



Residential Property Assessed Clean Energy (R-PACE): Key Considerations for State Energy Officials

Issue Brief – March 2018

Executive Summary^a

Residential Property Assessed Clean Energy (R-PACE) has been used by hundreds of thousands of homeowners to invest in billions of dollars of home energy efficiency, renewable energy, water, and resilience improvements since 2009, offering a complement (and potential competitor) to residential energy upgrade programs run by utilities, governments, and traditional lenders. Unlike Commercial PACE (C-PACE) programs, which have been broadly adopted and launched across dozens of states and thousands of municipalities but funded a smaller volume of projects, R-PACE has experienced challenges due to concerns raised by the mortgage banking industry and consumer advocates. In 2017, in California, a broad coalition of stakeholders including bankers, environmental groups, consumer advocates, and others reached consensus on a new comprehensive consumer protection and regulatory framework for R-PACE which is now law in the state.

R-PACE program design requires unique attention and consideration on the part of state legislatures, state and local governments, and private sector stakeholders. In some states, State Energy Offices may be well-positioned to convene appropriate stakeholders and develop analyses that inform the development of R-PACE enabling legislation, program design and implementation, and messaging, as well as alternative and complementary residential energy programs. This issue brief offers an overview of the history and status of R-PACE, with an emphasis on the evolution of R-PACE in California (its largest market to date) and federal involvement in the program, as well as a set of recommended takeaways, lessons learned, and alternative residential energy efficiency financing options that State Energy Officials can explore to inform their approach to R-PACE.

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The Basic Mechanics of R-PACE

PACE programs enable property owners to finance energy efficiency, renewable energy, water conservation, and resilience upgrades through a special assessment placed on their property tax bill. PACE assessments are typically secured by a lien on the property, which is filed with a local or county government. Importantly, and unlike many other types of property assessments, the use of PACE is voluntary for all parties involved—ranging from the government policymakers at the state and local level who authorize the use of PACE in their jurisdictions, to the individual property owners who elect to use it for upgrades.

By enacting PACE-enabling legislation, legislatures in 33 states plus the District of Columbia have authorized PACE as an option for businesses and homes. Commercial PACE (C-PACE) programs are active in 20 states plus the District of Columbia, whereas R-PACE programs are offered in California, Florida, and Missouri. Despite its limited program adoption, R-PACE lending volume exceeds that of C-PACE by a factor of 7: as of March 2018, PACE had resulted in \$4.3 billion in home energy financing, versus \$583 million for commercial, industry, and multifamily applications.¹ PACE enables participating municipalities to make use of funds provided by private capital providers to cover the upfront costs of projects; many programs are recapitalized by asset-backed securities, such as green bonds, in partnership with private sector investors.

The specific financing terms and conditions, as well as eligible products covered by R-PACE assessments, vary by program and the provisions in the state's PACE-enabling statute. According to an analysis by the Energy Programs Consortium (EPC) of data collected from PACE projects in the first half of 2016 in California, the average R-PACE assessment has a principal of approximately \$20,000, and interest rates typically range from 6 to 10 percent.² At least one provider, Renovate America, offers rates as low as 2.99 percent.³ Typical repayment terms range from five to 30 years. Typically, R-PACE financing covers both hard and soft costs (i.e., expenses related to equipment purchases and installation as well as administrative, financing, legal, audit, and other fees), as well as a wide range of eligible measures (energy and water efficiency, renewable energy, health and safety upgrades, electrical system upgrades, roof repairs, and seismic retrofits), so long as they achieve the public purpose identified in the state's PACE-enabling statute.

Two defining attributes of a R-PACE assessment include the senior position of the tax lien created to secure it and the collateral-based criteria used to underwrite it. Each attribute is linked to the fact that R-PACE obligations are tied to the property (not the borrower) and, as special assessments, are treated in the same manner as other tax and assessment charges. These attributes also distinguish R-PACE from other types of secured home improvement loans. Unlike other types of special assessments, R-PACE assessments are voluntary for property owners to take on; like taxes and special assessments, failure to pay R-PACE debt may ultimately lead to the local government initiating a foreclosure in order to pay off the past-due amount.

The position of the lien that secures the R-PACE assessment is equal to other tax and assessment liens and senior to non-tax debt on the property (e.g., mortgage liens). This position creates a high level of security for investors by ensuring that, in the event of default or bankruptcy, the delinquent portion of a R-PACE obligation is repaid at the same time as other past-due tax obligations and ahead of non-tax debt in arrears, such as missed mortgage payments. This is especially relevant in a forced sale or foreclosure situation, where the proceeds from the sale are used to repay various obligations on the property and distributed according to lien position. Lien seniority is a particularly controversial aspect of R-PACE, as it has sparked concerns that R-PACE downgrades the security of the mortgage, defies traditional lending practices, and may eventually lead to foreclosure and/or home loss for the borrower.

R-PACE transactions typically rely on unique underwriting practices—another key feature of R-PACE. Whereas traditional lending is based on ability-to-repay (ATR) criteria such as a borrower's credit history, credit score, and/or debt-to-income ratio, R-PACE financing has typically examined the financial health of

the property and the owner's equity to determine eligibility for an assessment. In a break from this pattern, California's passage of AB 1284 (discussed in further detail below) in 2017 introduced enhanced underwriting standards for R-PACE loans in the state, including income verification practices and ability-to-repay criteria, that began taking effect in 2018.

These unique attributes—lien seniority and property-based underwriting—play a role in minimizing credit risk for investors and in enabling R-PACE program administrators to access lower-cost capital to finance improvements. This can translate into more attractive terms and conditions for borrowers, including lower interest rates and longer tenors, than they may otherwise be able to access (for instance, through an unsecured home improvement loan or credit card purchase). However, these features also differ from conventional financing and underwriting practices, raising red flags for consumer protection advocates and the home mortgage and real estate communities, whose concerns are described later in this document.

Key Decision Makers and State Energy Office Roles

PACE involves a wide variety of stakeholders and decision makers. State legislatures, sometimes with input and analysis from state and local agencies (such as State Energy Offices, tax collection entities, and bond agencies), must pass PACE-enabling legislation that permits local governments to set up PACE assessment districts. Local lawmakers must also pass legislation to establish their own programs or to opt-into existing programs. Programs may be administered at the state or local level, by private or public entities, and typically utilize networks of local contractors to install equipment and complete approved projects

In some states, the State Energy Office or another state agency (such as a green bank) may be involved in overseeing PACE programs. Even in states where the State Energy Office may not be assigned a formal role, State Energy Officials may help inform its development and design in different ways, such as by advising and engaging policy makers and legislators on energy market needs and stakeholder priorities and concerns (such as consumer protections); leading stakeholder working groups or taskforces to identify and address potential challenges and issues and to support stronger program design; identifying partners or resources to help advance or improve programs; collecting data that supports state goals; and/or sharing information about R-PACE to the public.

The R-PACE Market Today: A Snapshot

Three states—California, Florida, and Missouri—currently have active R-PACE programs. The largest market, by far, is in California, home to dozens of programs in hundreds of cities and counties across the state. Most of these programs are operated by private program administrators in partnership with individual local governments or with multiple localities working through joint powers authorities, although some jurisdictions (such as Placer and Sonoma Counties) operate their own programs fully.

In response to growing concerns that R-PACE assessments might put mortgage lenders at risk, in 2014, the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) launched the PACE Loss Reserve Program to make mortgage lenders whole for direct losses as a result of a PACE lien in a foreclosure or forced sale. To date, the California PACE Loss Reserve Program has never been tapped.⁴ California's programs, notably the HERO Program administered by Renovate America, are responsible for the vast majority of R-PACE loan volume in the country.⁵

Despite California's dominance in R-PACE, some activity has also occurred in other states, including Missouri (where three residential programs have been established⁶) and Florida (where five programs offer

residential financing⁷). In two states, Maine and Vermont, have there been programs offering subordinate-lien PACE assessments, although R-PACE loans are not currently available in either state.^b

The Evolution of R-PACE Consumer Protections and the Creation of a Regulatory Framework

Over the past several years, PACE industry players have adopted and enacted a variety of consumer protection and mortgage lender protections—either independently or as a result of government executive or legislative action. Groups like PACENation⁸ and the U.S. Department of Energy (DOE)⁹ have worked with PACE, mortgage, real estate, and consumer advocacy stakeholders to create national, voluntary consumer protection recommendations that help inform the development of state and local programs.

Specifically in California—R-PACE’s largest market—R-PACE program providers and policymakers alike have contributed to the existence of a multi-faceted consumer and mortgage lender protection framework. The major R-PACE program administrators – Renovate America, Renew Financial, and Ygrene – have proactively adopted Know-Before-You-Owe disclosures, live confirmation of terms, enhanced senior care, right of cancellation, and other protocols. Many California programs are enrolled in the CAEATFA PACE Loss Reserve Program to protect mortgage lenders from financial losses attributable to R-PACE obligations. Additionally, through a succession of laws and amendments, California legislators have responded to various stakeholder concerns by codifying R-PACE consumer protection practices and enforcement into the state code. The various measures recently enacted in California to enhance R-PACE consumer protections include:

- **Assembly Bill (AB) 2693**, enacted September 2016, prohibits participation in a R-PACE program if it would result in the total amount of any annual property taxes and assessments exceeding five percent of the property’s market value; provides for a three-day window to cancel the contractual assessment without penalty; requires disclosures regarding products and costs, financial costs (broken down by application fees, prepaid interest, other costs, total amount financed, annual percentage rate, simple interest rate, total annual principal, interest, and administrative fees; total amount paid over the life of the financing; other costs such as appraisal fees, bond related costs, other administrative fees, credit reporting fees, lien recording fees), monthly mortgage payments, and late fees; and bars programs from making any representations about whether/how much the property value will increase because of the PACE project, unless these representations are based on an industry-accepted real estate appraisal methodology.¹⁰
- **AB 1284**, enacted October 2017, requires specified criteria be met before a program approves R-PACE financing (that all property taxes on the applicable property be current, that the property not have

^b Maine’s PACE-enabling statute (Title 35A, Chapter 99) dictates that “PACE assessments do not constitute a tax” and “a PACE mortgage is not entitled to any special or senior priority” over a primary home mortgage. Additionally, the law requires that in a forced sale or foreclosure, “any deficiency with respect to amounts previously secured by a PACE mortgage must be satisfied from the reserve fund” established by the law in order to offset past-due balances.^b Similarly, Vermont’s statute (24 V.S.A. § 3255) requires that PACE assessments be “subordinate to all liens on the property in existence at the time the lien for the assessment is filed on the land records, shall be subordinate to a first mortgage on the property recorded after such filing, and shall be superior to any other lien on the property recorded after such filing.” In compliance with these laws, the statewide PACE administrator in each state, Efficiency Maine and Efficiency Vermont, launched subordinate-lien PACE programs accompanied by loss reserves to protect against defaults. Nearly 200 municipalities opted in to the Efficiency Maine program^b and over 40 municipalities joined the Efficiency Vermont program; however, both programs have been temporarily suspended and no longer accept new applications. The Efficiency Vermont website notes that this is due to the “favorable loan terms and flexibility [of] Heat Saver Loans,” which are offered in partnership with local credit unions.^b

specified debt recorded, that the property owner be current on specified debt and to have not been a party to a bankruptcy proceeding within a specified time, that the financing of the assessment, as well as the total value of all debt on the property, not exceed a specified amount, and that the terms of the assessment contract not exceed certain limitations); requires the program to make a “reasonable good faith determination” of ability-to-repay; requires program administrators to be licensed by the Department of Business Oversight and comply with similar reporting, disclosure, and representation requirements as traditional finance lenders and brokers; promotes enhanced oversight of contractors through minimum background checks, compliance and performance reviews, and training programs; requires program administrators to share data relevant to evaluating their R-PACE programs; and requires programs to use a real-time registry or database system for tracking PACE assessments.¹¹

- **Senate Bill (SB) 242**, enacted October 2017, requires specific documents and oral confirmations to be exchanged between R-PACE programs and prospective borrowers (for instance, regarding key terms of the assessment, total estimated costs, that the financing subjects the property to a lien, that utility savings are not guaranteed, that the borrower has a three-day right to cancel, and others), including accommodations for non-English speakers; prohibits any representations regarding the tax deductibility of an assessment contract unless it is consistent with state and federal law; prohibits programs from waiving or deferring the first payment, from working with contractors who are in poor standing or unlicensed, or from providing any cash payments to a contractor exceeding the cost of the project; prohibits contractors from charging a different price for a R-PACE-financed project than they would if the property owner paid in cash; and requires reporting by PACE programs.¹²

History of Federal Interventions in R-PACE

Although PACE as a financing option is overseen and implemented at the state or local level, federal agencies and regulations have affected the market. In particular, concerns from the banking industry and from federal mortgage regulators have hindered widespread adoption of R-PACE across the country, which accounts for the extremely concentrated market in California, whose state and local lawmakers determined to move forward on R-PACE originations despite the opposition.

The following timeline (Table 1) highlights key intervention points and written materials from various federal agencies, including the Federal Housing Finance Agency (FHFA), which oversees the government-sponsored enterprises (GSEs) the Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac); the Federal Housing Administration (FHA), an office within the U.S. Department of Housing and Urban Development (HUD); the U.S. Department of Veterans Affairs (VA); and the U.S. Department of Energy (DOE), as well as responses and actions from various states.

In addition to the federal actions listed below, a number of pending legislative issues may further affect R-PACE regulation at the federal level. In April 2017, in response to banking industry and consumer protection concerns, the Protecting Americans from Credit Entanglements Act was proposed in the U.S. House of Representatives and the U.S. Senate with the goal of regulating R-PACE under the provisions of the Truth in Lending Act (TILA), a law which PACE supporters claim is incompatible with R-PACE and would jeopardize the market. TILA is discussed in further detail in the following section.

In November 2017, the U.S. Senate Committee on Banking, Housing, and Urban Affairs released the Economic Growth, Regulatory Relief, and Consumer Protection Act (S. 2155) which would amend TILA by directing the Consumer Financial Protection Bureau (CFPB) to engage in rulemaking tailored to the unique nature of PACE.¹³

Table 1: Timeline of Federal Involvement in R-PACE

<i>Date</i>	<i>Action</i>
May 2010	DOE releases " Guidelines for Pilot PACE Finance Programs " highlighting best practice guidelines for consideration and voluntary adoption and adaptation by R-PACE programs.
July 2010	FHFA releases " Statement on Certain Energy Retrofit Loan Programs ," expressing its opposition to senior-lien PACE, noting that it runs contrary to the Fannie Mae-Freddie Mac Uniform Security Instrument, and directing the GSEs to drastically tighten their origination and underwriting processes to protect their "safe and sound operations." This action catalyzed a number of legal complaints and lawsuits filed against FHFA for failing to conduct a formal rulemaking before its decision, notably from state governments and localities in California, Florida, and New York.
November 2010	FHFA issues letter to Efficiency Maine expressing support for the subordinate-lien status of loans made by the Maine PACE program.
March 2013	The U.S. Court of Appeals for the Ninth Circuit files an opinion concluding that "FHFA's decision to cease purchasing mortgages on PACE-encumbered properties is a lawful exercise of its statutory authority as a conservator of the [GSEs]" and dismissing a key case against FHFA.
March 2014	In response to FHFA concerns, the California Alternative Energy and Advance Transportation Authority launches the PACE Loss Reserve Program to cover first mortgage lender losses incurred due to the existence of a PACE lien on a property during foreclosure or sale. To date, CAEATFA has not received any claims on the loss reserve .
August 2015	FHA head Ed Golding announces the agency's intent to release guidelines for the use of Single Family FHA financing for properties with PACE liens .
July 2016	The Obama White House announces the "Clean Energy Savings for All" initiative, citing new guidance from FHA and VA on the ability of homes with PACE assessments to use their mortgage products. FHFA continues to oppose senior-lien R-PACE. FHA products are estimated to represent approximately 18% of overall mortgages, including 21.9% of mortgage originations at purchase and 13.1% at refinance, opening a significant market opportunity at the time.
November 2016	Following an extensive stakeholder engagement and public comment process, DOE finalizes an update to its 2010 guidelines by releasing Best Practice Guidelines for Residential PACE Financing Programs and announcing technical assistance and peer exchange opportunities for states on R-PACE.
December 2017	HUD announces that R-PACE puts taxpayers at risk by placing undue stress on the Mutual Mortgage Insurance Fund. FHA issues Mortgagee Letter 2017-18 revising its July 2016 policy and ending its short-lived practice of providing FHA-insured mortgages to homes with PACE liens.

Consumer Protections, Mortgage Banking Concerns, and PACE Industry Responses

Truth in Lending Act

A cross-section of advocates from the consumer protection, banking, and real estate communities has raised concerns about the potential financial risks R-PACE poses to borrowers and mortgage lenders. Some have coalesced around the recommendation that R-PACE be governed by the federal Truth in Lending Act (TILA), which is used to regulate consumer credit and mortgage loans. Key provisions of this law include: ability-to-repay requirements; three-day advance review of documents with the right of rescission; rules to avoid conflicts of interest; extra protections for high-cost loans; and bans on forced arbitration clauses.¹⁴

As special assessments that operate at the discretion of government, R-PACE obligations are not subject to the same requirements as those imposed on traditional forms of consumer and mortgage credit, nor is R-PACE designed to fit within confines such as those posed by TILA. This incompatibility stems from the fact that state statutes define PACE obligations as tax assessments, discrete from consumer credit transactions governed by TILA, a distinction corroborated both by the CFPB and a federal court ruling in July 2017.¹⁵

PACE industry players largely agree that consumer protections and disclosures are critical, and supported the inclusion of ability-to-repay, strengthened disclosure practices, contractor oversight, and other

provisions in the series of PACE laws enacted in 2017 in California. Indeed, many have also expressed a willingness to work with lawmakers and the CFPB to create federal regulations customized to R-PACE.

However, they argue that subjecting R-PACE to TILA directly would render programs inoperable for state and local governments by introducing unnecessary and unsuitable complexities to the financing. TILA's technical requirements specify how creditors interact with borrowers, the frequency with which billing occurs, how and when payments can be received and credited, how loan servicers handle late fees and delinquency charges, and many other practices common to consumer credit and mortgage lending. State and local tax laws already dictate such processes for special assessments, so it could require significant legislative and operational changes for R-PACE to comply with TILA as written.

PACE supporters also contend that TILA would not go far enough to inform borrowers of the unique financial obligations and repayment structures associated with R-PACE assessments. For instance, TILA-compliant disclosures would not adequately communicate to a prospective borrower the tax assessment structure of the financing and the potential placement of a lien on the home. R-PACE stakeholders and legislators in California have developed tailored practices that communicate not only the elements that are common among R-PACE and other types of loan products (elements such as interest rate and fee schedules) but also those that are unique to R-PACE, such as disclosures regarding the potential penalties associated with delinquent payments, and the possibility that the borrower will be required to pay the balance of the R-PACE obligation as a condition of a home sale or refinance.

Potential Impacts on Low-Income and Vulnerable Borrowers

Consumer advocates have expressed their concerns with the impacts that R-PACE may have specifically on borrowers with limited financial means or who do not fully understand the financial obligation. They cite the potential for deceptive, high-pressure, or predatory sales tactics by contractors; the use of automated verification and electronic application, contract review, and signature practices (a factor which accelerates application and approval time, but which may disadvantage borrowers who are not computer-literate); the wide range of projects (including non-energy-saving or non-cost-saving measures) which R-PACE programs are authorized to finance; and instances of low-income homeowners taking out R-PACE assessments even when they are eligible for low- or no-cost weatherization services.¹⁶

The impact of these practices, notes the National Consumer Law Center (NCLC), is that homeowners may be at risk of foreclosure, stripped of equity in their home, surprised when they experience problems with refinancing or selling, and overwhelmed by high tax bills, a problem exacerbated if the measures installed produce minimal or no energy cost savings for the borrower.¹⁷ NCLC has noted that homeowners may not recognize misrepresentations regarding the cost or payback of measures immediately because of the “lag time that it takes for PACE financing to appear on their tax bills or in escrowed mortgage payments.”¹⁸

Along with the National Housing Law Project (NHLP), NCLC has encouraged strong consumer protection regulation and implementation from California's Department of Business Oversight (DBO), the agency named by AB1284 to license PACE program administrators and regulate the PACE industry. They suggest several strategies to ensure consumer protection, such as requiring that ability-to-repay underwriting occur **before** the consummation of the R-PACE obligation (a distinction not made in AB 1284), removing perverse incentives for underwriters to qualify borrowers who do not meet ability-to-repay criteria, and/or holding PACE administrators responsible for shortfalls between the R-PACE obligation and the qualifying loan amount calculated in the ability-to-repay analysis. These groups also suggest measures to verify and integrate income considerations in ability-to-repay analyses, identify the potential need for appraisals in determining the size of a R-PACE obligation, and limit contractors' involvement in the PACE loan underwriting and origination process, among other recommendations.¹⁹

In a 2017 study funded by PACENation, Surdna Foundation, and Renew Financial, the Energy Programs Consortium (EPC) found that low-income families are less likely to participate in PACE, and take out slightly smaller principal amounts, than higher income families, and that there is little statistical evidence of PACE contractors systematically targeting low-income areas.

However, the EPC study did find evidence of a limited but potentially problematic trend: namely, individual households with multiple assessments. Of the 25,000 California households enrolled in R-PACE programs in the first half of 2016 examined by EPC, 1,766 had more than one PACE assessment, of which 217 had multiple PACE assessments from multiple providers.^c Low-income households represented a disproportionately large percentage of multi-assessment and multi-provider households, posing a potential concern because “the principal amounts combined could exceed PACE’s debt-to-home value and debt-to-equity requirements,” and because these figures may suggest that “contractors are using [their relationship with multiple PACE providers] to circumvent maximum assessment requirements.”²⁰

The state of California has taken steps to combat unscrupulous contractor behavior and to manage multiple assessments. AB 1284 requires R-PACE providers to ensure that contractors meet minimum background checks and maintain good standing with the state license board, and to offer training programs to contractors. Program administrators must verify any recorded PACE assessment on the property, and to ask the property owner in their application whether there are any other existing PACE assessments on the property, recorded or unrecorded. In addition, under the confirmation calls required by SB 242, the homeowner will be asked about the existence of any other PACE assessments on the property. The law also authorizes DBO to require the development and use of a real-time registry for PACE assessments to deal with the issue of multiple assessments on the same property by different providers.

Mortgage and Real Estate Industry Impacts

Mortgage industry concerns relate to the risk senior-lien R-PACE poses to the first mortgage on a home, whose collateral position is downgraded once an assessment is recorded. According to the Mortgage Bankers Association, R-PACE’s classification as a tax assessment enables it to circumvent traditional federal consumer protection requirements, putting borrowers, mortgage lenders, and guarantors (and taxpayer-backed guarantee programs such as the VA loan guarantee program) at increased risk. The real estate community has raised similar concerns with R-PACE, and in addition has cited the potential for R-PACE assessments to frustrate or slow home sales due to lender discomfort, lack of consumer understanding, and inconsistent program frameworks between different jurisdictions.²¹

Though R-PACE is still a young industry, market data suggest that R-PACE poses low risk to mortgages: in its February 2018 analysis, credit rating agency DBRS concluded that R-PACE delinquency rates are lower than property tax delinquencies generally.²² Similarly, a 2016 study for Renovate America published in the *Journal of Structured Finance* found that R-PACE has a net positive impact on the resale value of the home.²³

The table on the following page (Table 2) highlights individual concerns raised by different stakeholder groups, details potential remedies suggested by these groups, and compares them with PACE industry practices and counterpoints. While this table is not comprehensive, it may offer insights regarding the potential hurdles that R-PACE programs would need to clear in order to succeed, along with market responses to date.

^c Of the 1,766 households, over 70 percent were in areas with an area median income greater than 80% of the state median. These households took on significantly more debt than the average: while the mean principal amount for all low-income households participating in the sample was \$24,120, low-income multi-assessment/single-provider households took out an average of \$45,669 and low-income multi-assessment/multi-provider households had an average principal of \$59,993.

Table 2: Summary of Key Consumer Protection and Mortgage Industry Concerns with R-PACE

Concern	Suggested Remedy	Related Industry Practices or Counterpoints
Homeowner may be unable to repay loan, triggering severe consequences such as tax foreclosure and eviction	<ul style="list-style-type: none"> Require ability-to-repay in underwriting Require audit, prioritize measures with ROI Track R-PACE transactions in real-time, to avoid exceeding program or statute thresholds or borrower’s ability to repay 	<ul style="list-style-type: none"> AB1284* requires all property taxes be current and free of specific types of debt; that the homeowner be current on all mortgage debt and not have been party to a bankruptcy proceeding within 7 years; that the assessment, and total value of all debt on the property, not exceed certain amounts based on home value AB1284** will require programs to make “reasonable good faith determination” of ability to repay AB1284*** will require programs to establish a real-time registry or database to track PACE assessments
Homeowners may not understand terms and conditions of financing or other options available to them, potentially taking on unnecessary debt	<ul style="list-style-type: none"> Disclose full financing costs before consummation of the transaction Provide financial counseling for vulnerable borrowers (such as the elderly) Screen for and notify homeowners eligible for low-/no-cost options (weatherization) Educate prospective borrowers on alternative home equity products and energy efficiency financing products 	<ul style="list-style-type: none"> Programs use Know-Before-You-Owe disclosure modeled after TILA and required by AB2693** Programs use recorded, live confirmation of terms calls with enhanced protections (such as open-ended questions) for elderly applicants SB242* requires oral confirmation that the homeowner has a copy of documents and forms related to the R-PACE contract, and of key terms R-PACE may be an important option for homeowners in need of emergency equipment replacement, whose only other option may be high-interest credit card debt Education of borrowers on alternative grant and financing options is the responsibility of those providers, such as community action agencies and lenders offering relevant products
Contractor abuses may occur: predatory and/or deceptive sales tactics, or misrepresentation of energy savings, contract terms, repayment terms, and program structure and funding	<ul style="list-style-type: none"> Adopt rules discouraging “upselling” of products and equipment not recommended by an energy audit Ban deceptive sales tactics Adopt licensing/insurance requirements Conduct QA and QC to ensure appropriate equipment and installation 	<ul style="list-style-type: none"> Programs use pre-approved, registered, and licensed/insured contractors and offer free online training AB2693* prohibits contractors from stating whether/how much property value will increase unless using industry-accepted appraisal methods SB242* prohibits program, contractor, or other 3rd party from misrepresenting tax deductibility of project AB1284* requires enhanced program oversight of PACE solicitors and solicitor agents (contractors) AB1284*** will hold R-PACE programs accountable for violations and misrepresentations in the same way as a finance lender or broker
Injured homeowners lack clear remedies or recourse options	<ul style="list-style-type: none"> Protect homeowners from loss due to contractor abuse or poor workmanship 	<ul style="list-style-type: none"> PACENation Consumer Protection Policies recommends R-PACE administrators provide recourse options for homeowners and set procedures to receive, manage, track, and resolve complaints and injuries
Homeowners may face difficulty refinancing or selling due to FHFA opposition, mortgagee discomfort, or lack of awareness	<ul style="list-style-type: none"> Prior to origination, disclose potential difficulties in selling/refinancing the home without fully paying off the obligation 	<ul style="list-style-type: none"> AB2693** requires homeowner acknowledgement of statement: “I understand that I may be required to pay off the remaining balance of this obligation by the mortgage lender refinancing my home. If I sell my home, the buyer or their mortgage lender may require me to pay off the balance of this obligation as a condition of sale.”
Senior-lien R-PACE exposes mortgage lenders and guarantors to increased risk	<ul style="list-style-type: none"> Subordinate R-PACE obligations to all prior-recorded mortgages Subject R-PACE to traditional banking rules such as TILA 	<ul style="list-style-type: none"> Subordinating R-PACE obligations or subjecting R-PACE to TILA will require fundamental restructuring of programs and statutes, placing R-PACE market in jeopardy Market analyses find “minimal” increased risk to underlying mortgage in a home with a R-PACE²⁴ CA PACE Loss Reserve makes mortgage lenders whole in the event of any losses attributable to R-PACE Escrowing R-PACE payments and ensuring that R-PACE debt will not accelerate upon default protects lenders and insurers by limiting the amount of the R-PACE obligation that is paid before the mortgage
Lack of standardized disclosures/ programs deepen uncertainty for lenders, realtors, appraisers, title companies, buyers	<ul style="list-style-type: none"> Impose regulations at the federal level, to avoid patchwork of program rules and offerings between different jurisdictions 	<ul style="list-style-type: none"> PACE supporters have shown openness to federal rulemaking that factors the unique features of R-PACE. Statewide R-PACE programs (similar to CT and CO C-PACE programs) can reduce inconsistencies/confusion Best practice sharing through PACENation, DOE, the National Conference of State Legislatures, NASEO, and other stakeholder groups may promote program consistency
<p><i>*Provision is currently in effect</i> <i>**Provision will take effect beginning April 2018</i> <i>***Provision will take effect beginning January 2019</i></p>		

Key Takeaways and Considerations

For any state or locality exploring R-PACE, the decision to pursue a program should be proactive, based on sound market data, analysis, and stakeholder input, and cognizant of the significant time, expense, and multi-agency coordination that may be needed. The following takeaways may assist State Energy Officials in examining the advantages and disadvantages of R-PACE, determining whether it is a viable and valuable financing option in their communities, and assembling relevant stakeholders to support a program design that is customized and responsive to borrowers' and market needs.

1. *Determine whether (and how) R-PACE meets low- and moderate-income households' energy upgrade needs, and design policy, regulation, and consumer protections accordingly.*

For homeowners who have limited options but are in need of cost-effective efficiency improvements to reduce high energy bills, or to replace equipment, R-PACE may offer one option (in addition to direct assistance that households may qualify for), if they have sufficient income and equity in their home. While low- and no-cost weatherization programs across the country have been crucial in providing home energy improvements and comfort for eligible low-income families, there is a large portion of the U.S. market that does not have access to these services, either due to insufficient program funding or income level that make households ineligible for weatherization assistance.

To illustrate, DOE estimates that the U.S. Weatherization Assistance Program provides services to 35,000 homes annually²⁵; yet, there are approximately 20 to 30 million households eligible for low-income weatherization services nationwide.²⁶ Similarly, the U.S. Department of Health and Human Services estimates that one in five households eligible for the Low-Income Heating Energy Assistance Program (LIHEAP) receives benefits.²⁷

While state- and locally-funded grant and weatherization programs may help address a portion of the remaining homes, these services are simply not prevalent enough or sufficiently funded to meet the significant demand; nor do moderate-income households whose earnings exceed weatherization program thresholds have access to these services.

Energy efficiency financing offered by state and local governments in partnership with private financial institutions and utilities can help to shrink this gap. Many State Energy Offices operate or support programs that provide direct loans to homeowners for energy efficiency and renewable energy improvements at below-market rates.²⁸ Additionally, on-bill financing, on-bill repayment, and other loan programs offered by State Energy Offices, utilities, and/or third-party administrators provide additional low-interest options.

Yet, excluding R-PACE, subscription levels in home energy upgrade programs is low. According to data compiled by Lawrence Berkeley National Laboratory, in 2014 non-PACE programs represented just over half of residential energy efficiency financing market activity (\$289 million of \$537 million), with R-PACE programs serving the remainder of the market that year (\$248 million).²⁹

Contractors can also help market a wide range of privately-offered financing options, including unsecured consumer credit products through manufacturers or retailers. While these products may have low-interest offers for the first several months of the loan, rates may increase dramatically at the close of the promotional offer.

Additionally, low- and moderate-income borrowers' access to privately-offered home improvement financing may be limited if their debt-to-income ratio or personal credit score fall outside of industry-accepted ranges. Other commercially available products, such as home equity lines of credit (HELOCs) and energy-efficient mortgages, may be available but generally have a time-consuming application or approval process, potentially making them ill-suited for emergency equipment replacement situations or other urgent project needs.

This dynamic underscores the need not only for greater funding for low- and no-cost weatherization assistance programs and services and home energy efficiency grants, but also for innovative financing and public-private partnerships that deliver options to homeowners in need of energy upgrades. R-PACE may be one such option, along with unsecured financing products, lease financing structures (e.g., solar lease with energy efficiency) and on-bill utility financing programs.

As with any form of financing for homeowners, R-PACE requires robust consumer protections to prevent abuse and overfinancing. Such protections may include required energy audits or using an eligible measures list, requiring ability-to-repay screening (including income verification, credit score and debt-to-income ratio criteria), educating citizens on alternative funding and financing options, strengthening contractor oversight, limiting eligible improvements to cost-effective energy efficiency and renewable energy measures, tracking and limiting multiple assessments, providing forbearance options for assessments in default, and/or various other measures identified in partnership with relevant local, state, and national stakeholders.

Regardless of the specific form and design R-PACE assumes, it may help some borrowers—even low- and moderate-income homeowners—by averting the need to finance projects using high-interest rate credit cards or other unsecured loans with unfavorable and punitive loan terms. While much of the discourse around R-PACE has focused on its negative impacts on vulnerable applicants (such as low-income and elderly borrowers), in certain scenarios, it can offer a powerful tool to protect these very consumers from high energy or financing costs. For this reason it is worth serious consideration by policymakers who may otherwise feel compelled to dismiss the value of R-PACE. As with other financial products, states should consider developing and implementing a regulatory framework and oversight mechanisms for R-PACE programs offered by communities and individual PACE providers.

2. *Compare R-PACE to other available or possible program options to determine whether it meets a market need.*

While R-PACE may be one potential solution, several states, municipalities, utilities, and private financial institutions have implemented other products for residential energy efficiency financing. Like R-PACE, some of these programs are not currently available in every state and jurisdiction; however, it is valuable for state policymakers to be aware of these models, as they may offer a complement or alternative to R-PACE depending on market needs and the availability of public and private sector resources to dedicate to specialized energy lending programs.

The matrix below (Table 3) provides a brief description of these various options and compares general characteristics from each of these programs to those of R-PACE.

Table 3: Comparison of Key Characteristics of Residential Energy Efficiency Financing Options

	R-PACE	On-Bill Lending	Publicly-Supported Home Energy Loans	Private Consumer Credit Products	Energy-Efficient Mortgages (EEMs)	Home Equity Line of Credit (HELOC)
Main Provider(s)	Specialized program administrators; often designated by a local government.	Utilities and/or designated third-party administrator.	State, local, or third-party administrator and/or financial institutions.	Private lenders working with contractors, who market products to clients.	Federal agencies (VA and FHA), Fannie Mae, and Freddie Mac working with qualified lenders.	Mortgage lenders.
General Program Structure	Partnership with local governments to place voluntary tax assessment on homes to finance energy, water, and resilience upgrades.	Use of borrower's utility bill as repayment vehicle; capital may be provided by the utility itself or a third-party, nonutility partner.	Publicly-funded/ subsidized programs offering specialized, low-interest loans for home energy efficiency financing, sometimes in partnership with local financial institutions.	Specialized products may be: private label (store-branded) credit cards or specialized direct-to-consumer leases or loans, typically with promotional offers. ^d	Programs that enable homebuyers to secure more favorable rates or borrow more in order to buy an energy-efficient home or cover the cost of improvements.	Line of credit enabling homeowners to borrow against available equity in their home for a variety of purposes (not specific to energy improvements).
Terms	Average between 6-10%, may be as low as 2.99%, over as many as 30 years.	Interest rate ranges from 0-8%. Typical loan terms are between 5-10 years.	Interest rate ranges from 0-10%. Typical loan terms between 0-10 years.	Deferred interest available. After promotional offer, rates may rise to 15-20%. Terms tend to be short (up to 3 years).	Rate is comparable to mortgage interest rate. 15- and 30-year fixed rate, some adjustable rate mortgages are eligible for EEM offers.	Typically the prime rate (as of early 2018, 4.50%) plus a premium. Terms typically range from 5-15 years.
Application Review and Approval	Approval may occur in-home at point of sale.	Loan approval process may take 1-5 business days.	May require public agency review/ approval. Application and review may be time-consuming.	Approval may occur in-home at point of sale.	May require energy audit or home energy score. Application and review may be time-consuming.	HELOCs typically close 2-3 weeks after application.
State or Local Government Involvement	Requires state and local government adoption. Local governments may play oversight role and/or issue bonds to fund programs. Other activities may involve convening stakeholders, informing program design, or sharing information about programs.	Some states have passed legislation to authorize the use of public benefit funds for capital for on-bill programs, create pilots, or require utilities to offer programs. States may also partner with utilities to offer on-bill programs.	State may provide capital for projects (through a loan fund or loan participation program), provide credit enhancement (through a loan loss reserve or guarantee), or buy-down the interest rate of loans offered by partner banks.	States and localities do not generally have direct involvement in these programs, but may help promote awareness and adoption of these products.	States and localities do not generally have direct involvement in these programs, but may help promote awareness and adoption of energy-efficient mortgages in their jurisdictions.	States and localities typically do not have direct involvement in the use of HELOCs.

^d Examples and descriptions of these products are available at <https://www.egia.org/geosmart-program-descriptions/>.

Security	Secured by lien on property. Missed payments may lead to foreclosure.	May be secured by utility's disconnection terms and services. Nonpayment may lead to additional fees and/or utility disconnection.	No collateral required. Nonpayment may lead to additional fees, interest rate increases, and reduced credit score.	Available in secured or unsecured forms.	Secured (as part of mortgage) by mortgage lien on property. Missed payments may lead to foreclosure.	Home is used as collateral. Missed payments may lead to foreclosure.
Geographic Availability	Available in states and localities with R-PACE-enabling legislation and active programs.	Available in service territory of participating utilities.	Available in states and localities that have established specialized programs.	Available nationwide via partner contractors.	Available nationwide via approved lenders.	Available nationwide.
Typical Eligible Measures	Energy efficiency, renewable energy, water efficiency, and/or resiliency upgrade improvements.	Energy efficiency and renewable energy improvements. Some programs may require energy audits and/or bill neutrality (where energy cost savings are equal to or greater than the cost of the financing).	Energy efficiency and renewable energy improvements. Some programs may require energy audits and/or bill neutrality.	Varies by product, but may cover energy efficiency and renewable energy upgrades as well as other (non-energy) home improvement measures.	Energy-efficient properties or energy-saving, cost-effective measures. May require home energy rating to verify that home is energy-efficient.	A variety of expenses (education, medical bills, credit card debt, home projects, etc.), including home energy upgrades.
Major Factors Considered in Applicant Screening/Underwriting	Loan-to-value ratio; mortgage payment history; bankruptcy history. Commencing 2018 in California: income-based screening, ability-to-repay.	Debt-to-income ratio; mortgage payment history; credit score; utility bill payment history (potentially in place of credit check).	Debt-to-income ratio; mortgage payment history; credit score.	Underwriting varies by product type, but typically involves a credit check and/or income verification.	Borrower has access to underwriting flexibilities/"stretch ratios" regarding loan-to-value, debt-to-income, and other criteria due to energy efficiency of home.	Loan-to-value; credit score; debt-to-income; bankruptcy/foreclosure history.
Transferability	Obligation is not required to be repaid before selling home and may transfer to the new owner, unless negotiated as a condition of sale.	Debt is tied to the meter and may transfer to the new owner unless negotiated as a condition of sale.	Debt is tied to the borrower and does not transfer to a home's new owner.	Debt is tied to the borrower and does not transfer to a home's new owner.	Conventional mortgage outstanding balance must be paid off at time of sale.	HELOC outstanding balance must be paid off at time of sale.

3. *Acknowledge the role of eligible measures and high-quality installations in protecting consumers.*

Financial and legal protections are critical to ensuring a positive experience for R-PACE borrowers; yet, without technical and programmatic measures to promote project payback and quality, they may be insufficient to achieve program success and growth. Careful consideration of a program's list of eligible measures; energy audits and assessment requirements; contractor training, oversight, qualification, and certification; and/or sampling of project performance for quality assurance and quality control purposes should be considered in R-PACE program design. These may serve as a potential tool for borrower protections in addition to the legal and financial screening, access to recourse mechanisms, and applicant education measures that many programs have already adopted.

Such measures can help ensure that projects result in real cost savings, steer contractors and homeowners toward energy efficient equipment (e.g., ENERGY STAR products and appliances), and reduce the potential for improper installation. According to a study by the National Institute of Standards and Technology and the Air Conditioning Contractors of America, installation deficiencies can reduce the energy efficiency of heat pump equipment by as much as 30 percent compared to manufacturers' expectations.³⁰ Similarly, the efficiency of windows, insulation and air sealing measures can also be affected by the quality of installation practices. Efficiency losses of this size and scale can be a critical factor in whether a borrower affords their payments or defaults, so there is significant value in taking steps to ensure that projects are done correctly and by experienced, knowledgeable contractors that have received relevant training and certifications for their area of trade practice.

4. *Identify opportunities for economies of scale.*

To unlock the benefits of PACE financing, the onus is typically on local governments to design and deliver programs effectively. The evolving regulatory and market landscape, as well as some opposition at the federal level, may dissuade local policy makers from pursuing R-PACE, especially in jurisdictions with limited bandwidth or know-how. Opportunities to coordinate, exchange best practices, share R-PACE administrative or legal services across multiple municipalities, or—as some states have established in C-PACE—create statewide programs may help maximize economies of scale, reduce the burden on localities, and create a more standard and user-friendly market for borrowers, real estate professionals, and bankers.

5. *Identify the most appropriate role(s) for the State Energy Office.*

State Energy Officials may be well-positioned to navigate the complex landscape of R-PACE. As policy planners and advisors, many are experienced in convening diverse stakeholders, collecting and analyzing market data, and engaging local governments. A majority of State Energy Offices across the country have operational experience running financing programs, and thus are familiar with the network of financial institutions, program administrators, and borrowers that may be involved in PACE financing.

State Energy Office leadership and involvement in R-PACE can help create more effective programs with stronger consumer protections by organizing various stakeholders for discussions of R-PACE program design characteristics and protections measures; engaging other state agencies and local governments on the benefits and potential challenges associated with R-PACE; engaging contractors to improve quality of installations; and educating the public, including financial institutions and the real estate community, on how R-PACE works. As a number of states have already done with C-PACE

programs³¹, State Energy Offices may also be instrumental in promoting R-PACE program consistency by supporting the creation of statewide programs or voluntary standards that increase economies of scale and the use of shared services among participating jurisdictions.

State Energy Office involvement does not mean indefinite commitment; rather, strategic support through stakeholder convening or in early program design phases may help to build confidence in R-PACE programs without long-term oversight or administration responsibilities.

While a State Energy Office may be helpful in advancing and designing R-PACE in line with market needs and priorities, ultimate responsibility for oversight—and potential regulation—of programs is likely to rest with regulatory bodies such as departments of financial or business oversight, comptroller's offices, and/or consumer protection bureaus. In California's case, for instance, the Department of Business Oversight has been assigned regulatory oversight over PACE program administrators.^e

Conclusions

R-PACE has already delivered billions of dollars for home energy efficiency, renewable energy, and resilience upgrade financing while creating jobs, stimulating local economies and demonstrating an innovative public-private partnership structure for enabling home upgrades using private sector capital. As the market for R-PACE financing continues to grow, state and local governments can work with consumer advocates, PACE providers, and home improvement contractors to develop effective mechanisms to ensure R-PACE delivers benefits to homeowners and to mitigate the potential risks it poses to homeowners and mortgage lenders, the potential for abuses by programs and contractors, and general lack of familiarity.

For this reason, the design and implementation of R-PACE at the state and local level are more likely to succeed if they are customized in recognition of stakeholder needs, priorities, and concerns. States and local governments may be able to utilize existing regulatory and contractor oversight mechanisms to develop a framework for R-PACE, such as contractor licensing boards, financial regulatory agencies, better business bureaus, and consumer protection departments.

This issue brief offers insights for State Energy Officials and other policymakers interested in examining whether R-PACE may be a viable and valuable option for home energy project financing in their states and communities. Of the few states that have implemented R-PACE to date, California has not only emerged as a market leader, but also as a battleground where consumer advocates, financial institutions, and R-PACE providers and supporters have grappled with important questions surrounding consumer protections, mortgage industry interests, and energy and environmental concerns. While California's experience in R-PACE offers a helpful starting point, other states and municipalities will likely need to adapt California's model rather than replicate it exactly. State associations and nonprofit groups, such as the National Conference of State Legislatures (NCSL) and PACENation, can also provide legislative models, best practices and program design guidance to States.

Ultimately, it will require extensive stakeholder engagement and thought on the part of state and local policymakers—as well as stakeholders on both sides of these issues—to develop unique frameworks that strike the appropriate balance among consumer protection, mortgage industry interests, program viability, and market growth.

^e View DBO's webpage for PACE Program Administrators at <http://www.dbo.ca.gov/Licensees/pace/Pace%20Program%20Administrators.asp>.

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