

NOTES

PACE-Ing Flood Resilience

RYAN A. REED*

ABSTRACT

Flooding is a substantial problem in the United States and is slated to become significantly more consequential over the next century as climate change brings sea level rise and changing precipitation patterns, in turn increasing flooding risk. In order to continue to inhabit areas that are currently densely populated, individuals, business entities, and governments will have to consider building and rebuilding in a sustainable, thoughtful manner. Interest in sustainable building (and rebuilding) has grown in recent years, but it still presents massive challenges for funding, government involvement, and the feasibility of continuing to inhabit certain areas. This Note does not purport to solve these complex problems, but instead examines an existing funding mechanism that could be repurposed to help interested parties access flood resilience. Property Assessed Clean Energy (PACE) currently provides property owners with loans. The loans are paid back as a special tax assessment, which travels with the property if and when the owner decides to sell. PACE loans are currently only available for renewable energy and energy efficiency upgrades and have aided a large number of people in making those changes. This Note examines whether the PACE structure can be used for flood resilience infrastructure upgrades. Specifically, this Note surveys types of flood resilience activities, whether such activities fit within the overall structure of PACE financing, and what steps state and local governments should take to ensure a sustainable, healthy program. Overall, this Note finds that using PACE financing would be a good fit for certain flood resilience activities that protect individual homes and properties as well as large scale projects. PACE-financed flood resilience activities would provide the direct benefit of discounts on flood insurance, while relieving individuals of the direct and indirect costs associated with flood events. State and local governments should seize upon PACE financing as an opportunity to improve the resilience of their communities by using private capital to fund projects of interest. PACE financing should emphasize funding sustainable flood resilience projects while

* Georgetown Law, J.D. 2018; University of California, Berkeley B.A. 2014. © 2018, Ryan Reed.

protecting individuals who take advantage of PACE financing. PACE financing could have a positive impact on building and rebuilding properties in a way that accommodates exceedingly likely future flood risk. It will not solve the problem, nor will it address potential causes of sea level rise, but it can help make the decision to invest in flood resilience easier for individuals. This will lower total flood risk and ultimately benefit the country as a whole.

TABLE OF CONTENTS

Introduction	126
I. PACE Financing.	127
II. Residential PACE Problems	130
A. Consumer Protection	131
B. Mortgage Liens.	135
III. Flood Resilience.	137
A. Single-Property Renovation.	139
B. Large Area Strategies.	142
C. Retreat.	144
IV. Applicability of Government Financing.	145
Conclusion.	147

INTRODUCTION

As the climate shifts, sea levels rise, and precipitation patterns change, individuals and communities will have to increase their resilience to flooding. Although government entities are working hard to tackle these issues, it is important to continually identify and capitalize on possibilities for individual and community action. Property Assessed Clean Energy (PACE) provides an established funding mechanism that can be implemented to allow individuals and commercial entities to undertake property resilience upgrades that may otherwise be challenging to fund. Currently, PACE financing is used to address emissions caused by energy production by allowing individuals to access up-front financing for projects that both decrease total energy usage and increase renewable energy production.

This Note will explore how the current PACE financing mechanism can be shifted to provide for flood resilience infrastructure updates as well. First, it will explore PACE financing as it currently stands, as well as several problems that residential PACE programs have endured over the past decade. This Note will then examine different types of flood resilience upgrades and whether the benefits of PACE can be translated. Subsequently, it will look at issues that state and local governments should be aware of when implementing a PACE scheme, including emphasizing sustainable flood resilience and protecting individuals who take advantage of the funding mechanism. Finally, this Note will examine possible overlap between federal hazard mitigation funding and PACE financing for resilience activities.

I. PACE FINANCING

PACE is a funding mechanism that provides loans for residential and commercial property owners to pay for energy efficiency, renewable energy, and water conservation projects.¹ PACE is derived from special tax assessment districts, using local government tax and assessment authority to ease the funding of projects. Historically, special assessment taxes are levied on a specific area to pay for public improvements from which those areas derive particular benefits. PACE loans are then repaid as an assessment on the property's regular tax bill.²

The first PACE program, BerkeleyFIRST, began in Berkeley, California in 2007 with funding available for forty photovoltaic systems.³ At the time, the homeowners were limited in what they could spend their money on and were not required to have shovel-ready projects.⁴ The program has developed immensely in the decade since its initial forty-home pilot in Berkeley. As of 2017, residential PACE is operating in California, Florida, and Missouri and has upgraded 132,000 homes for approximately \$3.4 billion.⁵

Although BerkeleyFirst was entirely focused on residential properties, PACE has shifted to include commercial projects as well. Commercial PACE is active in fifteen states and Washington, D.C.⁶ and has met the needs of 988 projects to the tune of \$332 million.⁷ Further, Commercial PACE has delved into large-scale projects, including a \$10 million solar installation at a Pacific Ethanol plant in California⁸ and a \$40 million project with the Seton Medical Center in California.⁹ Approximately sixteen percent of all commercial PACE projects cost over \$750,000.¹⁰

1. *PACE: Property Assessed Clean Energy*, PACENATION, http://pacenation.us/wp-content/uploads/2016/10/PACEBasics_2016_10_7.pdf (last visited Mar. 8, 2017).

2. *Id.*

3. Mimi Frusha, *What Berkeley can Teach us About Taking Clean Energy Programs to Scale*, GRIST (Mar. 2, 2010), <http://grist.org/article/2010-03-01-what-berkeley-can-teach-us-about-taking-clean-energy-programs-to/>.

4. Frusha, *supra* note 3.

5. *PACE Market Data*, PACENATION, <http://pacenation.us/pace-market-data/> (last visited Mar. 8, 2017).

6. *Commercial Pace Near You*, PACENATION, <http://pacenation.us/pace-programs/commercial/> (last visited Mar. 8, 2017).

7. *Id.*

8. This project is expected to lower electric costs by \$1 million per year for the plant, while also allowing the plant to qualify for a federal Business Energy Investment Tax Credit. See Mark Anderson, *Pacific Ethanol Scores Big on Funding for \$10 Million Solar Project*, SACRAMENTO BUS. J. (Sept. 26, 2016), <http://www.bizjournals.com/sacramento/news/2016/09/26/pacific-ethanol-scores-big-on-funding-for-10.html>.

9. *Largest-ever PACE Transaction Closed at \$40 Million*, PACENATION (May 23, 2017), http://pacenation.us/largest-ever-pace-transaction-closed-40-million/?mc_cid=aa8c1ec219&mc_eid=468ae20ef8. This project involved seismic improvements, which is an acceptable use of PACE financing in California.

10. George Caraghiaur, *The Benefits of PACE Financing for Commercial Real Estate Companies*, PACENATION 4 (May 2016), <http://pacenation.us/wp-content/uploads/2016/05/The-benefits-of-PACE-for-CRE-FINAL-1.pdf>.

There are several ways in which states run PACE financing. Generally, states will pass legislation that authorizes local government entities to levy assessments to fund certain qualifying improvements. For example, Florida passed Section 163.08 in 2011, which authorizes local government bodies to create special tax assessments to finance “qualifying improvements.”¹¹ States can also opt to implement state-wide programs, whereby local government action generally takes the form of public-private partnerships. Many local government entities enter into joint powers agreements to form larger regional organizations to handle PACE issues.¹² For example, the Western Riverside Council of Governments (WRCOG) is a collective of seventeen Southern California local governments that implements the HERO PACE program.¹³ Entities will usually pair with private partners to provide the PACE services. For example, WRCOG partnered with Renovate America to run the California HERO program.¹⁴ Connecticut, which opted for a state-wide program, uses the Connecticut Green Bank for implementing its PACE program.¹⁵

The capital for projects can come from a variety of sources. One opportunity is for government entities to take a straightforward private loan, although this provides a limited source of funding and can come at a high interest rate. Governments also commonly issue bonds to pay for PACE programs,¹⁶ or otherwise provide through general funds. Many programs are now funded from a mixture of private loans and public funding.¹⁷ The Connecticut Green Bank is an example of a finance mechanism funded both by public dollars and private lenders.¹⁸ There is also a movement towards securitization of PACE assets. The first securitization of PACE assets, a \$75 million issuance, occurred in September 2017, and industry leaders expect the trend to continue.¹⁹

11. FLA. STAT. § 163.08 (West).

12. A joint powers agreement is where two or more public agencies (or local government entities) agree to jointly exercise authorities that have been given to them by the state. *Frequently Asked Questions (FAQs)*, CAL. STATEWIDE COMMUNITIES DEV. AUTHORITY, <http://cscda.org/About-Us/FAQs#q3> (last visited Sept. 26, 2017).

13. See Sijia Qui & Jocelyn Durkay, *PACE Financing*, NAT'L CONF. OF STATE LEGISLATURES (Jan. 26, 2016), <http://www.ncsl.org/research/energy/pace-financing.aspx>.

14. See Renovate America, *Financing for Energy Efficiency Improvements Hits \$50M in Approvals*, PR NEWSWIRE (Sept. 27, 2012), <http://www.prnewswire.com/news-releases/western-riverside-countys-hero-financing-for-energy-efficiency-improvements-hits-50m-in-approvals-171563081.html>.

15. Note that Connecticut does not have counties and is a somewhat small state, which may have been why it chose to create a state-wide program. The Green Bank is a quasi-public entity that the state government has entrusted to spur green energy growth. Qui & Durkay, *supra* note 13.

16. *Id.*

17. *Id.*

18. See *Changing Connecticut for the Greener*, CONN. GREEN BANK, <http://www.ctgreenbank.com/about-us/> (last visited Oct. 12, 2017).

19. See Mike Centore, *Nation's First Rated Commercial PACE Securitization Completed by Greenworks Lending*, PACENATION (Sept. 26, 2017), http://pacenation.us/nations-first-rated-commercial-pace-securitization-completed-greenworks-lending/?mc_cid=aa32c69f00&mc_eid=468ae20ef8 (“This deal is an important step in furthering that mission, while also promoting smart solutions to climate change and spurring local economic development.”).

Finally, a portion of financing for PACE programs comes from the Federal Government. The State of Maine used funding from the American Recovery and Reinvestment Act (ARRA), the federal stimulus package passed in 2009.²⁰ This funding arrangement operated in a similar way as stated above, with loans being provided through local public-private partnerships for qualifying projects.²¹ In the past, the U.S. Department of Energy has issued a number of funding opportunities for researching and implementing PACE programs.²² For example, it announced a grant of \$454 million under the Competitive Energy Efficiency and Conservation Block Grant to help pioneer funding mechanisms.²³ Overall, a vast majority of PACE financing for projects comes from private sources. In 2016, Lawrence Berkeley National Laboratory released data stating that \$63 million of public funding was put towards PACE projects compared to \$246 million of private capital, a four-to-one investment ratio.²⁴

PACE is a unique program for a number of reasons. As stated above, the loan is repaid yearly as an assessment on the property's tax bill, instead of in monthly installments like a regular bank loan.²⁵ In some circumstances, the loan creates a primary lien on the property, which means that it will be the first paid back in case of foreclosure.²⁶ Further, the loan is attached to the property instead of the owner, which allows for clean transfer of the property without maintaining primacy over the loan.²⁷ This allows the initial decision-maker to invest in a project without having to consider too heavily the long-term impact of the loan. Finally, the program is available to more individuals because it lacks an upfront capital requirement²⁸ and is disinterested in the owner's credit.²⁹

20. Antje Flanders, Katherine Johnson, & Philippe Dunsky, *Evaluation of the Efficiency Maine Trust PACE Loan Program: Review of Successful Practices in Financing Programs*, EFFICIENCY MAINE TRUST 11 (2012), <https://www.energycmaine.com/docs/Efficiency-Maine-PACE-Successful-Practices-Report-Final.pdf>.

21. *Id.*

22. *See Policy Framework for PACE Financing Programs*, THE WHITE HOUSE 1, 4 (Oct. 18, 2009), https://obamawhitehouse.archives.gov/sites/default/files/PACE_Principles.pdf.

23. *Id.* at 4.

24. *See Carol Rosenfeld, One Major Thing LBNL's "Energy Efficiency Program Financing" Technical Brief Doesn't Tell Us (and Several Surprising Things It Does)*, ENVTL. FINANCE BLOG (June 24, 2016), <http://efc.web.unc.edu/2016/06/24/energy-efficiency-program-financing/>.

25. The hope of the program is that individuals will be able to immediately pay for their increased property tax through savings on energy use. *See Property Assessed Clean Energy Programs*, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY, <https://energy.gov/eere/slsc/property-assessed-clean-energy-programs> (last visited Oct. 12, 2017).

26. PACE loans will automatically gain primary lien position because they are added as property tax assessments, but some states have purposefully required that they be subordinated. *See Property Assessed Clean Energy (PACE): What is it, and can it be implemented in Arizona?*, ENERGY POL'Y INNOVATION COUNCIL 2–3 (2014), <https://energypolicy.asu.edu/wp-content/uploads/2014/02/PACE-brief-sheet-update.pdf>.

27. *Benefits of PACE for Homeowners*, PACENATION, <http://pacenation.us/pace-for-homeowners/> (last visited Oct. 12, 2017).

28. *Id.*

29. *Id.*

PACE financing provides a number of benefits. First, it addresses greenhouse gas emissions from the energy sector. Energy production accounts for thirty percent of U.S. emissions,³⁰ and twenty percent of the United States' energy use is attributable to the residential sector.³¹ In California alone, residential PACE is estimated to save enough energy to power 1.3 million homes and has lowered carbon emissions by the equivalent of taking more than 800,000 passenger vehicles off the road for an entire year.³² PACE provides an alternative form of funding for both residential and commercial properties to invest in limiting their total energy usage, and creates infrastructure to generate renewable energy.

Further, PACE supporters purport that the program creates jobs, estimating that PACE's residential program has added 33,000 jobs in the United States.³³ The State of Virginia cited job growth as a main reason for providing the program with a \$500,000 grant.³⁴ PACE financing has been used for a wide array of commercial projects, including retail and office space, industrial infrastructure, and hospitality projects.³⁵ It has also been estimated that PACE financing increases property values for commercial and residential properties, although there is not yet significant data available to back up these claims.³⁶

II. RESIDENTIAL PACE PROBLEMS

Residential PACE has stagnated, with active programs in only three states in large part because of the tepid response it received from the federal government. In 2010, the Federal Housing Finance Agency (FHFA) issued a letter stating that Fannie Mae and Freddie Mac would not purchase mortgage loans that are secured by properties with an outstanding PACE loan, unless the PACE loan does not have priority over the first mortgage.³⁷ This is important because the two authorities combine to have an interest in over forty-five percent of the entire

30. Approximately sixty-seven percent of this total came from burning fossil fuels, predominantly coal and natural gas. *Sources of Greenhouse Gas Emissions*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> (last visited Oct. 12, 2017).

31. *Consumption and Efficiency: Recent Data*, U.S. ENERGY INFO. ADMIN., <https://www.eia.gov/consumption/> (last visited Oct. 12, 2017).

32. Letter from Bernadette Del Chiaro, Exec. Dir. Cal. Solar Energy Indus. et al, to Sen. Tom Cotton (May 17, 2017), <http://pacenation.us/wp-content/uploads/2017/05/Letter-of-Opposition-to-S.-838-H.R.-1958.pdf>.

33. *PACE Creates Jobs and Energizes Local Economies: Here's Why*, PACENATION (Jan. 3, 2017), <http://pacenation.us/pace-creates-jobs-energizes-local-economies/>.

34. *New Program to Create More Clean Energy Jobs in the Commonwealth*, AUGUSTA FREE PRESS (Feb. 20, 2017), <http://augustafreepress.com/new-program-create-clean-energy-jobs-commonwealth/>.

35. *The Benefits of PACE Financing for Commercial Real Estate*, PACENATION 4 (May 2016), <http://pacenation.us/wp-content/uploads/2016/05/The-benefits-of-PACE-for-CRE-FINAL-1.pdf>.

36. *Id.* at 7.

37. *Selling Guide Part B5-3.4-01: Property Assessed Clean Energy Loans*, FANNIE MAE (Dec. 1, 2010), <https://www.fanniemae.com/content/guide/selling/b5/3.4/01.html>.

residential mortgage market.³⁸ While this theoretically leaves the door open for PACE loans that are subordinate to the mortgage, FHFA General Counsel Alfred Pollard doubled down in 2016, stating that the agency cannot sanction any PACE loans that travel with the property.³⁹ However, if PACE loans are unable to receive a primary lien and cannot travel to a new homeowner, they are stripped of one of their most unique benefits.

Other agencies followed the example set by the FHFA. The Department of Veterans Affairs (VA) and the Department of Housing and Urban Development (HUD) Federal Housing Authority (FHA) each refuse to insure mortgages with a PACE loan attached.⁴⁰ All of these limitations restrict the purchase and refinancing of PACE-attached properties through federal government sources. While the VA and HUD both walked back their disinterest in PACE-attached properties simultaneously in July 2016,⁴¹ the restrictions in place through Fannie and Freddie remain.

A. CONSUMER PROTECTION

There are a number of reasons the federal government has expressed concern over the residential PACE program, and those sentiments are shared by many in consumer protection interest groups and the mortgage industry. The concerns stem from potential injury to two separate groups: consumers entering the PACE program, and the entities that hold the property mortgages themselves.

Historically, consumer protection in Residential PACE is self-regulated,⁴² and the program has faced a number of legal challenges on those grounds as it has grown. In 2017, several news articles expressed serious concern over the role that PACE loans may play in the next housing crisis.⁴³ These articles all seem to be in response to a Wall Street Journal Article titled *America's Fastest-Growing Loan*

38. VW Staff, *Fannie Mae: Who Owns the U.S. Mortgage Market*, VALUE WALK (Mar. 7, 2016), <http://www.valuewalk.com/2016/03/fannie-mae-who-owns-the-u-s-mortgage-markets/>.

39. FED. HOUS. FIN. AGENCY, KEEPING UP WITH PACE: A JOINT OVERSIGHT HEARING ON RESIDENTIAL PROPERTY ASSESSED CLEAN ENERGY (PACE) PROGRAMS (2016), https://www.fhfa.gov/Media/PublicAffairs/PublicAffairsDocuments/PACEStatementCalifAssembly_testimony_FINAL692016.pdf.

40. U.S. DEPT. OF HOUS. AND URBAN DEV., MORTGAGEE LETTER 2016-11, PROPERTY ASSESSED CLEAN ENERGY (2016), <https://portal.hud.gov/hudportal/documents/huddoc?id=16-11ml.pdf>.

41. HUD allowed the FHA to insure properties with PACE obligations under certain circumstances through Mortgagee Letter 2016-11. The VA followed suit for origination and loan processing requirements for VA guaranteed loans with Circular 26-16-18. Sandy Fazeli, *Residential Property Assessed Clean Energy Developments*, NASEO (Aug. 3, 2016), <https://www.naseo.org/Data/Sites/1/naseo-rpace-memo2.pdf>.

42. General consumer protection regulations do apply to PACE loans, but most states and the federal government do not have PACE-specific policies.

43. See *Will PACE Loans Cause the Next Housing Crisis?*, HUFFINGTON POST (Feb. 10, 1qq2017), http://www.huffingtonpost.com/entry/will-pace-loans-cause-the-next-housing-crisis_us_589db386e4b0e172783a9ae9; see also Erik Dolan-Del Vecchio, *Fastest-Growing PACE Loans Beginning to Resemble Pre-Crisis Subprime Market*, FORBES (Jan. 11, 2017), <https://www.forbes.com/sites/bisnow/2017/01/11/fastest-growing-pace-loans-beginning-to-resemble-pre-crisis-subprime-market/#b0c8a1677e30>.

*Category Has Eerie Echoes of Subprime Crisis.*⁴⁴ Much of the media's chagrin focuses either on potential predatory advertising practices surrounding the loans or the factors that PACE considers before approving a loan.⁴⁵ The former involves inadequate disclosure of the cost-benefit ratio of the loan and the potential impact on future home sales. There is also evidence of predatory techniques targeting elderly residents, with contractors breezing through sales by characterizing PACE as a "government program" to gain trust of individuals without concern for whether they can afford improvements.⁴⁶

Further, PACE generally does not consider the property owner's credit when financing a project. Instead, the application assesses home equity, which it considers more important because the project is tied to the property. The combination of consumer protection policies and ease of lending has led to a number of lawsuits for PACE programs. In 2017, Ygrene Energy Fund and Ygrene Energy Fund Florida, PACE funding programs in California and Florida respectively, were sued for "fraudulent inducement, negligence, unjust enrichment, negligent misrepresentation, and violation of consumer protection laws."⁴⁷ Plaintiffs filed suit against Ygrene for failing to indicate that loans are recorded as liens on the property, and that in many cases, the lender can require the loan be repaid in full before a new loan is approved on the home.⁴⁸ Renovate America, another lender, is also in ongoing litigation for charging excessive and deceptive fees.⁴⁹

PACE is beginning to address these problems directly. In February 2017, PACENation put forth a number of recommended strategies for individual lending programs, and urged state governments and other partners to require adherence.⁵⁰ These policies closely followed key pieces of the Department of Energy PACE Best Practices Guidelines,⁵¹ and included actions like comprehen-

44. Kirsten Grind, *America's Fastest-Growing Loan Category Has Eerie Echoes of Subprime Crisis*, WALL ST. J. (Jan. 10, 2017), <https://www.wsj.com/articles/americas-fastest-growing-loan-category-has-erie-echoes-of-subprime-crisis-1484060984>.

45. *Id.*

46. See Andrew Khouri, *These Loans Were Created to Help Homeowners, but for Some They did the Opposite*, L.A. TIMES (June 4, 2017), <http://www.latimes.com/business/la-fi-pace-loans-20170604-story.html>.

47. Ron Hurtibise, *Federal Suit says PACE Home Improvement Loan Program Fails to Disclose Risks, Costs*, SUN-SENTINEL (Apr. 11, 2017), <http://www.sun-sentinel.com/business/fl-bz-pace-prepayment-penalty-suit-20170411-story.html>.

48. *Id.*

49. Katie Fehrenbacher, *As PACE Financing Grows up, the Industry Grapples With Lending Standards and Consumer Protections*, GREENTECH MEDIA (Mar. 29, 2017), <https://www.greentechmedia.com/articles/read/PACE-financiers-grapple-with-consumer-protections>.

50. See *PACE Consumer Protection Policies Version 2.0*, PACENATION (Feb. 2017), <http://pacenation.us/wp-content/uploads/2017/02/PACENation-Consumer-Protection-Policies-v2.0-02.17.17-with-attachments.pdf>. Note that as an industry group, PACENation does not have the authority to bind these different organizations directly. Instead, PACENation provides best practices for individual public-private partnerships to follow.

51. *PACENation Sets New Standards for Consumer Protection*, PACENATION (Feb. 14, 2017), <http://pacenation.us/pacenation-sets-new-standards-consumer-protections/>.

sive disclosure of relevant information with a three-day right to cancel, and a forbearance program for those who are facing financial difficulties.⁵² The policy also asked that programs begin requiring homeowners to report monthly income and debt obligations, and that individual programs work with PACENation to create income-based financing standards.⁵³ This indicates that the industry is taking steps to address its consumer protection issues, but adherence to these aspirational standards is still far from uniform.⁵⁴ Many programs had already begun to respond to criticism over consumer protection issues, implementing some changes to ease concern.⁵⁵

Unsurprisingly, California is beginning to take matters into its own hands. In January 2017, Governor Jerry Brown passed AB 2693 to require certain disclosures, regulate “representations of increased value” from the PACE project, and give property owners the right to cancel a financing contract within three days.⁵⁶ The bill also allows lenders to require homeowners to pay off the entire PACE loan before refinancing or selling, which can create problems for individuals who thought of the loan as a no-strings attached option. Companion legislation SB 242 and AB 1284 were sent to Governor Jerry Brown’s desk in September 2017.⁵⁷ The bills add more consumer protection policies, including requiring PACE issuers to report energy savings and environmental benefits.⁵⁸ The bills work to ensure that program administrators do not benefit from contractor kickbacks.⁵⁹ AB 1284 also enhances current PACE underwriting standards to require loan payment history and better assessment of the property owner’s ability to pay.⁶⁰ Finally, AB 1284 will establish a licensing and regulatory framework for the PACE industry, governed by the California Department of Business Oversight.⁶¹ Both bills were largely supported by industry members such as Renew Financial.⁶² The National Association of State Utility Consumer

52. *Id.*

53. *PACE Consumer Protection Policies Version 2.0*, *supra* note 50.

54. For example, Energy Efficient Equity and Alliance NRG advertise their financing as not requiring a credit check. The HERO Program, meanwhile, notes that project financing is based on equity invested in the home and individual debt payment history, and Ygrene Works requires a credit report during application. Some of the language on the provider’s websites does heavily indicate predatory tendencies.

55. For example, Renovate America, a large provider, implemented a requirement that it engage in a phone call with every customer after closing a deal in order to explain the terms of the agreement. Khouri, *supra* note 46.

56. Assemb. B. 2693, 2015-16 Reg. Sess. (Cal. 2016).

57. *California Legislature Approves Landmark Regulatory and Consumer Protection Framework for PACE Financing*, PR NEWSWIRE (Sept. 16, 2017), <http://www.prnewswire.com/news-releases/california-legislature-approves-landmark-regulatory-and-consumer-protection-framework-for-pace-financing-300520833.html>.

58. S.B. 242, 2016-17 Reg. Sess. (Cal. 2017).

59. Fehrenbacher, *supra* note 49.

60. *Id.*

61. PR NEWSWIRE, *supra* note 57.

62. Victor Whitman, *California Moves to Regulate PACE Industry*, SCOTSMAN GUIDE (Sept. 18, 2017), <http://www.scotsmanguide.com/News/2017/09/California-moves-to-regulate-PACE-industry/>.

Advocates, among others, has called for the adoption of laws in other states for consumer protection for residential PACE programs.⁶³

Local government entities that sponsor PACE programs have also implemented consumer protection policies. For example, WRCOG requires that the PACE programs it implements (mainly HERO) adhere to a set of consumer protection requirements based on the first set of policies recommended by PACENation.⁶⁴ The Florida PACE Funding Agency, an entity similar to WRCOG which represents a number of local governments including Orlando and Miami Beach, has implemented similar consumer protection requirements.⁶⁵ While these provide varying levels of protection, they do not offer the same uniformity as afforded by state and federal legislation.

Finally, the federal government is beginning to show interest in regulating consumer protection policies of PACE financing. In early April 2017, Arkansas Republican Senator Tom Cotton introduced a bill designed to require that PACE loan originators be treated the same way as banks and mortgage lenders.⁶⁶ The bill, titled the Protecting Americans from Credit Exploitation (PACE) Act,⁶⁷ was introduced on the Senate floor by Senator Cotton with scathing language calling PACE “a scam” used to “trick seniors into taking out high-interest rate loans.”⁶⁸ Democratic Representative Brad Sherman and Republican Representative Edward Royce introduced a duplicate bill in the House, indicating rare bi-partisan support of the issue.⁶⁹

The bill would subject PACE loan originators to the Truth in Lending Act, requiring PACE providers to adhere to specific disclosure requirements in a more intrusive manner than before. The announcement of the legislation created an impassioned response from proponents and detractors of PACE alike. David Gabrielson, the Executive Director of PACENation, released an “Action Alert” generally supporting attempts to codify consumer protection for PACE loans, but decrying the legislation as “just the latest attack on clean energy.”⁷⁰ The PACE

63. *Resolution 2017-02*, NAT'L ASS'N OF STATE UTIL. CONSUMER ADVOCATES (June 5, 2017), <http://nasuca.org/nwp/wp-content/uploads/2017/01/2017-02-NASUCA-PACE-Resolution.pdf>.

64. *PACE Consumer Protection Policies (Version 1)*, WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS (last updated April 17, 2015), <http://ca-wrcog.civicplus.com/DocumentCenter/View/159>.

65. *Participating Communities*, FLORIDA PACE FUNDING AGENCY, <https://www.floridapace.gov/participating-communities> (last visited Sept. 25, 2017).

66. Katie Fehrenbacher, *New Bill Could Kill PACE Financing if Approved, Industry Warns*, GREENTECH MEDIA (April 11, 2017), <https://www.greentechmedia.com/articles/read/new-bill-could-kill-pace-financing-if-approved-industry-warns>.

67. United States Cong. Senate, *PACE Act of 2017*, 115th Cong., S.838, <https://www.congress.gov/bill/115th-congress/senate-bill/838/text>.

68. Fehrenbacher, *supra* note 66.

69. *PACE Act of 2017*, *supra* note 67.

70. David Gabrielson, *Action Alert: Oppose the “PACE” Act of 2017 from Senators Cotton, Rubio, and Boozman*, PACENATION (2017), <http://pacenation.us/wp-content/uploads/2017/04/Action-Alert-National.pdf>. PACENation has a “Take Action Now” webpage operating to help individuals fight back against the bill. See *Take Action Now*, PACENATION, <http://pacenation.us/savepace/> (last visited Mar. 10, 2017).

community, in general, has argued this requirement unduly burdens PACE financing⁷¹ and is, at best, an indirect mechanism to address consumer protection where there are better opportunities for reform.⁷² Meanwhile, the Mortgage Brokers Association President and CEO released a comment stating that “PACE loans are, in substance, mortgage-related financing and should adhere to federal mortgage financing rules.”⁷³ As of writing, each bill has been referred to its respective committee and only the Senate committee has scheduled hearings.

B. MORTGAGE LIENS

The mortgage lending industry has also expressed two specific concerns about PACE assessments. First, if PACE loans are afforded an unquestioned primary lien on the property, then defaulting on a sole payment means that the property owner will be subject to an enforceable claim for the entirety of the PACE obligation.⁷⁴ This removes some of the collateral that previously supported the first mortgage, which can cause less recovery in the event of foreclosure and sale of the property. This is particularly problematic because default on a PACE loan may trigger foreclosure proceedings for the home even though mortgage payments are being returned on time.⁷⁵ The VA has partially addressed this issue by allowing the properties to be subject to a lien superior to the mortgage for the delinquent PACE loan amounts.⁷⁶ However, this is only a partial fix. Further, the structure of the PACE program potentially leaves local governments in the position of collecting unpaid assessments for private funders.⁷⁷

Second, there is concern that the PACE loan will ultimately lower the value of the property or make it difficult to sell, disadvantaging the purchaser and

71. *Take Action Now*, *supra* note 70. It would potentially create lengthy delays on projects, and require local governments and contractors to alter their processes and become licensed mortgage lenders.

72. Jim Barrett of the American Council for an Energy-Efficient Economy noted that this will limit consumer choice by treating PACE financing as a mortgage, despite the fact that it operates in a vastly different way. This could lead to the collapse of Residential PACE as it is unable to work within the ill-fitting parameters of mortgage regulation. Jim Barrett, *New Bill Would Treat PACE Like a Mortgage and Take Away Consumer Choice*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY (Apr. 27, 2017), <http://aceee.org/blog/2017/04/new-bill-would-treat-pace-mortgage>.

73. Rob Van Raaphorst, *MBA Statement on the Protecting Americans From Credit Entanglements (PACE) Act*, MORTGAGE BANKERS ASSOC. (Apr. 6, 2017), [https://www.mba.org/2017-press-releases/april/mba-statement-on-the-protecting-americans-from-credit-entanglements-\(pace\)-act](https://www.mba.org/2017-press-releases/april/mba-statement-on-the-protecting-americans-from-credit-entanglements-(pace)-act).

74. *See infra*, Part II.A.

75. MoneyTips, *More Borrowers Defaulting on PACE Loans*, GLOBE GAZETTE (Sept. 7, 2017), http://globe gazette.com/business/investment/personal-finance/more-borrowers-defaulting-on-pace-loans/article_38d80830-b0c3-5a69-8aaa-fa754db5884a.html.

76. *PACE Lending Presents Serious Consumer and Industry Concerns*, MORTGAGE BANKERS ASS'N, [https://www.mba.org/issues/residential-issues/property-assessed-clean-energy-\(pace\)-lending](https://www.mba.org/issues/residential-issues/property-assessed-clean-energy-(pace)-lending) (last visited Oct. 23, 2017).

77. Because the PACE assessment is paid under the tax assessment, the local government is responsible for collecting the bill when unpaid. Because PACE programs are largely financed by private entities, however, it will ultimately be collected for private interests. It is unusual for the local government to play this role.

potentially affecting the amount recovered by the loan originator in the event of a foreclosure sale. This stems, in part, from concerns that the buyer's lender will be unwilling to issue a mortgage that will be subordinate to a PACE assessment, and partly for fear that the PACE upgrades will not provide as much value as the cost of the assessment at the time of sale.⁷⁸

It is unclear whether these concerns are particularly valid, and evidence suggests that there is no reason to panic. The default rate for PACE loans in 2016 was under one percent,⁷⁹ perhaps because the loans generally can be paid off through energy savings created by the projects. The Wall Street Journal has reported, however, that the default rate in California has climbed to 1.6 percent in August 2017 from .9 percent a year before.⁸⁰ A continuing rise in default rates on PACE loans could pose a problem for underlying mortgages and indicate instability within the program. It is possible the increase in default rates could also be unrelated to the underlying PACE loans, which would undermine arguments about the instability of the program. However, this is a trend that will have to be closely studied as the program moves forward.

Regarding effects on property value, a limited study indicates that PACE projects actually have a positive effect on home prices.⁸¹ The study, undertaken by Laurie Goodman and Jun Zhu, examined the sale of 773 PACE retrofitted homes in California and found that the houses sold for between \$199 and \$8,882 more than comparable properties after adjusting for the cost of the PACE project.⁸² The study also found that homes with PACE improvements sold on foreclosure were sold for almost \$7,000 more.⁸³ The movement towards subordinating PACE loans may absolve some lender concerns.

California has, again, attempted to make headway to further assuage concerns about the negative impact of PACE liens on mortgage lenders. In 2013, California implemented a \$10 million loan-loss reserve fund to provide compensation

78. This article provides anecdotal evidence of the types of concerns that some have over PACE's effect on property values. See, e.g., Pedersen Real Estate, *Homeowners Beware of HERO Program*, PEDERSEN REAL ESTATE: BLOG (Mar. 28, 2015), <http://www.riverside4homes.com/blog/homeowners-beware-heropace-program/>.

79. MoneyTips, *Will PACE Loans Cause the Next Housing Crisis?*, HUFFINGTON POST (Feb. 10, 2017), http://www.huffingtonpost.com/entry/will-pace-loans-cause-the-next-housing-crisis_us_589db386e4b0e172783a9ae9.

80. Kirsten Grind, *More Borrowers are Defaulting on Their 'Green' PACE Loans*, WALL ST. J. (Aug. 15, 2017), <https://www.wsj.com/articles/more-borrowers-are-defaulting-on-their-green-pace-loans-1502789401>. PACENation shot back that the article failed to note that there is no information indicating that the PACE assessments are the cause of the increased defaults, but failed to refute the article with any technical assessment.

81. Laurie Goodman & Jun Zhu, *PACE Loans—Does Sale Value Reflect Improvements?*, 21 J. OF STRUCTURED FIN. 6, 7 (2016).

82. There is not a lot of available data on how PACE affects housing prices, but the aforementioned 773 homes in California found that houses sold for between \$199 and \$8,882 over prices for comparable homes without PACE-funded projects, after taking into consideration financing costs of the project. *Id.* at 10.

83. *Id.* at 7.

for lenders who have lost money due to PACE loan foreclosure.⁸⁴ The fund, while promising, is estimated to be able to cover approximately 35,700 projects at a one-percent default rate.⁸⁵ This is insufficient for the program at its current level of approximately 132,000 homes⁸⁶ and the potential deficit could become more pronounced if the program continues to grow and expand to more than three states, or if the default rate rises due to changing market conditions. Ultimately, it is a state-by-state policy question of whether the government should finance this type of spending.

III. FLOOD RESILIENCE

Flood resilient infrastructure is important because much of the United States' coast is increasingly susceptible to flooding due to rising sea levels. Currently, PACE is mainly used to finance projects that upgrade energy efficiency, renewable energy, and water conservation capabilities.⁸⁷ Some states allow tangential projects like Florida's Ygrene Energy Fund, which provides for hurricane protection and seismic upgrades.⁸⁸ No PACE programs, however, are being used to implement flood resilience activities.

Recent hurricanes, including both hurricane Harvey and Irma, have shed light on the importance of flood resilience. Harvey is estimated to have caused \$190 billion dollars in damage, which is the combined impact of Hurricanes Katrina and Sandy.⁸⁹ Harvey caused at least eighty deaths, while Irma added over forty more. Also, there will be future health risks caused by increased bacteria, mold, and pollutants from the storms,⁹⁰ and private business and public entities will both be negatively impacted by the storms for a significant period of time. In addition, floods particularly affect vulnerable populations, small businesses,⁹¹ and drain the budgets of city and state governments that lose tax revenue from the damage and must pay to repair critical infrastructure.

84. *Reserve Fund to Ease Federal Concerns, Help Program Flourish*, OFF. OF GOVERNOR JERRY BROWN (Mar. 11, 2014), <https://www.gov.ca.gov/news.php?id=18445>.

85. John Farrell, *California's Reserve Fund Won't Lift the FHFA Boot from PACE's Neck*, INST. FOR LOCAL SELF-RELIANCE (July 15, 2014), <https://ilsr.org/californias-pace-program-solve-fanniefreddie-problem/>.

86. At a one-percent foreclosure rate, only 1,320 homes would need to access the funds from the loan-loss reserve fund. See *Pace Market Data*, PACENATION, *supra* note 5.

87. *What is PACE?*, PACENATION, <http://pacenation.us/what-is-pace/> (last visited Mar. 10, 2017).

88. *PACE In Florida*, PACENATION, <http://pacenation.us/pace-in-florida/> (last visited Mar. 10, 2017). This is an acceptable use of PACE financing under Florida Statute Title XI, Chapter 163.08(2)(b)(3). See FLA. STAT. § 163.08 (West).

89. Frank Holmes, *We Looked into the Effects of Hurricane Harvey and Here's What we Found*, FORBES (Sept. 5, 2017), <https://www.forbes.com/sites/greatspeculations/2017/09/05/we-looked-into-the-effects-of-hurricane-harvey-and-heres-what-we-found/#4320058976f1>.

90. Julia Belluz, *Flesh-eating Bacteria, Cancer-causing Chemicals, and Mold: Harvey and Irma's Lingering Health Threats*, VOX (Oct. 16, 2017), <https://www.vox.com/science-and-health/2017/9/19/16325044/hurricane-2017-health-risks-irma-harvey-pollution-mold-mosquitoes-depression>.

91. The equitable considerations of flood resilience and PACE financing will be explored briefly below.

PACE financing has the potential to drastically improve flood resilience. PACE has proven it can inject private funding into energy-related infrastructure, and may open-up capital that has not been previously used for this purpose. The traditional and oft-spouted wisdom, stemming from a study by the Multihazard Mitigation Council in 2005, is that every dollar spent by the Federal Emergency Management Agency (FEMA) on disaster resilience results in four dollars saved in the long-term.⁹² While this number is not flood specific, it is a good indicator of the benefits that could come from increased investment in flood resilience. Further, rebuilding has historically occurred consistent with development patterns before the storm.⁹³ PACE may provide additional funding necessary to build back smarter and more resilient communities. Finally, PACE funding is set up in such a way that it is available to any property owner. Assuming that the funded activity can pay for itself, including through reduced flood insurance payments,⁹⁴ PACE provides an equitable solution to a growing flood resilience problem.

In order for PACE to extend to flood resilience, states have to either amend their current PACE statutes or pass entirely new ones. Local government entities would then have to set up programs in the same manner as current, energy focused PACE programs. It is important to note that any PACE program will only work if the underlying projects being addressed fit within the structure of the program. PACE financing is paid as a tax assessment on the property, which means that it must affect the property in a way that benefits future home purchasers who will be saddled with the remainder of the assessment if it is sold.

There are three major types of flood resilience activities that could be funded through PACE financing. Each provides specific benefits to different types of building-owners, and also has different drawbacks. The first involves single-property renovation, including various flood control devices as well as physically elevating the building itself. The second type is large-scale mitigation efforts, including strategies like living shorelines and storm-water management devices in larger areas. Finally, PACE could potentially be used to influence retreat, which involves removing buildings that are particularly at risk and relocating the

92. *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*, MULTHAZARD MITIGATION COUNCIL (2005), http://www.floods.org/PDF/MMC_Volume1_FindingsConclusionsRecommendations.pdf.

93. Cathleen Kelly, Kristina Costa, & Sarah Edleman, *Safe, Strong, and Just Rebuilding After Hurricanes Harvey, Irma, and Maria*, CENTER FOR AM. PROGRESS (Oct. 3, 2017), <https://www.americanprogress.org/issues/green/reports/2017/10/03/440134/safe-strong-just-rebuilding-hurricanes-harvey-irma-maria/> (“In the past, federal disaster relief has often required communities to build damaged structures back to the condition they were in before they were damaged.”). There has, however, been a push to rebuild from storms in a way that better accommodates future flood risk. Bryan Walsh, *After Sandy: Why We Can't Keep Rebuilding on the Water's Edge*, TIME (Nov. 20, 2012), <http://science.time.com/2012/11/20/after-sandy-why-we-cant-keep-rebuilding-on-the-waters-edge/>.

94. *See infra*, Part IV.

residents. This Note will examine each type of flood resilience activity and whether PACE financing would create a positive impact.

A. SINGLE-PROPERTY RENOVATION

There are a number of ways to renovate a single property to make it less vulnerable to flooding. The most effective mechanism is physically raising the building in order to elevate it above the base flood elevation (BFE).⁹⁵ Building higher structures is a predominant strategy because it completely removes the possibility of flooding, depending on how high the property is raised. There are, however, several problems with this strategy. It is particularly expensive as well as invasive because it requires buildings to be raised onto stilts. Further, it is not physically possible to raise most types of buildings outside of single-family homes.

There are ways that some measure of flood resilience can be attained where elevation is too invasive, expensive, or is physically impossible. This can be separated into three categories:

1. **Dry-Flood Proofing:** Sealing buildings with water-proof compounds so water will not infiltrate the structure itself. This strategy requires that the building is strong enough to withstand water pressure, and may be best used to protect certain parts of the property. This generally requires human intervention before the actual flood occurs, including installing unseemly watertight shields over windows and doors as well as plastic membranes around the walls.⁹⁶ Dry-flood proofing, further, is generally considered a good strategy only for low-level, short-term flooding events.⁹⁷
2. **Wet-Flood Proofing:** Reducing damage by allowing water to strategically enter and exit the building in a way that causes the least damage possible. This involves shifting the location of expensive and particularly vulnerable items, including relocating utilities to higher parts of the property. This also reduces the risk of damage to the building due to pressure from the floodwater, but can be costly and involves significant cleanup efforts after the flood.
3. **Barrier Systems:** Using levees and floodwalls to protect an individual home. This is often referred to as a “residential, individual, or onsite” levee or floodwall.⁹⁸ The purpose of a barrier system is to protect the property from water reaching it, or otherwise to protect specific parts of the property. This can be a cost-effective way to reduce total risk, although it requires

95. The BFE is the elevation that a flood is anticipated to rise to during an 100-year flood.

96. *Chapter 7—Dry Floodproofing*, FED. EMERGENCY MGMT. AGENCY (2006), https://www.fema.gov/media-library-data/20130726-1608-20490-9182/fema_551_ch_07.pdf.

97. *Id.* at 7–5.

98. *Homeowner’s Guide to Retrofitting*, FED. EMERGENCY MGMT. AGENCY, at 3–32 (June 2014), https://www.fema.gov/media-library-data/1404148604102-f210b5e43aba0fb393443fe7ae9cd953/FEMA_P-312.pdf.

consistent maintenance and may otherwise cause problems for the property that it is built on.⁹⁹

Each strategy is better suited for specific conditions. For example, it may be more beneficial to allow floodwater into the unused basement of a property, whereas a company may have the incentive and staff available to utilize dry-flood methods to protect significant inventory and damageable property in a lower unit.

Some of these strategies are required by local code, which the locality is obligated to enforce as a condition of participating in the National Flood Insurance Program (NFIP). In order for residents to receive federal flood insurance from NFIP, communities must pass a local code that meets or exceeds certain basic requirements. This includes requiring permits for all development within the floodplain, that new buildings have their lowest floor above the BFE, and that nonresidential buildings are elevated or flood-proofed, among other requirements.¹⁰⁰ This is then manifested in the city's individual floodplain code.¹⁰¹ PACE financing could either be available to make development and re-development more plausible within the floodplain for those that could otherwise not afford the flood-proofing aspect, or it could be used to incentivize existing, non-conforming uses to come into compliance with NFIP and floodplain code requirements.¹⁰²

Any of the single-property strategies could feasibly be aided by the availability of PACE financing. While the lowered flood risk likely makes flood-proofing cost-beneficial by itself, many individuals with PACE-financed resilience upgrades will be able to pay for the assessment through savings on flood insurance. Flood insurance is mandatory for all properties within the 100-year floodplain that either have a loan backed by the federal government or a lender that is regulated by the government.¹⁰³ Properties outside of the 100-year floodplain can also receive flood insurance. The average cost of an NFIP insurance policy is

99. *Id.* at 3–35. These structures can affect the aesthetic of a property, cause drainage issues, and otherwise induce a false sense of security that leads to a lack of preparedness. They may also violate applicable zoning and land use codes.

100. *Unit 5: The NFIP Floodplain Management Requirements*, FED. EMERGENCY MGMT. AGENCY, at 5–27 (Feb. 2005), https://www.fema.gov/pdf/floodplain/nfip_sg_unit_5.pdf.

101. *See generally*, VA. BEACH, VA., MUNICIPAL CODE app. K (2017). This floodplain code requires all of the aforementioned items, including that “new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.” VA. BEACH, VA., MUNICIPAL CODE app. K § 4.2(A)(3) (2017).

102. Governments should be careful when incentivizing re-development of properties that have experienced repeated flooding issues. “Repetitive loss properties” are those that have at least two claims of more than \$1,000 on their flood insurance in any ten-year period since 1978, while “severe repetitive loss properties” are those that have at least four \$5,000 claims or two claims that exceed the property value. These properties are responsible for 25–30% of NFIP claims, and have cost the program approximately \$12.5 billion as of 2012. Phyllis Cuttino, *Repeatedly Flooded Properties Cost Billions*, THE PEW CHARITABLE TRUSTS (Oct. 2016), http://www.pewtrusts.org//media/assets/2016/10/repeatedly_flooded_properties_cost_billions.pdf?la=en.

103. M.C. Postins, *What Determines if you Have to Pay Flood Insurance?*, SF GATE, <http://homeguides.sfgate.com/determines-pay-flood-insurance-6592.html> (last visited Dec. 12, 2017).

approximately \$700 per year, although the cost is much higher for properties within the 100-year floodplain due to greater risk.¹⁰⁴

There are a number of flood resilience activities that allow individuals to receive a discount on their flood insurance. Flood insurance rates are decided, in part, based on the difference between the home's elevation above sea level and the BFE.¹⁰⁵ Consequently, raising a property will decrease flood insurance rates. For example, elevating a property by three feet can save as much as sixty percent per year.¹⁰⁶ Several wet flood-proofing methods can also lead to lower flood insurance rates. Implementing flood openings that allow water to enter and exit a structure without further damage may increase the elevation at which the lowest floor is rated, which lowers insurance premiums.¹⁰⁷ Similarly, elevating building utilities will result in discounts in certain flood zones.¹⁰⁸ Other activities, particularly those that require human intervention before the measures are effective, do not receive a discount on flood insurance.¹⁰⁹

FEMA provided several case studies indicating the costs and benefits of different types of flood resilience interventions.¹¹⁰ For example, installing flood openings costs between \$6,300 and \$9,500 and can last for approximately fifteen to twenty years with limited maintenance.¹¹¹ The case study estimated that this intervention would save approximately \$537 per year on flood insurance for a property in a lower risk area four feet above the base flood elevation.¹¹² This would allow the property owner to recoup the value of the investment within twelve to eighteen years simply through discounts on insurance.¹¹³ FEMA also examined filling the basement, a higher cost measure at approximately \$72,000 to \$108,000.¹¹⁴ In a high risk area, a single family home with the lowest floor at the base flood elevation will pay approximately \$6,537 in flood insurance per year, which would lower by \$4,906 to \$1,631 if the basement is filled.¹¹⁵ This

104. Ronald Agrella, *How Much Does Flood Insurance Cost? It can Vary Dramatically*, INSURAMATCH (July 8, 2015), <https://www.insuramatch.com/blog/2015/07/how-much-does-flood-insurance-cost-it-can-vary-dramatically>.

105. *Understanding Flood Insurance*, FLOOD HELP NY, <https://www.floodhelpny.org/en/understanding-flood-insurance> (last visited Sept. 26, 2017).

106. *How Can I Pay Less for Flood Insurance?*, FED. EMERGENCY MGMT. AGENCY, <https://www.fema.gov/how-can-i-pay-less-flood-insurance> (last updated May 19, 2017).

107. *Reducing Flood Risk to Residential Buildings that Cannot be Elevated*, FED. EMERGENCY MGMT. AGENCY 6 (Sept. 2015), https://www.fema.gov/media-library-data/1443014398612-a4dfc0f86711bc72434b82c4b100a677/revFEMA_HMA_Grants_4pg_2015_508.pdf.

108. *Id.* at 7.

109. For example, floodwalls and levees do not receive credit in this way, nor do passive dry flood-proofing methods. *Id.* at 9–10.

110. *Id.* at 11–12.

111. *Id.* at 12.

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

would recoup the initial investment within fifteen to twenty-two years.¹¹⁶ Neither of these benefits include the direct and indirect savings that come from flood-proofing. Ultimately, the savings that some may realize from flood insurance discounts alone could pay back PACE loans, and the savings will be realized every year as payments are due.

PACE should focus on financing the types of projects that lower flood insurance premiums and otherwise conform with the best practices of flood resilience construction. This will allow individuals to recoup the value of their property assessment quickly and create a higher value for the property, while meeting the goal of increased flood resilience in communities. PACE should also exclude all repetitive loss and severe repetitive loss properties, in order to avoid a tacit endorsement of the unsustainable building and re-building in these locations.

B. LARGE AREA STRATEGIES

There are a number of strategies that communities or individuals can undertake to protect larger buildings and areas. These strategies may be feasible for large-scale projects undertaken by a developer, such as real estate development projects, or for large properties that may have unique flooding problems. Large area strategies include building levees, floodwalls, and living shorelines. Levees are barriers of flood-resistant material constructed around a specified area. Levees currently protect 30,000 miles of property in the United States and are both publically and privately owned.¹¹⁷ Additionally, construction of improved storm-water management systems can reduce flood risk through increased water saturation, which limits water runoff swells that can create downstream effects.¹¹⁸

PACE funding would be a useful mechanism for certain large-scale projects. While it is difficult to assess the costs and benefits of these interventions on a macro-scale, the number of privately owned levees and living shorelines indicates that it can be a positive investment. PACE financing will provide property owners with up-front capital to undertake projects that are likely to be very costly. These projects, in turn, will protect properties from flood damage and otherwise benefit property owners by allowing for quicker recovery in the event of a flood. All Army Corps of Engineers accredited levees also provide a direct benefit in the form of removing property from the floodplain, which relinquishes the obligation

116. *Id.*

117. 2017 *Infrastructure Report Card*, AM. SOC'Y OF CIV. ENGINEERS, <https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Levees-Final.pdf> (last visited Oct. 22, 2017).

118. Note that storm-water management systems usually benefit the community generally, instead of the individual property owner specifically. There are situations, however, where a project may benefit a particular development or will otherwise be useful for a private property owner to undertake. PACE should be willing to finance the latter, so long as the benefits exceed the costs.

to purchase flood insurance and makes available insurance much less expensive.¹¹⁹

State and local governments should ensure that large-scale PACE projects conform to the best practices in resilient design. Built structures like levees, floodwalls, and living shorelines all come with specific trade-offs. Seawalls and other “gray infrastructure” built largely of concrete have fallen out of style in recent years in favor of nature-based living shorelines and sand dunes.¹²⁰ This reflects the understanding that natural responses to flooding have much milder impacts on ecosystems and waterways. These natural levee alternatives, often made of native vegetation and other fill,¹²¹ have been shown to provide greater ecological benefits and tend to bounce back faster after storms.¹²² Through legislation, states can set limitations on the types of built infrastructure they want to support.¹²³ State legislatures can otherwise leave these infrastructure questions to local government entities, which may be in a better position to assess the needs of their regions.

Local governments should also be careful about endorsing PACE for projects that should be tackled through other regulatory tools. For example, projects that benefit a number of property owners will likely be plagued by collective action issues and free riders. Complicated structures may arise where one property undertakes the PACE assessment in a payment agreement with other owners, leading to high default rates and other conflicts. In this situation, local governments may be better off using other sources, like tax increment financing (TIF), to accomplish the project.¹²⁴ For example, California has “Infrastructure and Revitalization Financing Districts” that finance flood control levees and dams.¹²⁵

119. There is significant literature about how individuals underestimate risk when they are protected by a levee, which ties into the policy decisions necessary by the government. See ASS’N OF STATE FLOODPLAIN MANAGERS, NATIONAL FLOOD POLICY CHALLENGES LEVEES: THE DOUBLE-EDGED SWORD 8 (2017), http://www.floods.org/PDF/ASFPM_Levee_Policy_Challenges_White_Paper_021907.pdf.

120. Erika Bolstad, “Living Shorelines” Will get Fast Track to Combat Sea Level Rise, SCI. AM. (July 6, 2016), <https://www.scientificamerican.com/article/living-shorelines-will-get-fast-track-to-combat-sea-level-rise/>.

121. Center for Coastal Resources Management, *Living Shorelines: Why a Living Shoreline?*, Virginia Institute of Marine Science, LIVING SHORELINES, <http://ccrm.vims.edu/livingshorelines/> (last visited Oct. 31, 2017); see also RESTORE AMERICA’S ESTUARIES, LIVING SHORELINES: FROM BARRIERS TO OPPORTUNITIES 18–19 (2015), <http://www.oyster-restoration.org/wp-content/uploads/2013/05/RAE-LS-Barriers-Final-Report-2015.pdf> (discussing how the term “living shoreline” represents a number of different strategies).

122. Bolstad, *supra* note 120.

123. States should also consider limiting storm-water management to green infrastructure, which replaces built infrastructure with solutions that protect, restore, and mimic the natural water cycle. See *What is Green Infrastructure?*, AM. RIVERS, <https://www.americanrivers.org/threats-solutions/clean-water/green-infrastructure/what-is-green-infrastructure/> (last visited Sept. 26, 2017).

124. A TIF allows local governments to raise a special assessment in a designated area for projects that particularly affect that district. Richard Dye & David Merriman, *Tax Increment Financing: A Tool for Local Economic Development*, LINCOLN INST. OF LAND POL’Y (Jan. 2006), <http://www.lincolninst.edu/publications/articles/tax-increment-financing>.

125. *Primer on California’s New Tax Increment Financing Tools*, CAL. ASS’N FOR LOC. ECON. DEV. 29 (Mar. 2017), <https://www.cacities.org/Resources-Documents/Policy-Advocacy-Section/Hot-Issues/New-Tax-Increment-Tools/CALED-TIF-Primer-3-17-FINAL.aspx>.

Such a local tool may be more efficient and less risky than relying on PACE financing.

Finally, PACE should consider requiring stronger assurances of creditworthiness where the PACE-financed project does not provide regular savings to the property owner. As discussed above, PACE projects work particularly well when the property owner sees a direct reward for the project, i.e. savings on an energy bill or on flood insurance premiums. Beyond levees, which lower flood insurance costs, large scale flood resilience projects do not provide an immediate financial benefit. This may lead to higher default rates, which poses a risk to the stability of the entire program.

Ultimately, PACE financing is a proper tool for most large-scale projects. State and local governments should carefully support projects with PACE financing, while remaining wary of the unique issues that PACE financing presents. The authorizing legislation and associated PACE programs must regulate the projects to ensure development is consistent with ecological and environmental concerns. Legislatures should also ensure that levee projects are created to meet the Army Corps of Engineers' accreditation standards, which are necessary to bring flood insurance relief. Finally, the regulation of these programs should consider the lack of direct monetary benefit brought by most-large scale flood resilience projects and adjust application requirements accordingly.

C. RETREAT

Retreat is a process that “allows the shoreline to move inland, instead of attempting to hold the line with structural engineering,” a process which reduces total community risk.¹²⁶ Retreat is a mechanism to combat the popular trend of rebuilding and restoring after major storms, and to recognize the effects of sea level rise changing the precipitation patterns that shift flood risk.¹²⁷ To implement retreat strategies, human inhabitation is effectively moved out of particularly vulnerable areas and further development in those areas is halted. Managed retreat is 100-percent effective in that it completely eliminates any economic value at risk of flooding.¹²⁸

The current mechanism used to undertake retreat is buyout programs run by federal, state, and local governments.¹²⁹ In a buyout program, the government

126. Sean Cornell et al., *Managed Retreat: Introduction*, PA. STATE UNIV., <https://www.e-education.psu.edu/earth107/node/701> (last visited Oct. 31, 2017).

127. Robert Freudenberg et al., *Buy-In for Buyouts: The Case for Managed Retreat from Flood Zones*, LINCOLN INST. OF LAND POL'Y 8 (2016), <https://www.lincolninst.edu/sites/default/files/pubfiles/buy-in-for-buyouts-full.pdf>.

128. See THE NATURE CONSERVANCY, *REDUCING CLIMATE RISKS WITH NATURAL INFRASTRUCTURE* 5 (2013), <https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/ca-green-vs-gray-report-2.pdf?redirect=https-301>. The project relocated certain infrastructure and replaced it with flood control devices. This avoided having to set up a seawall that would have severely impacted local sea life.

129. Freudenberg, *supra* note 127, at 8.

purchases properties from individuals in particularly vulnerable areas so residents are able to relocate.¹³⁰ These properties can then be strategically used by the government or preserved as open space to facilitate flood resilience.

While buyout programs are an important tool for fighting total flood risk, the structure of PACE does not allow for the mingling of PACE financing and buyout programs. PACE assessments are unique because they run with the property instead of the owner, and because they increase the building's value. If PACE financing was somehow paired with buyouts, perhaps as a funneling mechanism for government funds to aid home movement, it would benefit the property owner, not the property.

IV. APPLICABILITY OF GOVERNMENT FINANCING

The federal government provides some funding and assistance to limit current flood risk and adapt to changing flooding conditions.¹³¹ It is worth examining whether these assistance mechanisms could be funneled through a PACE program to provide funding for individual resilience projects. On the surface level, using PACE financing would be a beneficial way to directly provide benefits to interested individuals and to increase public interest in resilience measures.

Federal grant funding for hazard mitigation runs mainly through FEMA's Hazard Mitigation Assistance program (HMA), which is made up of three different types of grants applicable in different scenarios for unique purposes.¹³² Each grant, with few exceptions, is given with the expectation that the federal government provides seventy-five percent of the total funding, with the remaining twenty-five percent derived from non-federal sources.¹³³ The three programs, which each involve an application from state-level agencies to FEMA, include:

1. Hazard Mitigation Grant Program (HMGP).¹³⁴ HMGP funding is available after the President declares a major disaster. This source of funding is

130. In general, programs are designed to target areas that are particularly susceptible to flooding, but these programs are all voluntary so the decision to relocate is ultimately up to the individual property owner. *Id.* at 8, 24.

131. Note that many states also provide funding for local government to deal with sea level rise related issues, but this tends to be provided for large, public projects. For example, the California Coastal Conservancy has a Climate Ready Program that provides funds to local governments, but the projects include actions like vulnerability and impact analyses and marsh/wetland restoration. See *Climate Change Projects*, CAL. COASTAL CONSERVANCY, <http://scc.ca.gov/climate-change/climate-change-projects/#slr-adaptation> (last visited Sept. 27, 2017). State investment may come once PACE is implemented, as was the case in Virginia when a \$500,000 grant was provided for the program's growth. See AUGUSTA FREE PRESS, *supra* note 33.

132. *Hazard Mitigation Assistance Guidance*, FED. EMERGENCY MGMT. AGENCY 1 (Feb. 2015), https://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf.

133. *Id.* at 26.

134. The Hazard Mitigation Grant Program is authorized through Sec. 404 of the Stafford Act, 42 U.S.C. § 4104(c) (2012).

initially allocated to the state-level government but can be taken advantage of directly by local governments and private non-profit organizations.

2. Pre-Disaster Mitigation (PDM):¹³⁵ PDM funding is determined based upon yearly federal appropriations, which are distributed through an application system. The funds are used for mitigation projects and planning activities. This source of funding can be used by local governments, but not non-profit groups.¹³⁶
3. Flood Mitigation Assistance (FMA):¹³⁷ FMA funding is available through the National Flood Insurance Fund for flood hazard mitigation projects and plan development. States must apply for the funding, and local governments can then apply to the state as a sub-applicant. This source of funding is not available for non-profit groups. FMA grants can be provided with 90-100 percent federal funding for work on a repetitive loss or severe repetitive loss property.¹³⁸

Each of these sources of funding is available for the already discussed mechanisms for limiting flood risk, including property acquisition and structure relocation/demolition, structure elevation, and dry flood-proofing.¹³⁹ It would be somewhat complicated, but not impossible, to incorporate PACE financing into the use of these HMA grants, providing local governments with a way to share costs with private individuals.

This integration would likely be structured by the local government (the sub-applicant) through guidelines that indicate which projects will receive funding.¹⁴⁰ The sub-applicant will then find a number of properties that have expressed interest in PACE financing for flood resilience projects and submit an application through the State government (applicant) indicating which projects will be undertaken with the funding.¹⁴¹ Once funding was awarded, the project financing could then be disseminated through a lower total price charged on the PACE loan. This would provide individuals with all of the benefits of relying on PACE financing, while lowering yearly payments and making default less likely. It is important to note that incorporating these financing mechanisms necessitates

135. PDM is authorized by the Stafford Act, 42 U.S.C. § 5133. *Hazard Mitigation Assistance Guidance*, *supra* note 132, at 27.

136. *Id.* at 5.

137. FMA is authorized by Sec. 1366 of the National Flood Insurance Act of 1968, 42 U.S.C. § 4104(c) (West 2012).

138. *Id.* at 27.

139. *Id.* at 33. The acquisition and relocation component presents an interesting situation where a government entity is likely the purchaser because the land would be preserved as open space in perpetuity.

140. All sub-applicants must already have a FEMA-approved local Mitigation Plan, which could provide a positive opportunity for developing this program.

141. In the application, the sub-applicant must provide specific information about the type of project, location, and cost for each mitigation effort. *Id.* at 63.

having projects that are willing to wait for the entire application period.¹⁴²

CONCLUSION

PACE financing currently makes energy efficiency projects more affordable and available to consumers. Due to the early success of the financing mechanism, it should be carefully expanded to include flood resilience work. Flooding is currently a significant part of the risk of owning a home, and climate change is actively increasing the risk. As this trend continues, local governments and property owners will look towards limiting their flood risk. PACE financing should be given the opportunity to fill an increasingly important flood resilience niche.

PACE should be used as a mechanism to support single property and large area flood resilience projects. The PACE financing structure fits with these projects by allowing individuals up-front capital to improve the value of their home/property, while providing a mechanism for the payment of the assessment through savings on insurance as well as avoidance of the direct and indirect costs of flood events. State and local governments should take the PACE structure as an opportunity to positively shape flood resilience infrastructure development. State authorizing legislation should avoid use of PACE financing for projects that do not fit the priorities of the State, including favoring low-impact infrastructure like living shorelines and avoiding the rebuild of repetitive loss properties. Local government entities partnering with private business to establish PACE funding should focus on projects that fit within the natural aesthetic of their respective areas.

In implementing PACE financing, state governments should also make a strong effort to shore up the flaws in the program by codifying best practices for consumer protection and underwriting.¹⁴³ PACE should include requirements that contractors do not receive kickbacks for signing more individuals, while also establishing strong criteria to qualify for a PACE loan, including examining credit history and comparing the expected value of the project to its cost.¹⁴⁴ In order to work against some of the problems that the program has had in the past, this must include an up-front conversation with the consumer to ensure understanding, as well as support throughout the process and the ability to cancel within a few days of agreement. Overall, the PACE financing mechanism is worth utilizing to incentivize greater flood resilience and it provides an opportunity for state and local governments to guide development in a fair, sustainable direction.

142. HMGP funding provides a particular challenge because it is only awarded after the President declares a disaster. It may be possible to incorporate current PACE infrastructure through the requirement that States have an Administrative Plan that identifies and notifies potential sub-applicants when funding becomes available. *See id.* at 100.

143. This could come directly through the PACE-authorizing legislation that will necessarily have to be amended in order to expand to flood resilience activities.

144. PACE providers should examine the value of flood insurance savings, especially considering that flood insurance prices are slated to rise significantly over the next few years. Reduced flood risk is also worth examining, but providers should weigh the fact that this is not the type of benefit that helps the individuals to pay back loans, unlike lowered insurance rates or utility bills.