ACCELERATING THE COMMERCIAL PACE MARKET

STATEWIDE PROGRAMS AND STATE ENERGY OFFICE PARTICIPATION IN PROPERTY ASSESSED CLEAN ENERGY (PACE) FINANCING

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This report was authored by Sandy Fazeli, NASEO Senior Program Director, in April 2016.

National Association of State Energy Officials (NASEO)
2107 Wilson Boulevard, Suite 850
Arlington, Virginia 22201
www.naseo.org

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INTRODUCTION

Commercial Property Assessed Clean Energy (C-PACE) programs offer states an undeniably effective opportunity to engage the commercial, multifamily, and non-profit sectors in clean energy projects. Since the inception of C-PACE, an estimated $230 million in commercial sector projects have been completed nationwide, with C-PACE programs authorized in 30 states and the District of Columbia.[1] The Clinton Climate Initiative estimates the market potential for C-PACE in the United States to be between $88 and $113 billion in large commercial buildings alone—a vast opportunity for the steadily growing PACE industry.[2]

To date, the growth and success of C-PACE programs has primarily been led by local governments, with 2,000 municipalities creating C-PACE programs across the country. However, C-PACE market growth has faced challenges in some jurisdictions. Of the 32 states with C-PACE enabling legislation, in only 14 states plus the District of Columbia have programs funded actual projects.[3] Some C-PACE programs have stagnated at the local authorization or program launch phase, or faced project implementation challenges. This slow uptake may be due to C-PACE's novelty, its complexity, and the administrative and legal lifts required to get from program initiation to project completion.

Because C-PACE financing uses local government tax assessment infrastructure, the onus is typically on local governments to overcome the steep learning curves and high costs associated with launching C-PACE. This places a heavy burden on localities to design and deliver complex programs while undertaking the time-intensive partnerships, processes, and program structures that successful C-PACE programs require. These demands have deterred some localities and municipalities from participating in C-PACE, leaving millions of dollars of cost-effective projects without C-PACE as a financing option.

This suggests that there is an urgent need for C-PACE program support and market organization, which State Energy Offices and other state-level entities, such as green banks, are uniquely positioned to offer. State-level coordination can help overcome the patchwork of inconsistent program requirements, underwriting criteria, and rules that can emerge in states with multiple competing local and private programs. A more consistent statewide C-PACE program can put an end to confusion experienced by borrowers, investors, and contractors, who might be deterred by the complexity and inconsistency of C-PACE programs. Effective and informed state involvement can streamline C-PACE program costs, ease the administration and transaction burden for local governments, and offer a more user-friendly market for potential borrowers.

This report focuses on how State Energy Offices other state-level partners can create an environment in their state that will increase local C-PACE participation. It offers insights and strategies for State Energy Offices, green banks, state financing agencies, or other public and private entities to provide coordination and support to

PACE 101: Key Terms and Concepts

Special Assessment: a unique charge that government units can assess against real estate parcels for certain public projects. This charge is levied in a specific geographic area known as a special assessment district (SAD); in the case of a PACE assessment, the SAD is one property.

Seniority: PACE assessments have senior status in most states: they are secured by the property itself, are collected with municipal taxes, and take precedence over other debts, such as mortgages. Some states have opted to implement junior PACE programs that make PACE assessments subordinate to the mortgage, thus providing the mortgage holder with priority status to be repaid in the event of default or foreclosure.

For more definitions, see the Metropolitan Washington Council of Governments PACE Financing Workgroup's "Commercial Real Estate Glossary for Energy Finance" at www.mwcog.org.

PACE programs. While it does not cover the basic mechanics of C-PACE, various groups listed in the "PACE 201: Where to Dive Deeper" textbox and referenced throughout the report offer valuable resources for states to learn about C-PACE.

Section 1 of this paper focuses on the potential value and advantages of transitioning to a statewide C-PACE approach. Section 2 offers guidance on implementing and supporting C-PACE at the state level. It details how some states have modeled their C-PACE programs, ranging from strong state-level coordination, to no state-level coordination. The decision tree on the following page offers a snapshot of the topics and program models covered in this report, as well as a step-by-step guide to help state actors gather their thoughts and summarize the process.

PACE 201: Where to Dive Deeper

Several organizations offer important resources to learn more about PACE financing:

PACE*NATION* (www.pacenation.us)
A national foundation-funded non-profit advocate for PACE financing, PACE*Nation* works to broaden awareness and adoption of this funding mechanism. PACENation collects and shares data, success stories, market updates, publications, and policy and program templates for a wide range of stakeholders.

U.S. DEPARTMENT OF ENERGY OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY (www.energy.gov)
The U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy offers free financing resources, including templates and resources for state and local governments on PACE available through its "Financing Solutions" portal.

NATIONAL LABORATORIES
DOE national laboratories develop tools, consultation, and resources supporting the adoption of energy efficiency and renewable energy financing. Lawrence Berkeley National Laboratory's Electricity Markets and Policy Group and the National Renewable Energy Laboratory's Project Financing team house fact sheets and market analyses on PACE.

CENTER FOR SUSTAINABLE ENERGY (www.energycenter.org)
The Center for Sustainable Energy (CSE) provides energy program management, training and education, and technical assistance on a wide range of sustainable energy issues. CSE uses a geographic database to track and share information about PACE programs in California.

ENVIRONMENTAL FINANCE CENTER (www.efc.sog.unc.edu)
The Environmental Finance Center (EFC) is based at the University of North Carolina School of Government in Chapel Hill. EFC's 2012 report, *An Assessment of PACE Local Government Financing Issues in Three States*, details the history of special assessments in three states and discusses how public financing traditions may lead to differences in how jurisdictions use and approach PACE assessments.

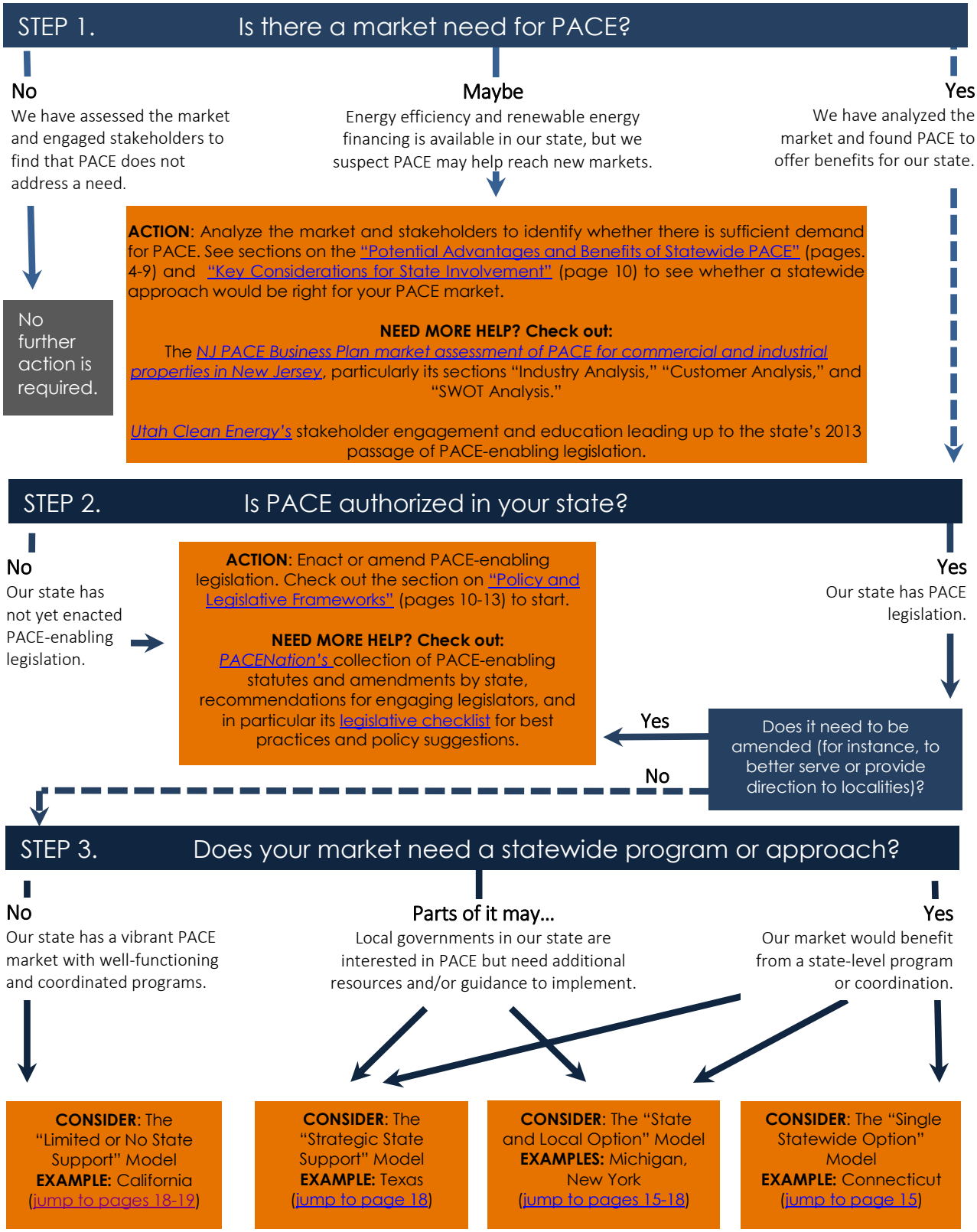


Figure 1 – State Energy Office Decision Tree for Creating a Statewide PACE Program

SECTION 1: POTENTIAL ADVANTAGES AND BENEFITS OF STATEWIDE PACE

(back to top)

Transforming PACE from concept to reality can be a multi-phase and reiterative process involving stakeholders in state government, local government, and the private sector. This section includes a brief discussion of how PACE decisions and program functions are traditionally divided at these various levels. It also highlights the potential limitations of this model and describes the possible benefits of program coordination and support at the multi-jurisdictional and state level.

Traditional PACE Decisions and Functions at the State, Local, and Program Level

The steps needed to launch a C-PACE program vary between jurisdictions but in general, they involve important decisions regarding the enactment of PACE-enabling legislation at the state level, the passage of ordinances authorizing the use of PACE benefit districts at the local level, and administration, design, and implementation at the program level. These decisions require outreach to relevant stakeholders to establish the necessary legal authorities for PACE and to learn about energy efficiency and renewable customers and projects.

The legal authority for PACE starts at the ***state level.*** C-PACE statutes typically include such policy components as:

- Identifying or establishing the authority of local governments to impose assessments against private property for energy, water, seismic, resiliency, health, and other improvements on a voluntary, "opt-in" basis;
- Ensuring that assessments are tied to the property;
- Specifying the process for establishing a PACE district;
- Authorizing multijurisdictional programs; and
- Determining that PACE improvements serve a public purpose.

Once PACE-enabling legislation is enacted at the state level, PACE programs can be legally administered ***statewide*** (such as with the Connecticut commercial PACE program, which will be discussed in further detail in the following section of this report) or at the ***local level*** (as is the norm in California). If administered locally, local governments at this point may choose to create a

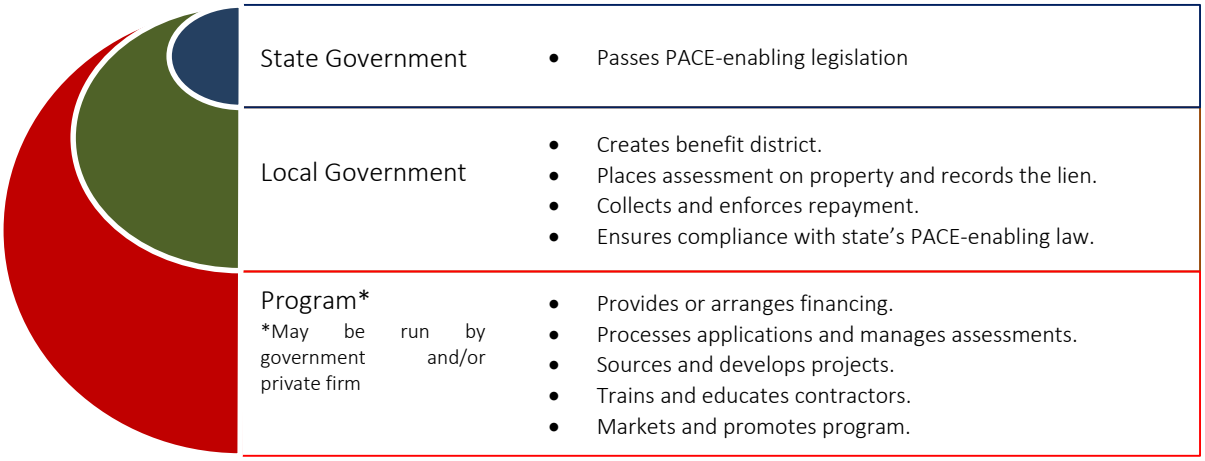


Figure 2 – Traditional Division of C-PACE Functions at the State, Local, and Program Levels

special assessment district and authorize the use of local and/or private financing for C-PACE projects, as specified in the state's enabling statute. The typical local mechanism for authorizing PACE assessments is by city or county ordinance; another option is by ballot initiative or popular vote. The local government is also typically responsible for deciding how to raise money for PACE projects, whether through the issuance of bonds or other sources of capital, as well as for implementing changes to its tax and assessment recording and collections processes to accommodate C-PACE assessments.

Key decisions regarding program administration and project implementation are typically made at the ***program level.*** Some jurisdictions have opted to use government staff to fulfill the full range of PACE program functions such as qualifying projects, processing applications, providing or arranging for financing, recording the C-PACE assessment, enforcing measurement and verification requirements, and promoting the program. Others contract with private firms to perform some or all of these tasks through a public-private partnership. In some jurisdictions, private program administrators and private project development firms take on all aspects of C-PACE program management. In this case, the primary local government role is to administer the PACE assessment; the remaining duties, such as enrolling localities into the program, training contractors, marketing, arranging financing, and sourcing and validating projects, are managed by private partners.[4]

Figure 2 above provides a breakdown of the roles and responsibilities typically delegated to state government, local government, and local program administrators.

Potential Limitations and Barriers

Because PACE financing uses local tax assessment vehicles, local governments are usually expected to take on the already-complex and time-intensive tasks of authorizing, accommodating, and enlisting private sector partners to support the use of PACE assessments. This arrangement may be problematic for local governments and local programs individually, but also for the market as a whole.

Particularly in smaller jurisdictions, local governments may lack the resources and expertise needed to authorize and deliver an energy financing program. To launch PACE, let alone establish their own program, they face a high level of fixed transaction and administrative costs, such as obtaining legal counsel, hiring or training staff on energy financing, developing technical and financial requirements for programs, and building demand in their communities for clean energy projects. These activities, and their upfront time and cost requirements, may deter resource-strapped municipalities from acting on PACE opportunities, particularly if market demand and program pay-offs appear small.

The traditional, locally-driven C-PACE model may have negative impacts for the broader market as well. Even when localities succeed in overcoming the high cost and time barriers to establish PACE, their individual efforts may create a patchwork of inconsistent programs from one area of the state to the next. This may confuse or dissuade potential program participants from using PACE assessments. These participants range from individual borrowers to large institutional investors who can help drive capital and lower borrowers' interest rates for PACE projects, and are likely to include the following stakeholders:

- ***Large commercial property owners*** may be unwilling to use C-PACE to finance energy improvements if their building portfolio spans across multiple cities or counties with inconsistent programs. To take advantage of PACE across their portfolio, they would need to understand different programs' application, underwriting, approval, and financial processes, which is time-consuming.
- ***Energy efficiency and renewable energy project implementers***, such as energy service firms and contractors, may be unwilling or unable to effectively market C-PACE financing to their clients if there are many competing and inconsistent programs available in the jurisdictions where they work.

Crest Mechanical in Hartford, Connecticut used $145,000 in C-PACE financing to install a 44 kW solar photovoltaic system. The system will save over $400,000 in energy costs over the life of the equipment. Photo courtesy of the Connecticut Green Bank.

- ***Commercial real estate lenders, including commercial mortgage holders***, need to understand the C-PACE assessments that are placed on their buildings. Inconsistent program standards and financial underwriting criteria may cause delays and setbacks in the project pipeline, especially where laws and ordinances require mortgage lender consent of the PACE assessment.
- ***Institutional investors*** seek liquidity and standardization in their portfolios. C-PACE market inconsistency limits the ability of a strong pipeline of consistent projects to grow, resulting in a wide variety of assets and loan profiles. A report from Harcourt Brown & Carey to the Massachusetts Department of Energy Resources summarizes the potential barriers that inconsistent PACE programs pose to the secondary market: "with 351 cities and towns in the Commonwealth, a decentralized program runs the risk of introducing significant inconsistencies between the various programs, reducing the liquidity of the PACE Bonds in the financial markets. In turn that would hamper marketability of the PACE Bonds, causing interest rates to rise."[5]

Statewide C-PACE Coordination

Coordination among C-PACE programs and stakeholders may offer a solution to the challenges listed above. Coordination can take various forms; for instance among individual local programs, between local programs and state government, or even regionally among state, local and private stakeholders.[i] It can materialize through various

[i] While this report does not cover regional PACE initiatives in depth, the Metropolitan Washington Council of Governments is leading a noteworthy initiative to sync PACE programs in the District of Columbia, Maryland, and Virginia through its PACE Financing Workgroup. According to the Workgroup's foundational framework, "recognizing that

Traditional PACE District vs. Lean & Green Michigan™

	GO-IT-ALONE PACE DISTRICT	LEAN & GREEN MICHIGAN™
Start-up	Municipality hires new staff or retains outside entity through RFP process.	Municipality simply votes to join Lean & Green Michigan via its normal legislative process.
Cost to municipality	Jurisdictions have paid anywhere from $150,000 to $2,000,000 to start a district.	None. The cost of running Lean & Green Michigan is incorporated into the financing of each deal.
Legal	Municipality must pay for legal counsel, whether inside or outside.	Legal fees are included in each project and are financed by the property owner, so the government pays nothing out of pocket.
Funding	Municipality typically tries to issue "PACE bonds" to raise funds to finance property owners' energy projects. There is not a track record of success nationwide.	Lean & Green Michigan brings significant private capital to the table to fund energy projects on a free market basis.
Regional cooperation	Each county, city or township creates its own rules and funding system, leading to a patchwork of districts that don't work together.	Counties, cities and townships join together to create one efficient system that works for small and big companies alike and attracts lenders by creating a large pool of projects to finance.
Overall model	Traditional model of each local government doing its own thing.	Public-private partnership where local governments, property owners, lenders and contractors collaborate to create a large market for energy efficiency and renewable energy finance.

Figure 3 - Traditional PACE District versus Lean and Green Michigan. *Source:* Lean and Green Michigan, http://www.leanandgreenmi.com/governments.htm, accessed November 2015.

processes, be they informal dialogues, voluntary guidance, or formal agreements. Regardless of how it takes place, coordination in C-PACE often serves to align, aggregate, and organize initiatives that may otherwise be discrete and inconsistent programs. It creates programs and guidance for the market with broader wider geographic reach than a single city or county. In so doing, coordination helps realize economies of scale in terms of time and cost savings and more easily scalable programs.

These economies of scale offer benefits that can accrue to governments as well as to the market as a whole. For local jurisdictions, they create an opportunity for lower program and financing costs, improving program terms, and accelerate market maturity and program expansion.

To illustrate, Lean and Green Michigan estimates that a municipality may save between $150,000 and $750,000 by participating in their privately-run, statewide "shared services" program in place of establishing its own individual program. Its ability to aggregate distinct local markets has attracted significant private project capital and eliminates the need for localities to raise their own capital, i.e. by issuing bonds. Program eligibility, rules, and guidelines are consistent across the many jurisdictions that participate in Lean and Green Michigan, making contractor recruitment and education easier and less costly. The program trains contractors by holding seminars and disseminating training manuals, and it uses another statewide program, Michigan Saves, to verify and register

real estate and financial markets are regional and not limited by jurisdiction lines, and that regional consistency will improve the efficiency of the PACE market and the success of PACE programs in all jurisdictions, the PACE Workgroup will…encourage consistency across the region." More information is available at http://www.mwcog.org/uploads/committee-documents/llxfXl1c20150714095239.pdf.

contractors. Figure 3 above includes Lean and Green Michigan's PACE model comparison chart, which compares their statewide shared services approach to an individual locality undertaking PACE alone.

PK Housing used PACE to upgrade its Cambridge Court property in Montcalm County, Michigan with a 20 kW solar system, low-flow plumbing, and efficient equipment. Photo courtesy of Lean and Green Michigan.

Some of the strongest calls for C-PACE establishment and coordination have come from the private sector. As mentioned earlier, the likelihood for program participation and buy-in from several stakeholder groups – including large property owners, project implementers, commercial real estate lenders, and institutional investors – increases with greater market consistency and program uniformity. At the same time, the private sector stands to benefit from the utility cost savings, property improvements, environmental best practices, and job creation possibilities that PACE projects can help materialize.

For Texas, it was the economic development and commercial real estate advantages that drove the establishment of Keeping PACE in Texas, an expansive coalition of businesses, environmental organizations, and local governments supporting the enactment of PACE legislation. Once the statute passed, Keeping PACE in Texas continued to convene members of its coalition to design Texas's signature "PACE in a Box" program around five working groups: program design, underwriting, technical standards, financial platform, and education, marketing, and training. These working groups were instructed to identify efficiencies and program guidelines to keep local PACE programs user-friendly, cost-effective, and consistent.[6] The fruit of their efforts, the PACE in a Box Toolkit, is now being used in Travis County and the City of Houston. In a telling move, the Texas Association of Businesses has been an active member of Keeping PACE in Texas and has urged local governments to adopt PACE so that "property owners, contractors, and lenders can realize the benefits."[7] As we will discuss later in this report, Texas offers other states an important model for PACE market coordination. If local governments and the private sector stand to benefit from C-PACE coordination at the state-level, so, too, do state governments themselves. For instance, a well-coordinated and effective PACE program can be a cost-effective and trackable tool to help states meet energy, environmental, and economic goals. C-PACE programs may also complement or be integrated with the state's other existing energy efficiency programs, bolstering their effectiveness and consumer adoption. For instance, to secure PACE financing through Energize New York, the program guidelines require property owners to complete the scope of work through a Qualified Energy Program administered by a utility or the State Energy Office, NYSERDA. NYSERDA also performs energy assessments and feasibility studies

for Energize NY-financed projects and furnishes a Certificate of Completion upon satisfactory execution of the project.[8] In this way, C-PACE in New York is not operated in a vacuum, but rather integrates and utilizes existing programs and processes.

Importantly, C-PACE can be designed to better deliver upgrades to typically underserved constituents and markets, which may be a high priority for states. Low-income multifamily properties containing five or more units comprise one such sector. Commercial PACE's long financing terms and potential off-balance sheet financing may appeal to affordable property owners, even when their buildings are heavily indebted or subsidized. The seniority of the PACE assessment, in turn, can be appealing to financiers that may otherwise see these properties as too risky. In 2013, the energy office in the District of Columbia completed the country's first PACE transaction for an affordable HOPE VI redevelopment project.[9] Since then, other states with large multifamily markets, such as California, have begun exploring the opportunity for PACE in low-income housing.

SECTION 2: ASSESSING THE NEED AND POTENTIAL FOR STATEWIDE PACE

State Energy Offices and other state-level partners, such as green banks and private PACE providers, may be well-suited to alleviate the steep challenges that PACE programs and markets face. In some states, they are ideally positioned to scale successful program strategies and extend their reach beyond a single community or program. In so doing, they can reduce transaction costs for localities and realize economies of scale for the PACE marketplace. While state involvement can present a significant opportunity for PACE financing to expand and mature, it also requires additional effort on the part of the state in relation to the traditional, locally-driven PACE model described in the previous section.

In this section, we offer summary considerations that may help states better understand market needs and how to define their role in PACE. We also illustrate how the state's PACE-enabling legislation can provide an important tool and framework for state-level intervention and market coordination.

Key Considerations for State Involvement *(back to top)*

The optimal role for states in PACE requires striking an acceptable, practical, and helpful balance with localities and the private sector. For this reason, it is important for State Energy Offices to understand the various factors that may affect PACE rollout in a state. While we recommend that each state assess its own market characteristics, key questions to consider and use to collect input from stakeholders may cover:

The state's PACE legislative framework:

- *How can the state design its PACE-enabling legislation to best meet local government and market needs? Is there a need for the PACE law to mandate or encourage a statewide initiative?*

The state's ability to communicate with local programs:

- *Does the state have feedback loops and channels of communications open with local governments to determine what is working and what is not, and to amend PACE law as needed?*

State and local government capability and tax structure:

- *Do cities and counties have the resources and bandwidth to establish and operate successful PACE programs independently? Do they have interest (or precedent) in coordinating on implementation or administration?*
- *How might the state's existing tax and property assessment processes affect state and local decisions regarding who is authorized and best-suited to administer PACE programs?*

Target customers' and markets' needs:

- *Would PACE program end-users and stakeholders, such as building owners, capital providers, contractors, and investors, benefit from greater state involvement?*

The diagram (Figure 4) on the following page offers several factors that states should take into consideration in their efforts to assess the PACE marketplace. Understanding these factors can help highlight options for intervening in PACE and realizing the potential benefits of coordinated programs and consistent markets.

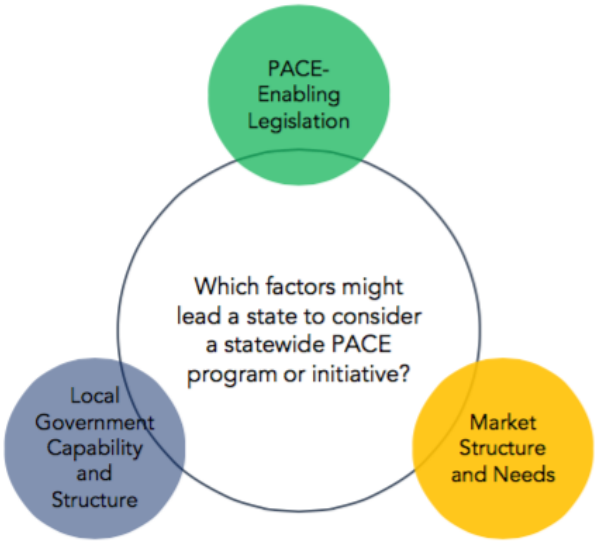
Policy and Legislative Frameworks for C-PACE Coordination

Because PACE straddles state and local policy, a state energy or financing agency with policy influence could serve important functions to guide and organize the PACE market. Approximately four out of five Energy Offices across the country are located within a cabinet-level agency enjoying direct access to the governor, and nearly two-thirds report policy and legislative development to be among their highest priorities.[10] Because of their position within state government, many State Energy Offices have helped shepherd PACE policy and legislation through to enactment.

A multijurisdictional or statewide approach is permitted and/or required by law.
Some PACE-enabling laws, as in Michigan, allow jurisdictions to form joint programs and describe the public process that allows this to occur. Connecticut's statute authorizes the Connecticut Green Bank, a statewide entity, to issue bonds, develop guidelines, and undertake partnerships in order to operate PACE statewide.

Statute includes high standards or requirements that may increase individual programs' costs of complying.
Such requirements may include underwriting requirement, lender consent or acknowledgement provisions, measurement and verification process, and contractor and project certification guidelines. Statewide programs may offer a lower cost solution by sharing legal and program administration services across multiple communities.

Champions of PACE legislation and programs are stakeholders who would benefit from economies of scale.
PACE is often seen as a strong tool for energy and environmental conservation as well as economic development and job creation. Representatives and coalitions in each of these sectors may see statewide programs and economies of scale as means to maximize the impact of PACE. As a result, they may choose integrate this message into their advocacy around PACE legislation and programs, as occurred in Texas.



Local jurisdictions have limited resources and personnel to devote to operating PACE.
Local governments may lack the resources needed to establish and operate a PACE program effectively on their own, but may still be interested in PACE for its environmental and economic benefits. Statewide and multijurisdictional programs can overcome this barrier by reducing the costs to participate.

Private and large local PACE program administrators have statewide or multijurisdictional reach.
In some states, statewide or broad multijurisdictional programs have emerged with little or no state government intervention. Program administrators may seek to expand their market size by forging relationships with neighboring communities and inviting other jurisdictions to participate in their existing program.

State possesses many local jurisdictions, particularly in a small geographic area.
When local jurisdictions choose to set up PACE individually, differences in how nearby programs operate may cause confusion and increase costs. A statewide PACE approach may mitigate this problem. Approaches range from the "single statewide program" model which offers a single program statewide, to a "strategic state support" approach in which the state may encourage individual local programs to adopt similar program and application procedures.

PACE end-users and potential program participants operate across multiple cities and counties in the state.
PACE success relies in large part on capital providers, property owners, contractors and energy service companies, and investors to support and participate in programs. Statewide programs offer these stakeholders a single set of guidelines, procedures, and application processes to understand, making program participation easier and clearer than in a state with various competing programs.

Figure 4 – Factors to Assess the Need for Statewide PACE

Passing and amending PACE-enabling statute are tasks traditionally undertaken at the state-level. As discussed earlier in the report, the state is responsible for establishing the public purpose and enabling local governments to offer PACE financing in their jurisdictions. But some states have chosen to use the legislative process to provide direction and coordination to PACE programming beyond the "bare minimum" of what may be traditionally expected in a state PACE statute. Here we outline the two important state roles—enacting PACE-enabling laws and amending enacted statutes – and highlight instances where states have used the policy lever to intervene in the PACE market.

Enabling PACE

The way a state's enabling legislation is developed and written may hold significant implications for how PACE financing is ultimately delivered to property owners. To varying degrees, the legislative process can help provide definition to the state role

in relation to local government and the private sector and offer guidance, organization, and direction to the PACE market as a whole.

A number of issues typically taken into consideration during the legislative process may influence whether a state-based approach takes hold. The first such issue relates to the specific ***portions of tax code or state law that may need to be expanded or amended in order to include energy improvements and, relatedly, the level of detail that legislators feel needs to be enshrined in the PACE statute in order to quell market or legal confusion about PACE assessments.*** Special assessment districts (which form the basis for PACE) are authorized in all 50 states and can fund a wide range of projects that provide public benefits, including sidewalks, water system improvements, and fire protection. PACE uses this state and local authority to levy tax charges and assessments in order to finance energy improvements on individual properties of qualified owners who enter into a voluntary contractual assessment with the municipality.

Accordingly, some states have opted to enact bills that simply amend the code to include renewable energy and energy efficiency projects among the improvements eligible for a special assessment – an extreme example for its brevity being Illinois's Public Act 096-0481, which is one paragraph long[11] and which provides relatively little direction to local PACE administrators.

The majority of states have enacted more thorough laws that provide more detail on the legality or appropriate structure of PACE assessments, providing further direction and guidance to the PACE market on a number of issues, including such features as eligibility criteria and underwriting requirements.[ii]

An important area where PACE statute is often prescriptive is in addressing concerns about the seniority of PACE assessments over mortgages. Many states have adopted provisions in their PACE laws requiring PACE programs to secure mortgage lender consent or affirmative acknowledgement of the project. Such a requirement may generally increase mortgage lender comfort with PACE or, more specifically, ensure that the PACE assessment does not accelerate the mortgage (i.e., trigger due-on-encumbrance clauses that are activated when the property takes on unapproved additional debt).[iii] For this reason, it is commonly regarded as a best practice for the state to include this requirement in its authorizing statute rather than leave it as a programmatic decision.

Another aspect of PACE that some state statutes have explicitly addressed relates to ***how programs are administered by state, local, and/or private sector companies.*** Options differ on a state-by-state basis and may depend on the existing level of activity of state and local government and private investors in special assessment district financing. For instance, in California, local governments may impose special assessments, but private entities may also be delegated the PACE financing authority and its associated liabilities. This type of financing, which uses contractual assessments, is not explicitly allowed in some other states, highlighting the different degrees to which states can place decision making and financing authority in program administrators' hands.[12]

By contrast, Connecticut's commercial PACE statute directed the Connecticut Green Bank (at the time the Clean Energy Finance and Investment Authority) to establish a "commercial sustainable energy program in the state" and allows the bank to enter into written agreements with Connecticut

[ii] PACENation has developed a Legislative Checklist that outlines content and components for effective PACE bills, available at http://www.pacenation.us. This checklist comments on program components that are sometimes included in legislation but also sometimes left to program design. Additionally, Renew Financial (formerly Renewable Funding) and The Vote Solar Initiative describe the "Ten Key Components of PACE Legal Authority," also available through PACENation.

[iii] PACENation's "PACE for CRE Lenders" webpage, www.pacenation.us/pace-for-lenders, has important tools and resources that share lenders' perspectives on PACE financing, including a partial list of lenders that have consented to PACE on their mortgage properties and a 2014 update to the organization's lender support study, *Lender Support Update: Senior Mortgage Lender Considerations of Commercial PACE Transactions in 2013*.

municipalities "pursuant to which the municipality has agreed to assess, collect, remit and assign benefit assessments to the [Green] Bank in return for energy improvements for benefited property owners within such municipality."[13] This language resulted from a concerted push among advocates who saw the need for statewide consistency given the large number of municipalities in this geographically small state, and has resulted in Connecticut's statewide PACE program model, which is discussed in further detail later in the report.

Amending PACE

Even after legislation is enacted, State Energy Offices may elevate and address challenges that local partners face on the ground, and kick-start efforts to amend PACE statutes based on local experience. Amendments have typically been driven by some need to clarify the authorizing legislation, whether to adjust to local needs, respond to technological advancements, or to better foster program growth. Amendments also offer another way of understanding the importance of the state policy role in PACE.

For instance, the 2009 passage of Ohio's original PACE legislation, Ohio House Bill 1, enabled Ohio municipalities and townships to use special improvement districts to finance solar photovoltaic and solar thermal installations. In the following year, Ohio Amended Substitute Senate Bill 232 expanded this authority to provide financing for energy efficiency, as well as geothermal and other forms of distributed generation,[14] thus expanding opportunities for programs like the Toledo/Lucas County Port Authority Program and the Greater Cincinnati Energy Alliance to finance significant energy efficiency improvements at low cost.

Similarly, PACE financing in Virginia has gained significant momentum as a result of a recent amendment asserting the seniority of PACE over the mortgage. In March 2015, the General Assembly approved an amendment to Section 15.2-958.3 of the Code of Virginia, which, importantly, indicated that a voluntary PACE assessment on a non-residential property "shall have the same priority status as a property tax lien against real property." The law also assigned the Department of Mines, Minerals, and Energy (DMME), which houses the State Energy Office, with the task of developing optional uniform statewide financial underwriting guidelines for loans with input from key stakeholder groups representing bankers, realtors, municipalities, and energy efficiency professionals and advocates.[15] These guidelines were released in December 2015.[16]

SECTION 3: STATEWIDE PACE MODELS

To realize the potential benefits of PACE market coordination, states can use not only policy and legislation to provide direction to the market (as described in the previous section), but may also establish or support statewide-administered programs or initiatives. These initiatives have resulted in the emergence of state PACE models, each with a distinct division of responsibilities and functions among the state, localities, and private sector. This section describes the three statewide PACE models that NASEO has observed in the marketplace, including the "Single Statewide Program" model, which is exemplified by the C-PACE program structure in Connecticut; the "State and Local Option" model, typified by Energize New York and Lean and Green Michigan; and the "Strategic State Support" model which is evident in Texas. Notably, one of the largest and most successful PACE markets, California's, does not fit neatly into a statewide framework at all.

	Key Characteristics	*Examples*
Single Statewide Option Model	• Single C-PACE program operates statewide, typically led by administrator housed within or closely tied to state government (such as a green bank) • If local governments want to have a PACE program, they must opt-in to the statewide program, are not permitted to establish their own separate program • Approach is mandated by PACE-enabling legislation • Private-sector partners (i.e., capital providers, energy service companies) may provide key program services under statewide administrator's oversight	Connecticut
State and Local Option Model	• Statewide program(s) may coexist with locally-administered or privately-administered programs • Program typically offers more attractive option (in terms of program administration or cost of capital) than an individual local government may be able to attain on its own • May not be implemented statewide, but is available to any locality in state that opts in to the program • PACE-enabling legislation permits multijurisdictional or joint programs	New York Michigan Utah Colorado Maryland
Strategic State Support Model	• Provides guidance or direction to local and private program administrators • Typically, not a formal or required program, but rather a voluntary initiative whereby individual programs can access resources and model documents developed at state-level • Likely to involve state agencies and state-level actors in stakeholder engagement process or in development and vetting of suggested program procedures and standards	Texas
Limited or No State Support Model	• No statewide program or strategically-supported initiative at state level • PACE market has many private and local program administrators, sometimes multiple in the same jurisdiction	California

Figure 5 – Statewide PACE Models Summary Table

Rather, California's experience highlights a fourth approach, the "Limited or No State Support" model, which we also describe in this section. The summary table above covers key characteristics of each model, and the remainder of this report describes how each model has been put to use in various states.

Single Statewide Option *(back to top)*

The Single Statewide Option espouses a "top-down" approach to PACE structure and administration and offers municipal governments interested in PACE one statewide program option that they may choose to join. Similarly, property owners, energy service professionals, and financial institutions may opt into a single program and market with clearly defined and centralized parameters, rules, and financial procedures.

In Connecticut, the decision to adopt the single statewide commercial PACE model was a result of numerous factors. With 169 towns in the state, there was an urgent need to create consistency and transparency in the PACE market for property owners, lending institutions, and bond investors. Cash- and resource-constrained municipalities, furthermore, expressed interest in a statewide structure that would reduce the need for dedicated local personnel and mitigate the potential impact of project defaults or failures on taxpayer coffers.[17] These dynamics resulted in the creation of the Connecticut Green Bank's statewide C-PACE program, and have contributed to its position as a major player nationally in commercial PACE lending.

The Green Bank has engaged a wide variety of stakeholders on PACE—including local chambers of commerce, members of the Building Owners and Manufacturers Association, trade allies, and financial institutions. It has been aggressive in targeting the state's energy auditor and contractor base, seen as a key driver and interface to help educate borrowers on how to use PACE. It has also succeeded in attracting significant capital, from both primary capital providers (such as Greenworks Lending[18]) and from secondary market investors with its $30 million PACE sale to Clean Fund in 2014[19] and a recent $100 million capital facility agreement with Hannon Armstrong.[20]

The "Single Statewide Option" model does not equate to a closed market system, nor to the loss of municipal, local, or property owner control over PACE projects and programs. Municipalities participating in Connecticut C-PACE are involved in recording, collecting, remitting and assigning the benefit assessment, while the Green Bank handles programmatic energy- and financing-related functions such as overseeing the program and its underwriting requirements.[21] Connecticut employs open-market, owner-arranged financing that allows property owners to choose their capital provider (such as with Greenworks or CleanFund[22]). The Green Bank does not require borrowers to use a single financing product; rather, it reviews project finances and expected project energy savings to ensure they meet rigorous and industry-accepted standards.

State and Local Option *(back to top)*

New York, Michigan, and other states have also established statewide programs. However, these programs differ from Connecticut's because municipalities interested in PACE have the option of participating in these statewide options or, alternatively, launching their own programs or joining another existing program. It is this local option that is the main defining factor in the "State and Local Option" model.

The "State and Local Option" model promotes shared services and program parameters among participating municipalities but, unlike the "Single Statewide Option" model, is one of many program choices that a city or county may select when considering PACE. Rather than adhere to a single program option that covers the entire state, an interested local government may choose to establish its own PACE program, combine forces with a neighboring municipality, or join another existing PACE program.

In New York, the decision to adopt this approach was informed in part by the state's tax infrastructure and existing rules over the use of special financing districts for sustainable energy. NYSERDA, the State Energy Office, has supported the creation of the Energize New York Finance program, a financing initiative by the Energy

Investment Corporation (EIC). In 2014, NYSERDA awarded $1 million to help launch the initiative, which uses PACE and property tax laws to spur energy efficiency and renewable energy projects in commercial and multifamily buildings.[23]

In addition to funding the EIC to launch Energize New York as a statewide initiative, NYSERDA has helped to arrange important financial support that helps municipalities comply with the state's PACE statute. According to New York Assembly Bill A40004A, "the legislative body of any municipal corporation may, by local law, establish a sustainable energy loan program using ***federal grant assistance or federal credit support*** available for this purpose"[24] (emphasis added). As a result, NYSERDA has made available DOE Better Buildings program funds for Energize New York, and has helped to arrange a credit enhancement through the New York Green Bank.[iv]

Energize New York offers an option for localities that may be interested in PACE but may not necessarily have access to federal funds that would enable them to comply with the statute. It offers economies of scale and access to capital that may otherwise be unavailable or unattainable to a municipality that implements PACE on its own. To support the program, EIC has secured third-party capital that offers more favorable terms than participating municipalities would be able to attain otherwise. EIC performs administrative and project qualification tasks, which the program has found is a key driver for municipal governments that are resource-constrained.[25]

Michigan also uses the "State and Local Option" model, but it has been supported and implemented differently than in New York. Michigan's PACE statute explicitly allows jurisdictions to create shared PACE districts, so Lean and Green Michigan employs a "shared services" approach. A key distinction between Michigan and New York is that Lean and Green Michigan has not received any state or county funding. A privately-driven initiative, it has grown out of local enthusiasm for PACE and now covers 18 counties and eight cities and townships--53% of the state's population.[v]

Lean and Green Michigan is a statewide-available program administered by a private company, Levin Energy Partners, which forms public-private partnerships with participating local governments. Program administration and expansion costs are not supported by state or county money, but rather are covered by administrative fees placed on each transaction. Today, seven of the ten most populous counties in the state participate in Lean and Green Michigan. As in Connecticut, Lean and Green Michigan affords property owners flexibility in their capital provider and financing arrangements, advancing an open market approach that is driven by private capital, a private administrator, and private borrowers without putting municipal or state investment at stake.[26]

The "State and Local Option" is becoming an increasingly important and visible model in the PACE industry. In 2015 alone, at least three states with significant commercial building stock—Utah, Colorado, and Maryland—announced or launched programs that largely fall in this category.

For Utah and Colorado, the State Energy Offices have been highly involved in these efforts. The Colorado Energy Office sits on the Board of the Colorado New Energy Improvement District (NEID), a non-governmental body created to establish a statewide PACE program. With the official launch of the program in December 2015, NEID and the program administrator, Sustainable Real Estate Solutions, have enlisted Boulder County and are in discussions with nearly a dozen others to participate in the program.[27]

[iv] According to the Green Bank's most recent annual report, "During the fiscal year ended March 31, 2015, NY Green Bank received a transfer from NYSERDA of $500,000 in federal grant funds to provide a letter of credit to support Energy Improvement Corporation's Energize NY commercial property assessed clean energy financing program." NY Green Bank Metrics, Reporting & Evaluation Annual Report No. 1 (Through March 31, 2015) Case 13 - M - 0412 June 29, 2015. Available at http://greenbank.ny.gov/About/Public-Filings.

[v] Lean and Green Michigan estimates program growth at about one local government per month. Up-to-date maps and a list of participating jurisdictions are available at http://www.leanandgreenmi.com/.

The Michigan Agency for Energy and the Michigan Public Service Commission were the first state agencies in the country to make energy improvements to their properties using PACE. This project, which was privately financed, included the installation of a small solar array, LED lighting, and variable speed pumps for heating and cooling. Photo courtesy of Lean and Green Michigan.

Completed in October 2015, this Utah C-PACE project installed a solar canopy, microgrid, and electric vehicle charging station in Hunt Electric's West Valley City headquarters. Photo courtesy of the Utah Governor's Office of Energy Development.

Utah's State Energy Office, the Governor's Office of Energy Development (OED), administers C-PACE by providing standardized program forms and template bond documents, maintaining an online approved vendor list, reviewing technical proposals, and hosting an interactive fee schedule online. Municipalities may opt-in to the program using a Municipality Agreement form and by adopting an ordinance or resolution to designate a voluntary assessment area, levy the assessment, issue a municipal bond, collect installment payments, and release and discharge assessments.[28]

Utah's C-PACE program was authorized in 2013, its funding became available in spring 2015, and OED held an official launch event and released standardized templates in October 2015 after the completion of the program's first C-PACE project at Hunt Electric in West Valley City. Prior to the launch of the program, OED worked closely with Utah Clean Energy and UCAIR, a statewide clean air partnership; these partners developed model program guidelines that have helped give shape to OED's approach.[29]

In Maryland, a private company, PACE Financial Services, and the Maryland Clean Energy Center, a corporate instrumentality of the state, announced in August 2015 the formation of a statewide, centralized commercial PACE program with options for county opt-in and offerings to streamline the program administration and borrowing processes.[30]

Strategic State Support *(back to top)*

Even in states where PACE program administration is decentralized, State Energy Offices have helped support the development and scale-up of PACE markets by increasing program consistency and coordination. This approach defines the most bottom-up model we examined, "Strategic State Support," which refers to PACE programs and initiatives that have received technical, financial, and/or marketing support from the state level, but have not launched statewide programs.

In Texas, where this model is especially evident, strategic state support has been used to promote PACE expansion and consistency among programs without impeding local autonomy or control. This was an important goal of the state regarding its involvement in PACE. As described earlier in this report, the multitude of stakeholders involved in the development and launch of Texas's PACE-enabling legislation helped give rise and shape to the statewide, voluntary, and market-oriented initiative called PACE in a Box.

PACE in a Box, advanced by the non-profit business association Keeping PACE in Texas, has organized key PACE stakeholders into working groups to help PACE implementers establish programs and develop projects.[31] The Texas State Energy Conservation Office (SECO) in particular chaired a technical standards working group and oversaw the development of PACE in a Box's Technical Standards Manual, which documents accepted measures for project data collection, measurement, and savings calculations.[32]

The PACE in a Box initiative also developed Financial Underwriting Standards and several model program documents, including: county and city resolutions to create PACE programs, inter-local agreements, project applications, lender consent forms, property owner contracts, notices of assessment, and marketing and educational collateral.[33]

The PACE in a Box approach deployed in Texas is unique and compelling. It provides programmatic guidance for an "orderly, consistent, statewide approach to PACE design and implementation,"[34] but avoids imposing rules on local programs or using a state program to direct the market. Importantly, Texas cities and counties have been receptive to it. Travis County, which established the state's first PACE district, was also the first municipality to adopt PACE in a Box standards for its county-wide program. In response to this move, the City of Austin's mayor, Steve Adler, praised the Travis County Commissioners Court in a March 23, 2015 letter for its efforts to "facilitate efficiency, economies of scale, and a user-friendly environment for businesses throughout Travis County" and "to demonstrate to the rest of Texas the economic and environmental benefits of a voluntary, market-based PACE program."[35]

Rather than launch their own PACE programs, the City of Houston and Willacy, Cameron, and Williamson Counties have since elected to join Travis County's PACE program, which is administered by the Texas PACE Authority.[36] In December 2015, the Texas PACE Authority announced the first C-PACE project in Texas for $1.25 million in retrofits at a Simon Property Group shopping mall in Austin.[37]

Limited or No State Support *(back to top)*

While state-level involvement in PACE is becoming more common, the market is still dominated by the traditional, locally-driven or inter-local model that

has resulted in billions of dollars in commercial and residential PACE projects. In fact, in many states and cities where PACE is enabled, local and private administrators have successfully created markets with minimal or no state-level coordination or intervention. California, the birthplace of PACE, offers one example of an extremely vibrant market that is distinctly "bottom-up". According to tracking and research conducted by the Center for Sustainable Energy (CSE), California is home to nearly a dozen PACE providers and a fairly disaggregated market covering the residential, commercial, and municipal sectors. [38]

As illustrated in Figure 6, in some California jurisdictions there are as many as three administrators offering PACE services. While Governor Brown and a variety of state agencies (including the CEC, the State Treasurer, and the California Public Utilities Commission) have vocalized their support of PACE and provided resources to PACE initiatives, California's PACE programs have largely been championed and driven by localities and private companies. Though California does not fall squarely into a "statewide" PACE model, it boasts a robust and growing PACE market: since 2009, there have been 179 commercial PACE projects totaling approximately $65 million[39], and over $1 billion in residential PACE projects.

State-level actors have had some involvement in California's PACE programs; Governor Jerry Brown and the California Energy Commission have been ardent supporters of PACE. Yet, PACE market growth in California has been largely driven by local governments and private administrators such as Ygrene, CaliforniaFIRST, and Figtree, pioneering what is now California's multi-program commercial PACE market.

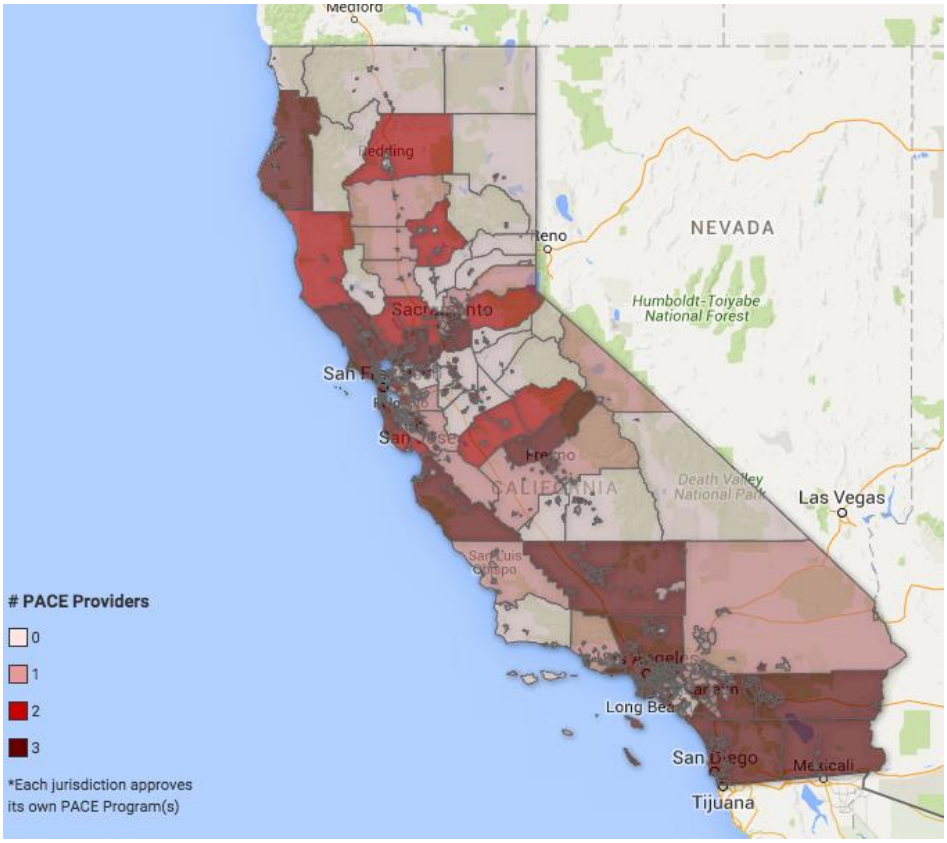


Figure 6 – PACE Providers in California. *Source:* Center for Sustainable Energy, http://energycenter.org/policy/property-assessed-clean-energy-pace. Accessed December 1, 2015.

CONCLUSIONS

As PACE expands across the country, so too does the potential need for localities, states, and private PACE supporters to find solutions that deliver economies of scale. For localities, these strategies may reduce costs associated with delivering complex PACE programs; for states and private firms investing resources and funds in PACE, they may support the creation of consistent and organized markets; and for program participants, they may make PACE easier to use.

This impetus has led many state-level actors from the public and private sector to support the growth of PACE programs that have a larger geographic reach than a single city or county, giving rise to multijurisdictional and statewide programs and other strategies that promote program uniformity and consistency. However, such strategies—and their potential benefits in terms of time and cost savings and PACE market growth—may require state agencies to devote more time and resources to making PACE work than they would otherwise in a traditional, locally-driven PACE program.

There are many agencies, entities, and approaches to enable and deliver PACE. And, decisions made for PACE programs at the state level can have significant impacts on how PACE is ultimately accessed by both the end-user and the lending community. Successful efforts strike the appropriate balance between the desire to create consistent programs, maximize program participation, create safeguards for consumers and lenders, and minimize costs on the one hand with the need to maintain and respect local autonomy over tax assessment financing and local energy priorities on the other hand.

This balancing equation accounts in part for the diversity of PACE models that exist in the market today and for the decision-making process that may lead State Energy Offices or other state-level entities to intervene or help organize the PACE marketplace.

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