial sector, offering such an arrangement, but PACE financing is an obligation to repay regardless of the performance of the energy improvements. See generally JULIE OSBORN ET AL., ERNEST ORLANDO LAWRENCE BERKELEY NAT'L LABORATORY, ASSESSING U.S. ESCO INDUSTRY: RESULTS FROM THE NAESCO DATABASE PROJECT, (August 2002), available at http://eetd.lbl.gov/EA/EMP/reports/50304.pdf.
will have a cost-free opportunity to transfer the obligation to repay the PACE assessment to the buyer.

3. The benefit of lien assumption

The third response is that PACE at least offers the opportunity for the homeowner to transfer the lien to the buyer, as opposed to the typical home mortgage loan, which is not assumable. This point is true, although it cuts both ways and comes with a cost.

The rational buyer may want to assume a PACE lien if it is less costly than a first lien mortgage loan used to purchase the house. If interest rates rise substantially between the time the PACE bond rate is set and the time the homeowner sells the house, PACE assessments could be an advantage to a home buyer. In this situation, the PACE assessment would offer a lower financing cost relative to the buyer’s purchase money mortgage, so she would pay less in overall financing costs by assuming the PACE lien. Conversely, if interest rates are stable, fall, or rise less than the spread between the PACE rate and the market first lien mortgage rate, taking subject to a PACE lien is a burden to the buyer of the property. The buyer in these circumstances would be better off forcing the PACE homeowner to pay off the tax lien. Because PACE financing comes at a noticeably higher price in the current market than a first lien mortgage loan, the current interest rate environment puts existing PACE loans in this category.

In short, PACE loans are assumable financing. They come with the advantages, and disadvantages, of any transferrable, fixed rate financing mechanism. Assumability does not deliver the promise that the homeowner will be able to make a cost-free transfer of the obligation to repay the PACE obligation.

4. Required lien assumption

The last argument for the notion or a risk-free transfer is that PACE can be modified to require home buyers to assume the PACE lien. One state may already have taken this approach in its enabling legislation for PACE. Unfortunately, this strategy will disadvantage all parties to the property transfer, including the PACE homeowner.

Requiring buyers to assume a PACE loan restricts both the parties to the transaction from exercising one of the two options available—having the PACE homeowner pay off the lien and the buyer add the value of the energy improvements to the price paid for the home. If the financing cost on the PACE lien exceeds the financing cost of the buyer’s first lien mortgage, as is true with the cost of PACE financing in the current market, compulsory lien assumption will

65 See infra note 95.
66 PACE loan assumability also means additional interest rate risk to the investor in a PACE bond.
68 See infra notes 91-95 and accompanying text.
increase the cost of the home purchase for the buyer. A rational buyer in this circumstance will thus offer less overall value to the PACE homeowner in order to compensate for the additional financing cost associated with the higher cost PACE lien she is required to assume.

III. The Relation of PACE Financing to Existing and Future Mortgage Loans

Home buyers are not the only actor with control over whether a PACE lien survives a property transfer. Mortgage lenders for the buyers can require the pay-off of the PACE obligation as a condition of financing for new buyers. Homeowners who created or assumed a PACE lien can be required to satisfy the PACE obligation on refinancing. The actions of the secondary market in shutting down PACE for the moment reflect the reality of the mortgage lending industry’s power to block the use of PACE as a long-term financing program for homeowners. This Part looks at the current litigation brought by state and local governments and advocacy groups against federal regulators. The position of the governments and advocacy groups defending PACE reflects the same analytic error that underlies the wrongfully claimed advantages of PACE for homeowners.

A. Mortgage Lenders versus the States.

When PACE programs began, PACE advocates stated that mortgage lenders were accepting the priority of the liens. In July 2010, however, the government secondary mortgage market entities and banking regulators dramatically clarified the situation. In a July 6, 2010 statement, the Federal Housing Finance Agency (FHFA) determined that mortgages originated in a jurisdiction with a PACE program would be subject to significant restrictions. FHFA is the federal regulator and conservator of the secondary mortgage market Government Sponsored Enterprises (“GSEs”), Fannie Mae and Freddie Mac. On August 31, 2010, the GSEs followed the FHFA statement with guidance statements indicating that they would not purchase mortgage loans if the homeowner had a PACE obligation unless the PACE program was structured so that

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69 In the event that interest rates rose enough in the period between PACE bonding and the home sale to close the gap between PACE rates and first lien mortgage rates, compulsory assumption doesn’t add anything to the transaction. Buyers of a PACE home always have the option to assume the lien without such a requirement.

70 About PACE, supra note 7 (“All municipal assessments are accepted by mortgage lenders and acknowledged in their standard mortgage underwriting documents.”).

the PACE lien was subordinate to the first lien mortgage loan.\textsuperscript{72} The Office of Comptroller of the Currency issued a similar guidance to the banks it regulated.\textsuperscript{73}

The impact of these statements was that existing or planned PACE programs across the country were suspended waiting for a resolution to this dispute.\textsuperscript{74} Because the FHFA statement linked its underwriting restrictions to all mortgages in a jurisdiction with PACE rather than just properties with a PACE loan,\textsuperscript{75} the existence of a PACE program in a community would impact all residential home finance in the community. Obviously, the cost of PACE programs became unacceptable for local most governments.

State and local governments, along with environmental advocacy groups, struck back at the federal regulators with lawsuits claiming the agencies violated the Administrative Procedure Act.\textsuperscript{76} The suits seek an injunction against implementation of the underwriting restrictions by the federal housing and banking authorities.\textsuperscript{77} The suits also seek declaratory relief.\textsuperscript{78}

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\textsuperscript{75} FHFA Statement, supra note 71, at 2 (“Fannie Mae and Freddie Mac should . . . [a]djust[] loan-to-value ratios to reflect the maximum permissible PACE loan amount available to borrowers in PACE jurisdictions.”); see also Todd Woody, \textit{A Blow to Home Retrofits}, N.Y. TIMES, July 6, 2010, available at http://green.blogs.nytimes.com/2010/07/06/a-blow-to-home-energy-retrofits/ (“[FHFA] ordered lenders in areas where the programs are offered to lower the maximum all buyers can borrow to take into account the availability of PACE loans.”).

\textsuperscript{76} See, e.g., Complaint, County of Sonoma v. Fed. Hous. Fin. Agency, \textit{supra} note 9, at 11-12 (alleging violations of the Administrative Procedures Act); see also sources cited \textit{supra} note 9.

\textsuperscript{77} See, e.g., Complaint, County of Sonoma v. Fed. Hous. Fin. Agency, \textit{supra} note 9, at 15 (“[Sonoma County seeks] a temporary restraining order, preliminary injunction, and permanent injunction restraining and enjoining Fannie
of California and Sonoma County, for instance, asked the court to declare that “PACE financing is accomplished through assessments and not ‘loans.’”

B. The Failure to Acknowledge PACE as Real Estate Financing Defines the Dispute with the Secondary Mortgage Market.

It is beyond the purpose of this article to analyze the competing administrative law claims underlying plaintiffs’ assertions of a right to relief in these lawsuits. Instead, this subpart discusses how the plaintiffs’ description and legal framing of the PACE financing mechanism reflects the same disconnection noted above between the theories underlying the support for PACE and the realities of real estate finance.

The governmental and environmental plaintiffs argue that PACE financing is not a loan. They characterize PACE financing as identical to any other tax assessment by a local government, such as for road paving. Underlying this argument is the assertion that energy improvement financing involves the public purpose of greater energy efficiency or renewable energy production.

A focus on the public benefit from the use of the financing, however, does not change the essential character of the PACE bargain from the point of view of homeowners and lenders. PACE financing has all the characteristic of a mortgage loan other than the mechanism of billing and payment through property tax. Unlike a public works tax assessment, a PACE loan is voluntarily assumed by the homeowner and it provides cash to the homeowner for improvements that will be owned by the homeowner. From the lender’s perspective, the PACE loan constitutes another lien on the property for purposes of evaluating the value of the home as security in case of default by the homeowner on the mortgage loan.

Mae and Freddie Mac from taking any adverse action against any mortgagee who is participating, or may participate, in SCEIP, or other action that has the effect of chilling participation in SCEIP.”).

78 Id. (asking the Court to “issue a declaratory judgment that Defendant FHFA violated NEPA and the APA.”).
79 Id. (praying for the Court to “declare that under California Law, SCEIP financing is accomplished through assessments and not ‘loans’”); Complaint, State of California ex rel. Brown v. Fed. Hous. Fin. Agency, supra note 9, at 14 (using precisely the same language).
81 Complaint, Sierra Club v. Fed. Hous. Fin. Agency, supra note 9, at 3 (“PACE programs operate under well settled principles of California law by establishing assessments on homeowners’ properties. California relies upon its assessment power to fund municipal projects such as road paving and other improvements.”); Complaint, State of California ex rel. Brown v. Fed. Hous. Fin. Agency, supra note 9 (“For well over 100 years, local governments in California have used their assessment powers to finance improvements that serve a public purpose, such as the paving of roads, sidewalk improvements, and the undergrounding of utilities.”).
The attempt to avoid characterizing PACE financing as a real estate secured loan results in the same type of analytic disconnect with respect to lenders’ concerns that was evident in the claim that homeowners accepting PACE financing could engage in a risk-free sale of the property. For instance, the Sierra Club argues in its suit that mortgage lenders have little risk of losing money in the case of foreclosure on a PACE homeowner because “the amount due to local governments upon foreclosure is limited to the periodic property assessments that are outstanding.”82 The State of California describes as “minimal” the impact on lenders when homes with PACE liens fall into foreclosure.83 California illustrates its point with an example of PACE financing of $15,000 on a home with a $250,000 mortgage resulting in only $1,500, at most, being given priority over the mortgage liens in foreclosure, with the remainder of the PACE obligation falling on future homeowners.84

Again, the argument here fails to account for the reality of residential mortgage financing; in this case, the reality of foreclosing on a residential mortgage loan. The amount the foreclosing lender will recoup on the defaulted loan is measured by its net recovery from the eventual sale of the property.85 Depending on the state and market conditions, a foreclosed property will either be sold to the highest bidder at the foreclosure sale or the foreclosing lender will assume ownership and re-sell the property.86 In either case, the potential buyer of the property will be faced with bidding on a home burdened by the remaining PACE obligation. A rational buyer will subtract the amount of the remaining PACE assessment when negotiating or bidding on the price of the home. Accordingly, the value recouped by the lender in foreclosure will be reduced by this amount. As with the sale of the property by a PACE homeowner, the impact on lenders doesn’t disappear simply because the PACE obligation exists in the form of a liability for future tax payments rather than a current lien on the property.

The only long-term solution to keeping PACE in its current form is either a settlement with the federal regulators that is widely accepted as an industry standard or enactment of legislation to resolve the issue. A bill introduced in the 111th Congress entitled “The PACE Assessment Protection Act of 2010” would resolve the conflict between PACE programs by requiring that the underwriting standards used by the Government Sponsored Enterprises (“GSEs”) acquiesce in all respects to PACE program assessments that comply with the May 7, 2010 guidelines for

84 Id. at 3 (using a hypothetical situation to “explor[e] the risk associated with PACE liens averaged over a portfolio of mortgages,” and concluding that the risk is “minimal”).
85 Nelson and Whitman, supra note 52 at §1.1.
PACE programs issued by the Department of Energy (“DOE”). The DOE guidelines include some rudimentary underwriting requirements, limit the size of PACE assessments to 10% of property value, only permit funding if the projected value of the energy investment exceeds the financed cost of the investment, and various measures designed to protect against fraud and ensure program administration. Specifically, the legislation would require the GSEs to not include the PACE obligation in determining whether a loan can be made and to not make pay-off of PACE financing a condition of either a refinancing or purchase loan.

The argument for this or similar legislation will have to rest on the advantages of PACE as a means of promoting residential alternative energy investment and energy efficiency improvements. So the discussion returns to the alleged unique advantages of PACE as a financing mechanism. Part II of this Article considered and rejected the notion that PACE financing offers risk-free transfers of the financing obligation. The following Part IV examines the two other purported benefits of PACE financing.

IV. PACE Likely Will Not Substantially Improve Financing Cost or Availability

PACE programs also have promised to lower loan costs and broaden availability. Both of these purported advantages rely on PACE assessments assuming a priority over prior liens on the property. Existing PACE programs have higher costs than comparable loans, and this situation may not substantially change for bond-financed programs. Even if PACE does achieve lower costs, it likely will just mean a shifting of that burden to mortgage loan financing generally. PACE does have the potential to broaden loan availability, but achieving that objective also will impose further burdens on homeowners in the mortgage lending market.

A. The Cost of PACE Financing

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87 The PACE Assessment Protection Act of 2010, H.R. 5766, 111th Cong. (2010). Prohibiting the GSEs from considering PACE in their underwriting standards does not prevent individual mortgage lenders from achieving the same result by requiring PACE homeowners to pay off the assessment when the homeowner refinances or by requiring buyers of such homes to pay off the PACE financing as a condition of purchase financing. It is possible, however, that the GSE standards would become the market standard. Future legislation could prevent individual lenders from imposing such requirements on financing.


89 The PACE Assessment Protection Act of 2010, H.R. 5766, 111th Cong. § 2(a) (2010) The legislation also requires that the Fannie and Freddie underwriting standards provide that “in the event that a tax or assessment under a PACE program is delinquent, only the unpaid delinquent amount along with applicable penalties, interest and costs will be subject to foreclosure and not the entire amount.” Id. This provision seems aimed at preventing the GSEs from including future PACE assessments in their default risk analysis, although the actual language of the legislation may not achieve this objective.

90 See supra Part II.
The White House Report called PACE “less expensive,” and a study of the Berkeley PACE program stated that it "offers the possibility of 100% financing at a fixed, favorable interest rate over a lengthy term." The initial PACE bond-financed programs, however, had higher costs. Berkeley charged homeowners seven and three-quarters percent interest, Sonoma County seven percent and Boulder 6.68 percent. Compared to second lien loans contemporaneously available, these costs were higher than, or at best comparable to, private financing. Compared to a first lien refinancing loan with cash out to the homeowner for making the energy improvements, the financing cost for homeowners was much higher with PACE programs.

The rationale for cheaper cost financing through PACE is that investors will be willing to accept less return from PACE bond offerings because of the added security for investors from the property tax assessment repayment method. Arguably, if PACE programs were able to reach a sufficient scale and establish a reliable record of repayment to investors, the promise of a superior lien priority might result in lower financing costs because investors have less risk of loss from default. Yet there are important limits on, or consequences of, this theoretical benefit.

It is not clear that issuance of PACE bonds could ever achieve the economies of scale available to the general residential mortgage loan market. For homeowners financing an energy improvement with a cash-out refinance loan, which will often be the case when mortgage rates are declining, the costs of the loan will be spread out over a much larger financing amount and thus will be relatively less of a burden than an additional payment obligation secured by the home. Long-term financing means investors in PACE bonds also will face higher prepayment risk than do lenders making first lien refinance loans. This may be one reason that some PACE

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91 WHITE HOUSE FRAMEWORK, supra note 6, at 1.
92 BOLINGER, supra note 54.
94 Id. at 32-33 (noting that PACE rates were the same or higher than second lien loans and that the closing costs and origination fees made PACE loans significantly more expensive); BERKELEY FIRST INITIAL EVALUATION, supra note 50, at 3 (noting that the interest rate for the Berkeley program was "nearly twice the rate for a home equity loan").
95 A simple rate comparison makes this point clear, as PACE program interest rates are generally around seven percent, whereas first lien rates currently average below five percent. See Lynn Browning, A Less Costly Cash-Out, N.Y. TIMES, Dec. 12, 2010, at 9 (noting an average interest rate of 4.91% for a 30 year fixed rate conventional mortgage); sources cited supra note 94.
96 Letter from Chris Moriarty, Dir. Barclays Capital, and John Rhow, Senior Vice President Barclays Capital to Jeffrey Tennenbaum, Fir Tree Partners (Sept. 14, 2009), available at http://pacenow.org/documents/Pace%20letter%20sept%202009%20re%20liens%202%202%20-%20%20Barclays%20%20-19-09%20_3_.pdf (“After careful analysis of the municipal bond market and the ratings industry, we conclude that there would be little to no meaningful bond buyer interest in pari passu or subordinated PACE liens and therefore the PACE bond market would be highly unlikely to develop.”).
programs included significant prepayment penalties, which puts the costs of prepayment risk back on the homeowner.\footnote{Frequently Asked Questions, supra note 93, at 5 (discussing program requirements that no partial prepayments be accepted, and that full prepayments of the long-term bond require a three percent prepayment penalty); Memorandum from George M Burgasa, Cnty Manager, to Miami and Dade County Board of Cnty Comm’rs 5 (May 17, 2010), available at http://www.miamidade.gov/oos/library/energy_efficiency.pdf (discussing pre-payment penalties in relation to the salability of municipal bonds for a PACE program).}

For homeowners seeking a second lien loan, the long-term possibility of PACE providing a more efficient funding source also is questionable. The home second lien finance market is vast. Even with the sharp contraction in this market after the mortgage crisis, it accounted for about $5 billion in loans in just the second quarter of 2010.\footnote{Leslie Pettijohn, Commissioner of the Texas Office of Consumer Credit, Texas Senate Business and Commerce Hearing (October 25, 2010), http://www.senate.state.tx.us/75r/senate/commit/c510/handouts10/1025-item1.LesliePettijohn.ppt.pdf} The market systems for processing and securitizing such loans are well-established.\footnote{Nelson and Whitman, supra note 52 at §11.3.} A PACE bond program is a single use financing system with much more limited capacity to spread its costs over the loan base.

Any future PACE cost advantage would likely raise overall mortgage financing costs. PACE priority tax lien status shifts to the existing mortgage lenders the burden of default for the PACE financing. The risk of loss from nonpayment of a PACE loan falls on the lender whether the default occurs on the homeowner’s taxes or on the homeowner’s mortgage loan. If the PACE homeowner defaults on her taxes, the lender either will pay the amount of the tax deficit to protect its interest in the collateral or be forced to obtain proceeds from tax forfeiture sale only after the tax debt is satisfied.\footnote{The lender also will bear the burden of PACE obligations due in the future because the home will be re-sold subject to that obligation and thus buyers will discount the price of the home accordingly.} If the PACE homeowner defaults on the mortgage, the lender will be forced to bear the full amount of the PACE obligation in foreclosure because the buyer of the property following foreclosure will pay less for the home due to future tax obligations for the reasons discussed above.\footnote{See supra note, 82-86 and accompanying text.} It may be that public policy should favor this shift of costs in order to finance energy improvements, but it should be acknowledged and considered as a consequence of the PACE lien priority.\footnote{Program administration is both a cost advantage and disadvantage with PACE. On the one hand, the use of an existing billing mechanism is a cost advantage. See Frequently Asked Questions, EFFICIENCY MAIN, http://www.efficiencymaine.com/pace/faqs (last visited Dec. 30, 2010) (“For many municipalities in Maine, having [a] centralized [loan] service[r] available will be the most affordable and efficient way to administer the program.”). On the other hand, promoting the PACE program and establishing separate application evaluation and billing systems in each locality is costly. BRAAKSMA ET AL., supra note 11, at 31-33 (discussing the administrative costs associated with the Berkeley and Boulder PACE programs).}

**B. The Priority of Tax Liens as a Basis for Broader Loan Availability**
The other purported advantage of PACE in its current form is the possibility of offering energy improvement loans to homeowners who cannot obtain financing in the private market. This claim likely is correct, but it comes at the cost of deteriorated credit quality for private mortgage financing, and thus reduced lending or higher financing costs in that market.

1. PACE Financing Retains The Tradeoff Between Loan Availability and Borrower Risk.

Because PACE relies on the priority status of the tax lien, the investor in the loan needs far less security about repayment capacity of the borrower than would a mortgage lender. A home worth $200,000 encumbered only by a mortgage of $160,000 has $40,000 in equity. A $25,000 second lien loan on this property could be a risky investment because the costs of default and foreclosure could exceed the $15,000 difference between the amount of the second lien loan and the amount of equity in the home. But a $25,000 tax assessment takes priority over the first lien mortgage and thus is almost guaranteed to be recouped by the investor. In short, the investor in a PACE bond can be reasonably certain of repayment as long as there is enough value in the house in a tax forfeiture proceeding to cover the amount of PACE financing. Therefore, it is not necessary for a PACE program to have substantial underwriting of risk as would necessarily occur with a mortgage lender. A contractor working with a PACE program made this claim emphatically: “It requires $0 down and is not based on the owner’s annual income or credit.”

Making credit available to borrowers without regard to their ability to repay raises obvious concerns. Lending without underwriting essentially allows for non-prime and equity-based lending, which obviously is highly disfavored following the mortgage crisis. Recognizing the problems with real estate lending absent underwriting, many PACE programs and PACE enabling laws address this concern by including underwriting criteria to ensure that the homeowner has the ability to repay the PACE financing. The DOE guidelines suggest that PACE programs at least require that the property owner is current on taxes, has not had a recent default or foreclosure, and has the ability to repay.

103 See supra Part I.B.2.b.
105 The FHFA summarized this concern in its policy statement on PACE: “While the first lien position offered in most PACE programs minimizes credit risk for investors funding the programs, it alters traditional lending priorities. Underwriting for PACE programs results in collateral-based lending rather than lending based upon ability-to-pay.” FHFA Statement, supra note 71, at 1.
bankruptcy and has some equity in the property based on tax assessed value. Other PACE programs or PACE enabling legislation have included more stringent loan underwriting, such as the requirement of a certain amount of monthly income in excess of monthly debt obligations or evaluation of the homeowner’s credit rating.

More underwriting of risk by PACE programs means fewer people qualify for that financing, reducing any advantage of broader loan availability. There is a direct trade-off between the claimed advantage of broadening loan availability and the stringency of PACE underwriting criteria. To the extent that PACE programs make loans that would not be made by private lenders, this type of lending particularly exacerbates tensions with mortgage lenders. By making in essence a non-prime quality loan, the PACE program would be shifting the burden of loan default to mortgage lenders with prior liens on properties that are much more likely to default. This cost does not simply disappear from the real estate finance system.

If new legislation mandates that PACE financing be continued with home sale or refinancing without underwriting restrictions, mortgage lenders may still respond to this shifting of costs by furthering tightening underwriting criteria, or raising the price of credit. Because the borrowers with weaker credit profiles pose the most risk of default, it would be logical to expect that borrowers who are at the edge of current qualifications for mortgage loans in terms of credit score, amount of home equity and other important loan quality indicators would be most affected by these restrictions. While it is possible that PACE may be effective as a non-prime financing tool that increases accessibility for residential energy improvement loans, the price of this expanded lending likely would be some restriction on the availability of, or would increase the price of, private mortgage financing.

2. Homeowner Savings Do Not Resolve Loan Quality Concerns

A frequent response of PACE advocates to these problems is that PACE loans provide a benefit to homeowners through energy savings that exceed the monthly cost of the loan and thus that homeowners are in a better position to make loan repayments. A “savings-to-investment ratio… greater than one” was listed as the first principle of homeowner protection in the White House

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107 U. S. DEP’T OF ENERGY, supra note 88, at 5-7. The DOE guidelines also include the rule that the savings from the energy investment exceed the cost of the investment as a primary indicator of the homeowner’s ability to pay. Id. at 6. Savings from the energy may be helpful for the homeowner’s finances, assuming that the homeowner does not use the cost savings to consume more energy, which is a well recognized behavior known as a rebound effect. Horace Herring, Energy Efficiency--A Critical View, 31 Energy §2.1 (2006). But it doesn’t add much to the ability to pay calculus because there is no way to tie the savings from the reduced energy cost to the repayment of the PACE obligation, especially as PACE financing can extend up to 20 years.

108 See, e.g., ME. REV. STAT. ANN. Tit. 35-A, § 10155(1)(B) (2010) (“[T]he borrower must have a] debt-to-income ratios of not more than 50% for qualifying property that is residential property.”).

109 BRAAKSMA ET AL., supra note 11, at 33-35 (discussing the inverse relationship between underwriting standards and financing availability).
Report on PACE. PACE advocates argue that these savings, when combined with some evaluation of home value and secured debt to ensure that the homeowner has equity and that the investment is properly installed, is enough to rectify any problems related to making non-prime loans. Even if these principles are carefully followed in each PACE loan, it does not remove the impact of non-prime PACE lending on the cost or availability of mortgage financing.

The fact that homeowners save money does not mean that they will not default on their PACE assessments or mortgage loans. Homeowners could use that money for a variety of purposes, especially when confront with job loss or other substantial financial setback. Recent evidence suggests that homeowners no longer consistently favor mortgage payments when faced with choices among various debts.

Furthermore, PACE financing is long-term, often extending for 15 to 20 years. The value of the investment to borrower disposable income as a result of monthly savings from energy improvements has to be measured accordingly. Alternative energy investments in particular occur in an era of technologic change that effects this calculation. A solar energy system that costs $12,000 today may in 10 years or less cost $3,000, be a quarter of the size and produce three times the electricity. Today’s economically beneficial investment may look a MS-DOS computer on the roof in 2019.

V. PACE May Have A Beneficial Long-Term Role In Residential Renewable Energy Finance If Accurately Marketed And Narrowly Focused.

Local government interest in PACE programs rapidly expanded on the basis of claims about risk-free transfers of homes with PACE financing and promises of lower cost and more broadly available loans for energy improvements. After careful analysis, there is not a very compelling case for the promoted advantages of PACE programs. PACE doesn’t offer a risk-free property transfer because home buyers can negotiate the cost of a PACE assessment in bargaining to purchase the property. Even if assured of a priority lien position, it is unclear or even doubtful that PACE financing will ever offer much reduction in financing costs or increase in the

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10 WHITE HOUSE FRAMEWORK, supra note 6, at 4.
availability of financing, or it will do so only by shifting the burden of any advantage to the residential mortgage loan market.

Yet there is evidence that the pilot PACE programs resulted in homeowner investment in alternative energy systems.\textsuperscript{114} Information from the Berkeley PACE program suggests that the program was responsible for this increased investment in solar energy.\textsuperscript{115} The best case that can be made for PACE is that this initial success justifies the risk that a vastly expanded PACE could achieve the promised lower financing costs and broader loan availability. This case for PACE would have to include a judgment that the potential for PACE success is sufficiently high and the odds of prevailing against the mortgage lending industry also are sufficiently great to support the commitment of resources by environmental advocates and state and local governments to a continued battle for PACE lien supremacy through litigation and legislative advocacy. Even if the structure of current PACE programs can be protected by legislative mandate, there would remain questions about whether the costs of implementing thousands of local government PACE programs are worth the advocacy effort.\textsuperscript{116}

This Article argues that PACE programs cannot realize promised advantages, or are unlikely to obtain promised results, because the theoretical underpinnings of PACE programs are ill-considered. The PACE model flounders on the realities of real estate transactions and real estate finance. Yet there are lessons to be learned for future design of energy investment programs using property tax assessments. The following subpart suggests that PACE may have increased investment in alternative energy for reasons unrelated to the PACE financing model. Subpart B proposes an alternative form of PACE that could make it a useful, if more modest, form of public financing for residential energy investment.

A. Promoting Market Organization

One of the most striking findings of the initial report on the Berkeley project was the large number of homeowners who registered with the program but then dropped out to pursue their energy improvement investments with private financing, presumably because it was less expensive. Of forty homeowners who signed up in a first-come, first-serve application process, twenty-seven homeowners withdrew from the program.\textsuperscript{117} The high interest rate was the primary

\textsuperscript{114} \textit{BERKELEY FIRST INITIAL EVALUATION}, \textit{supra} note 50, at 2.

\textsuperscript{115} \textit{Id}.

\textsuperscript{116} Professor Joel Eisen persuasively argues that solar energy needs to reach a critical mass in order to become a “disruptive technology” that will change energy production. Eisen, \textit{supra} note 34 at 60-65. Eisen rejects PACE as a model for achieving this objective in part because local government initiatives are too fragmented to reach appropriate economies of scale. He compares using PACE as a model for national energy policy to developing “cell phone networks by asking each city to set up special districts for cell phone financing,” and concludes local governments lack the expertise for this type of responsibility. \textit{Id}. at 88.

\textsuperscript{117} \textit{BERKELEY FIRST INITIAL EVALUATION}, \textit{supra} note 50, at 1.
reason for homeowner withdrawals.\textsuperscript{118} However, eighty-five percent of homeowners that withdrew, and some on the waiting list, installed solar PV, or planned to do so.\textsuperscript{119} The homeowners surveyed credited PACE with their decision to invest.\textsuperscript{120}

This result points to the critical function served by PACE in organizing the market for energy improvement investments. Homeowners showed an increased willingness to make energy improvements when the local government solicited them to participate in an arranged and publicly sanctioned program. This market organization benefit may exist independent of the PACE financing model. Local governments may be able to achieve similar results by offering packages of terms and prices for private financing, contractor services, and the like.\textsuperscript{121} It is worth exploring whether the benefit that PACE seemed to offer was really financing or was the assurance or encouragement that came with a government sanctioned offer for energy investments.

It takes funding to run such a program, especially one that actually offers homeowners a package of services. An advantage of PACE from the perspective of local governments is that the costs of organizing a PACE program can be recouped through increasing the rate paid by homeowners for financing or adding fees in the financing process. The cost of these charges can be significant and were an important reason the cost of PACE financing was not competitive with private financing.\textsuperscript{122} A non-PACE alternative energy program may have fewer on-going expenses because the local government would not need to be involved in, or pay a third party for, the costs of loan processing, evaluation and funding. Nonetheless, such programs would cost money. The same PACE financing premium could be gained through a direct fee imposed by the local government to participate in the program. Alternatively, the fee could be imposed through an additional charge paid with each private financing or with each installation through a contractor. PACE did not solve the funding problem for local government; it just shifted the cost to the financing. Local governments have the potential to recoup such costs through other more means.

One could argue that including the charges in PACE financing essentially hid these charges from homeowners more effectively than a direct fee. This is a poor long-term basis for public policy for alternative energy programs. Transparency in costs and funding, along with accurate

\textsuperscript{118} Id. at 2.
\textsuperscript{119} Id. at 2.
\textsuperscript{120} Id. at 2 (“Over 50\% of the Participants would have not installed solar without B1 financing, and none of the Applicants would have installed solar without prior exposure to the B1 program.”).
\textsuperscript{122} BRAAKSMA ET AL., \textit{supra} note 11, at 31-33.
disclosure and promotion of the consequences of a PACE lien, should be a principle for developing sustainable residential energy investment programs.


PACE programs sought to exploit two types of advantages for property tax assessment: the transferability of the obligation and lien priority. A third advantage not usually discussed by PACE advocates is the efficiency for program administration that results from using an existing mechanism for financing repayment, which is a practice sometimes referred to as on-line billing. Another aspect of this third advantage is that property tax assessments offer an established mechanism for default enforcement.

One possibility for reviving a limited form of PACE is to simply accede to lender demands on the lien priority and structure a PACE program in which PACE loans are subordinated to prior liens. Because the transferability of the property tax obligation is not much of a real advantage given negotiations with real estate purchases, this would limit the benefit of PACE as a financing program to the operating efficiency gained from using an existing billing mechanism—a real but very modest advantage when compared to the second lien private mortgage lending market. Lien priority creates the advantage for investors, so this type of PACE program probably would not work with bond-financing. This option might have an appeal for a local government looking to invest reserve funds in an energy improvement loan program and needing a repayment mechanism. It is not different than simply using the local government’s refuse bill or the like for repayment collection.

123 Leanne Tobias, Financing Innovations Supporting Green Building Retrofits: [Fn1] Escos, Chauffage, Mesa And “On Bill” Financing, 577 PLI/Real 423 at 4 (2010). See also Pete Atkin & Cory Glick, How PACE Affects the Future Financing of Energy-Saving Projects, INST. ON BUILDING EFFICIENCY (Oct. 14, 2010), http://www.greenbiz.com/blog/2010/10/14/how-pace-affects-future-financing-energy-saving-projects?page=full (“Municipal and City governments are where the rubber meets the road with regard to PACE as the mechanism at the heart of the financing scheme is a special assessment tax linked to the property tax system – a local government jurisdiction.”); Q & A From the November 18th PACE Financing Webinar, U.S. DEP’T OF ENERGY, 4 (last visted Dec. 30, 2010), http://www1.eere.energy.gov/wip/solutioncenter/pdfs/PACE_webinar_QA_111809.pdf (“If the work is done through an ‘improvement district’ such as waste collection and there is an existing billing system, the charge can be levied on a monthly basis as a ‘benefit assessment.’ However, most programs thus far bill on the annual and bi-annual property tax bill.”).

124 Maine is ostensibly attempting a PACE program using junior liens. Frequently Asked Questions, EFFICIENCY MAINE, http://www.efficiencymaine.com/pace/faqs (last visited Dec. 30, 2010) (“In Maine, a PACE mortgage is not entitled to any special or senior priority. The PACE mortgage is junior and subordinate in priority to the first mortgage, regardless of the date that any of the mortgages were recorded.”).

125 See supra note 96.

126 In addition to operating efficiency, it is conceivable that on-line billing offers the advantage to homeowners of salience in presenting the energy improvements. A homeowner may be better able to highlight the improvement to
Reviving the lien priority for PACE is required to create a more robust and useful form of PACE financing. One alternative for achieving this objective would be to limit PACE loans to small amounts—a type of micro loan program. PACE programs could establish a low limit on the amount of loans, perhaps $4,000 or less, in exchange for acceptance of the traditional lien priority by the federal housing regulators. A concern with PACE by the housing agencies and lenders was the size of PACE loans, which often exceed the value of the typical property tax special assessment. The mortgage lending industry could effectively price the consequence from such priority lien financing and might be willing to accept the limited impact on loan risk because of the limited dollar amount. Or legislators might be more willing to mandate such a modest program. A PACE program with loan terms of 10 years or even less also might be more acceptable to the industry or legislators, and would be possible with small size loans.

The reason to consider such a PACE program is the operating efficiency from the on-line billing together with efficient default enforcement with tiny loans. While these advantages are relatively less important when the average loan size is $25,000, having an efficient billing and enforcement mechanism is much more meaningful with a small loan amount. Fixed administrative costs consume a higher percentage of the loan repayment amount with a very small loan and thus are relatively more important. A micro loan program would not be practical with private second lien financing because the relative costs of servicing the loan probably would make it too costly.

The value of the lien priority in permitting broader loan availability through reduced underwriting also might make more sense in the context of micro loans. Less sizeable loans are much less likely to trigger tax forfeiture. Smaller risk assumption by mortgage lenders with reduced sized PACE loans would limit the impact on overall mortgage lending criteria or costs charged to borrowers. Conversely, eliminating the need to extensively underwrite the loan would be consistent with reducing the fixed costs of the loan; in this case, the costs of reviewing underwriting data in the loan origination process. As with saving on the fixed cost of billing the home from the investment in alternative energy production or energy efficiency if she has a debt obligation tied directly to the energy investment.

127 FHFA Statement, supra note 71, at 1 (“First liens established by PACE loans are unlike routine tax assessments and pose unusual and difficult risk management challenges for lenders, servicers and mortgage securities investors. The size and duration of PACE loans exceed typical local tax programs and do not have the traditional community benefits associated with taxing initiatives.”).

128 For the entirely solar PV Berkeley PACE program, the average loan size was about $25,888. BERKELEY FIRST INITIAL EVALUATION, supra note 50, at 5-6; see also Jeffrey Tomich, PACE Energy-Efficiency Loan Program Stirs Concerns, STLTODAY.COM, July 18, 2010, http://www.stltoday.com/business/article_a36de206-7269-5a0b-b28c-ab690bd6e0bc.html (“80 percent of PACE loans in Missouri will be used to finance energy efficiency projects averaging about $5,000. The rest will also incorporate renewable energy systems such as solar panels with those projects averaging about $25,000. Statewide, the average PACE loan would be about $9,000, he estimates.”).
loan, saving fixed loan origination costs is much more important when the loan amount is small and costs can quickly exceed a reasonable percentage of the loan.

A micro loan PACE program might be especially effective if it could be quickly scaled to massive size by combining it with a series of other highly targeted government mandates and service. A government unit, whether state or local, could identify a single improvement or a narrow list of less expensive but high impact energy improvements that all homeowners would be expected to undertake. Homeowners needing financing for this single improvement could utilize the micro loan PACE program. If further combined with a renewable energy credit or subsidy from a utility, government incentives or a publicly organized purchase of contractor services, the result could be a cost-effective program at promoting investment in the selected energy improvement.

For example, perhaps a PACE program could focus solely on replacing low efficiency home heating and cooling equipment with energy saving equipment. The local government could offer the maximum PACE micro-financing, such as the proposed $4,000 limit. Many homeowners could replace a single furnace, boiler or central air conditioning system with this financing. The PACE program could be combined with a system charge to all utility customers to generate money for a partial rebate of the cost. The local government could arrange purchases of the equipment at a discount based on the volume generated by the program.

This type of PACE program may not have the transformative power of the program as originally envisioned, but it could serve as a base to collect data and further evaluate the PACE model in practice. In any case, small steps may be that all that is possible in the current environment.

**Conclusion**

PACE burst on the scene in 2008 as a solution to fundamental problems in financing residential alternative energy investments, and it rapidly gathered momentum throughout the United States. It promised cost-free transfer of loan obligations, increased access to financing and lower costs. The suspension of the programs by the actions of federal housing regulators has led to litigation and proposed legislation to restore the PACE model by federal statute. This Article argues that

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129 Steven Ferrey et al., *Fire And Ice: World Renewable Energy And Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVT. L. & POL’Y F. 125, 136 (2010) (“A system benefits charge (SBC) is a tax on utility consumption, or a surcharge mechanism, for collecting funds from electric consumers, the proceeds of which then support a range of energy activities, [including] demand-side management programs[|] or renewable resources, . . . from electricity consumers.”).

130 If a local or state government had the popular support to enact a mandate that all homes with the least efficient heating/cooling systems replace their heating systems, a less likely proposition, the impact of PACE financing with a mandate could be especially substantial. For homeowners with larger units, combined heating and cooling systems or other needs, the financing would have to supplemented. This could be done by up-front payments from the homeowner, public subsidies or even a secondary PACE loan that is subordinated to prior mortgage liens.
federal legislation mandating lender acquiescence in the current model of PACE financing is not justified. None of the advantages envisioned by PACE programs are likely to occur in the actual operation of the real estate market, or will happen only at corresponding costs to mortgage lending generally if forced by statutory mandate.

Regardless of whether the State of California and PACE advocates prevail in either litigation or in enacting legislation that would restore the growth in PACE programs, there are important lessons to be learned from this creative attempt at energy financing. A comprehensive government program to promote solar energy may serve the critical function of helping to organize the market for energy investment and instill confidence in homeowners considering an investment. There also may be more targeted forms of PACE that could take advantage of the lien priority from property tax assessment without engendering the same degree of disruption in the residential mortgage finance market.