REVIEWED

LEGAL COUNSEL

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BEFORE THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON

A Resolution Establishing a Commercial Property Assessed Clean Energy ("CPACE") Program in Deschutes County	* * *	RESOLUTION NO. 2022-023

WHEREAS, ORS 223.680 and ORS 223.685 authorizes the County to establish a program to assist owners of commercial property with securing the financing of cost-effective energy improvements and seismic rehabilitation improvements, respectively; and

WHEREAS, the programs authorized by ORS 223.680 and 223.685 are called Commercial Property Assessed Clean Energy Programs. The CPACE Program supports the financing of energy and water efficiency and renewable energy upgrades and seismic rehabilitation improvements on commercial buildings using a property tax lien; and

WHEREAS, reducing energy and water consumption and improving seismic resiliency through building retrofits will strengthen the County's economic infrastructure by improving property values, building performance, and marketability of the County's commercial real estate. According to the 2011 study by ECONorthwest (attached as Exhibit 1), every $1 million in project spending results in 15 new jobs and $2.5M in economic output; and

WHEREAS, Deschutes County is committed to equitably advancing sustainable economic development and the County will work to ensure communities most in need will benefit from these opportunities; and

WHEREAS, in accordance with best practices nationwide, a CPACE program can be successfully implemented in Deschutes County that minimizes any local administrative burden and cost while ensuring that Deschutes County is protected financially and legally from the authorization of a CPACE program; and

WHEREAS, attached as Exhibit 2 is the Program Guide which along with sample program documents shall be part of the CPACE program in Deschutes County, which may be amended from time to time at the discretion of the County Administrator for Deschutes County; and

WHEREAS, the Program Documents shall allow Property Owners to apply for approval of CPACE benefit assessments on their property to repay financing from third party private capital providers, said benefit assessments to be recorded on title to their property upon approval and closing of financing, with appropriate protections for the County; and

WHEREAS, before establishing a program under this section, Deschutes County has provided notice to utilities that distribute electric energy, natural gas or water within the areas in which the local government will operate the program that a CPACE program will be established in accordance with ORS 223.680(3); and

WHEREAS, Deschutes County held a duly noticed public hearing on April 20, 2022, in order to receive input and comment; now therefore,

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON AS FOLLOWS:

Section 1. The CPACE Program in Deschutes County is hereby established.

Section 2. The County Administrator for Deschutes County shall oversee development of the CPACE program in accordance with ORS 223.680 and 223.685 and the Program Guide, plus sample program documents and a fee schedule necessary to implement the CPACE program. This oversight shall extend to delegated and outsourced services and management.

Section 3. The County Administrator will consult the County Clerk, County Assessor and County Tax Collector as it oversees development and adaptation of the CPACE program.

Section 4. This Resolution shall take effect immediately from and after its adoption.

BOARD OF COUNTY COMMISSIONERS
OF DESCHUTES COUNTY, OREGON

Dated this _____ of _____, 2022

_____
PATTI ADAIR, Chair

_____
ANTHONY DeBONE, Vice Chair

ATTEST:

_____
Recording Secretary

_____
PHIL CHANG, Commissioner

EXHIBIT 1 (to Resolution 2022-023)

Economic Impact Analysis of Property Assessed Clean Energy Programs (PACE)

Research Performed by ECONorthwest for PACENow, April 2011

This report summarizes an analysis by ECONorthwest of the economic impacts of Property Assessed Clean Energy (PACE) programs. The analysis measures the output, employment and tax impacts of purchase activity with the same composition of the project activity of the PACE energy efficiency and renewable energy projects. The analysis is performed using the IMPLAN input-output model system and simulated the implementation of PACE projects in four cities, with computation of both local and national impacts. Significant, positive economic and fiscal impacts are potentially associated with PACE energy efficiency and renewable energy projects.

Economic Impact Analysis of Property Assessed Clean Energy Programs (PACE)

Research Performed by ECONorthwest for PACENow, April 2011

Executive Summary

ECONorthwest was engaged by the PACENow coalition to assist them in describing the economic effects of the Property Assessed Clean Energy (PACE) programs. Specifically, this report presents calculations of the direct, indirect, and induced impacts of purchases associated with hypothetical PACE program implementations on various measures of economic activity, including direct, indirect and induced impacts on output and employment, and the associated impacts on local, state and federal tax revenues.

Findings

The analysis suggests that such programs have the potential of generating significant economic and fiscal impacts. Specifically, $4 million in total PACE project spending, across the four cities included in this analysis ($1 million in spending in each city) will on average generate:

- $10 million in gross economic output;
- $1 million in combined Federal, State and Local tax revenue;
- 60 jobs.

As a result, the PACE program projects have the potential to provide stabilizing economic influences that should redound to the

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benefit of involved communities, the regional and national economies and, thereby, to the value of housing collateral of associated mortgages. The channels by which this occurs are through the largely domestic supply-chain linkages of the purchases associated with the project developments themselves, and the net reduction in housing user costs that flows from implementation of cost-beneficial energy-efficiency improvements. We also offer an opinion regarding the likely effect of the senior property tax lien that is associated with the structure of the PACE program. We conclude that, under most likely conditions, the reduction in the cost and volatility of a building's purchased energy requirements should add strength and resilience to home values in a manner that counterbalances the lenders' concern about the lien impairing their mortgage loan collateral.

Study Approach

The analysis performed by ECONorthwest uses hypothetical purchase activity with the same, approximate composition as PACE projects in terms of the economic sectors involved and does not evaluate particular PACE projects. The impacts of project purchases associated with PACE activity are traced to the linkages between PACE purchases and the chain of vendor relationships. Because PACE projects also have the potential to affect household spending, through reductions in energy costs, the impacts of that effect of the PACE projects were also examined.

The measurement of these relationships is performed within an input-output model framework using IMPLAN model and data. The purchase activity is modeled in four, separate cities with local impacts measured at the county or multi-county level. Impact measures are extended to the nation as a whole, thereby producing local, elsewhere-in-the-US, and total US impact measures for the modeled activities.

The remainder of this report presents the analysis that yielded these findings. First, a brief summary of the PACE program is presented to set the context of the analysis. Then, we report the results of tracing the direct, indirect and induced effects of the spending associated with types of energy-efficiency improvements proposed by the PACE program. We also investigate the economic impacts of any enlargement of household spending potential that arises from the reduced need to purchase energy at market prices. Measurement of the economic implications includes an accounting of the tax-revenue effects of each of the two spending impact channels.

In a final section of the report, the measured economic impacts are discussed in the context of the concerns expressed by bank regulators and secondary mortgage market agencies.

Background: The PACE Program

Since 2008, twenty-four (24) states and the District of Columbia have passed laws enabling local government jurisdictions to establish special assessment districts (also called special improvement districts) that allow residential and commercial property owners to finance renewable energy (RE) and

energy efficiency (EE) improvements on their properties. The National Renewable Energy Laboratory describes the PACE program in this way:

> *The pivotal innovation of PACE is the creation of EE/RE assessments that are tied directly to the house and repaid via the property owner's tax bill. The assessment, which is secured by a senior lien on the property, does not require an up-front payment. The lien provides strong debt collateral in the event the homeowner – or business owner – defaults on the assessment. Because the assessment and lien are tied directly to the property, they can be transferred upon sale.*[1]

By the first half of 2010, PACE programs had been launched in a handful of communities and early results were promising. The program appears to be effective in overcoming traditional barriers to significant investment in energy efficiency and renewable energy and the associated spending have been linked to construction activity in communities with PACE programs. Sonoma County, California, for example, reportedly experienced more than $20 million in program spending activity by April 2010 and had seen its local construction industry employment rate improve dramatically in comparison to neighboring counties.[2]

In early May 2010, Fannie Mae and Freddie Mac issued short letters suggesting that the PACE program violated standard mortgage provisions.[3] In addition, on July 6, 2010 the Federal Housing Finance Agency (FHFA) and the Office of the Comptroller of the Currency (OCC) issued statements concluding that PACE programs "present significant safety and soundness concerns to the housing finance industry."[4]

As reported by the Lawrence Berkeley National Laboratory's Clean Energy Financing Policy Brief in August 2010, that said, "Typically, the tax liens created by assessments are senior to other obligations, like mortgages, and must be paid first in the event of foreclosure. Fannie Mae, Freddie Mac, the FHFA and other financial regulators reasoned that PACE assessments were, in effect, loans not assessments and so violated standard mortgage provisions requiring priority over any other loan."[5]

These and related developments have halted most PACE programs, according to Mr. David Gabrielson, Executive Director of PACENow.

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[1] Property-Assessed Clean Energy Financing of Renewables and Efficiency. NREL/BR-6A2-47097. July 2010.
[2] Written testimony of Sonoma County Auditor-Controller-Treasurer-Tax Collector Rod Dole before the House Ways and Means Committee, April 14, 2010
[3] Lawrence Berkeley National Laboratory, "Clean Energy Financing Policy Brief", August 11, 2010. http://eetd.lbl.gov/ea/emp/ee-pubs.html
[4] http://www.fhfa.gov/webfiles/15884/PACESTMT7610.pdf
[5] Lawrence Berkeley National Laboratory, "Clean Energy Financing Policy Brief", August 11, 2010. http://eetd.lbl.gov/ea/emp/ee-pubs.html

The Role of this Analysis

PACE proponents are assembling information in an effort to respond to these interpretations of mortgage policy. This includes elucidating the economic and tax impacts of PACE projects as well as the projects' effects on household budgets and housing values. To the extent that PACE projects can be demonstrated to have the potential to enhance economic activity and associated tax collections, they have the potential to strengthen local, state and national economic and fiscal conditions. In so doing, PACE projects can improve the weakened housing and construction markets.

An additional issue, although not the direct focus of the quantitative research presented here, relates even more directly to the concerns of regulators and agencies regarding the PACE program and mortgage risk. To the extent the EE and RE projects reduce and/or stabilize households' energy budgets, the programs have the potential to be risk reducing, rather than risk enhancing, for mortgage lenders.

Both of these issues are discussed herein. We turn first to measuring the Program's potential economic impacts. There are two dimensions to this analysis. One is the impact of the spending that occurs as the result of installing energy efficiency and renewable energy measures. The second is the impact on the household of changes in the burden in utility bills and, thus, on the effective cash resources of the household to support other household spending.

Measuring the PACE Program's Project Spending Impacts

PACE program projects generally involve spending on a variety of energy efficiency and renewable energy improvements to existing housing. The decision to employ the PACE program is made by consumers or developer/builders whose motives are reflective of consumer perspectives of the value of the projects. In this respect, PACE project implementations are no different from other home-improvement investment decisions that are made routinely in the economy, either by owner-occupants or property renovators.[6]

The accepted method of measuring the impact of a purchase such as the PACE or traditional home-improvement projects is to trace the impact of the initial ("direct") purchase decision on the activity of vendors of goods and services affected by the purchase. Input-output models are used to trace these

[6] The only significant distinction is that the PACE projects are financed through a though a special finance mechanism. Specifically, through arrangements approved by participating tax authorities, the financing is effected by dedication of a property tax increment to support repatriation of the costs of the PACE improvements. A lien is placed on the property to provide security to the financing entity, and to permit the lien to follow the property when it is sold. Although much is made of this distinctive feature of the program, in fact so-called mechanics' liens are commonly placed against property to ensure that unpaid home-improvement contractors, in the worst case, will have a claim against the value of the property.

impacts. Distinctions are made among *direct, indirect* and *induced* impacts. (See Appendix B for a brief summary of the input-output model tool that was used to develop the economic impact findings.)

Direct impacts

The renovation of buildings involves the purchase of capital equipment and labor to install such things as photovoltaic systems and insulation products. The expenditure of funds on these activities is associated with increased output by the directly involved enterprises. Each enterprise can be seen as a firm who's production function consists of purchases of labor services from its own employees, and purchases of output of other firms that produce the constituent materials that are used in the provision of the energy production and energy efficiency systems installed at the individual sites.

These activities are said to have *direct* impacts in the form of employment of the associated labor, and addition of value to the inputs purchased from other enterprises. The economic *output* of the installation activity and the *jobs* directly associated with that activity are two key measures of the direct impacts. Economists focus on the economic output measure because it is closest to the incremental contribution to total, gross economic output made by the installation activity. Policy makers concerned with job creation often focus more on the labor activity associated with the activity.

Other dimensions of direct impacts include the taxes as a course of providing the installation activity. The tax impacts take the form of local, state and federal tax payments associated with the incomes of those who own or work at the enterprise that performs the project as well as any payroll taxes, property taxes, sales taxes and other payments to taxing entities to which the provider of the PACE improvements is subject. Local governments and agencies are often interested in this dimension of the direct impacts of the installation activity.

Indirect impacts

The direct purchase activity has *indirect* effects on the economy, in addition to the *direct* effects. These occur because the direct purchases result, in turn, in the purchase of goods and services from other businesses, since virtually no firms provide themselves with every needed input. These indirect, ("supply-chain") impacts take the same, general form as the direct impacts. That is, indirect purchases result in impacts on labor services, create value-added, contribute tax payments, etc. in the course of each vendor providing its products and services to the installation sector. The input-output modeling of the various sectors that constitute the economy are used to trace the indirect effects through all of the myriad links in the supply chain. Each vendor to the direct installation activity has vendors, who, in turn, have vendors, etc. The matrix mathematics of input-output models permits aggregating the impacts on what is, in theory, an infinite chain of vendor relationships.

Induced impacts

The third, and final mechanism by which the initial, direct purchase activity has impacts is through the consumption expenditures of those who enjoy incomes from the direct or indirect activities that occur.

That is, some of their income is spent purchasing goods and services that also result in a cascade of supply chain effects. These so-called *induced* impacts together with the indirect and direct impacts are additive and constitute the total impact of the installation activity. The ratio of the total impacts to the direct impacts on each of the dimensions of impact is often reported as the *multiplier* effect of the direct activity. Thus, multipliers can be measured for jobs, value-added, tax receipts, or any other dimension of the accumulated impacts.

The geography of impacts

The impact analysis implicitly has geographic dimensions. That is, the various vendors associated with providing goods and services in response to the direct, indirect, and induced purchases can be located in the immediate locality, other localities and states, or foreign countries. It is possible, with the latest versions of input-output data, to assemble impacts at the various geographies. American policy makers are generally interested in activity that accretes to labor, business and governments within the boundaries of our nation. Purchases that occur in foreign countries are often considered "leakage" of impacts to these locations.

From the broader view of the world economy, even foreign impacts may ultimately stimulate demand for US goods and services through the international exchange of goods and services and international flows of financial capital. Nonetheless, it is not unreasonable for policy makers to be interested primarily in certain, specific geographies when measuring impacts. In the analysis reported herein, the direct purchases of installation services are assumed to be located in one of four, cities, with the impacts appraised at both the local and the national level. This is done because regions host different suppliers of goods and services, and have different labor market and tax systems. Thus, the aggregation of impacts to the national level can vary with the locus of the initial purchase activity.

The Modeling Tool

The modeling of the impacts of purchases made under PACE program is performed using the IMPLAN ("IMpact Analysis for PLANning") model. IMPLAN was originally developed by the Forest Service of the U.S. Department of Agriculture in cooperation with the Federal Emergency Management Agency and the Bureau of Land Management of the U.S. Department of the Interior in 1993, and is currently licensed and distributed by the Minnesota IMPLAN Group, Inc.

The IMPLAN model is an implementation of an input-output model–a way of representing an economy that was developed by Wassily Leontief, for which he received the Nobel Memorial Prize in Economic Sciences. An input-output model uses tabular (matrix) representations of an economy to measure the effect of changes in one industry on others. It can be used to measure the effects of purchases made by US consumers and governments, and foreign entities. Details on the constituent

matrices of input-output model systems and the associated mathematics can be found in many sources.[7].

The IMPLAN model is a highly respected implementation of Leontief's input-output concept, and is generally agreed to be superior to regional impact multiplier systems.[8] IMPLAN is constructed with data assembled for national income accounting purposes, thereby providing a tool that has a robust link to widely accepted data development efforts. In addition, IMPLAN has been subject to detailed scrutiny by experts on regional impact analysis. Most recently, the United States Department of Agriculture (USDA) recognized the IMPLAN modeling framework as "one of the most credible regional impact models used for regional economic impact analysis" and, following a review by experts from seven US agencies, selected IMPLAN as its analysis framework for monitoring job creation associated with the American Recovery and Reinvestment Act (ARRA) of 2009.[9] [10] More information on the features of IMPLAN can be found at Appendix B or www.implan.com.

Application of the IMPLAN model in the case of the PACE program involves the following steps:

1. Development of a representation of PACE projects. This takes the form of a representation of the labor and product purchases that constitute an energy efficiency or renewable energy project.
2. Selection of locales (cities) in which to hypothetically implement the projects. City data is assembled from constituent county data.
3. For each selected city and project, building a model in IMPLAN that emulates the city by linking the constituent counties.
4. Applying the assumed purchase activity to the affected IMPLAN sectors.

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[7] See, for example: Leontief, Wassily W. *Input-Output Economics*. 2nd ed., New York: Oxford University Press, 1986; Miller, Ronald E. and Peter D. Blair. *Input-Output Analysis: Foundations and Extensions*, 2nd edition, Cambridge University Press, 2009: and Ten Raa, Thijs. The Economics of Input-Output Analysis. Cambridge University Press, 2005.

[8] One such system is RIMS III. See, US Department of Commerce, Bureau of Economic Analysis, *Regional multipliers: A user handbook for regional input-output modeling system (RIMS II)*. Third edition. Washington, D.C.: U.S. Government Printing Office. 1997.

[9] See excerpts from an April 9, 2009 letter to MIG, Inc., from John Kort, Acting Administrator of the USDA Economic Research Service, on behalf of Secretary Vilsack, at www.implan.com.

[10] In the economics profession, there is a lively debate as to whether job creation measured using input-output tools such as IMPLAN under- or overstates the economic impacts of the spending activities modeled using the IMPLAN system. Pessimists are tempted to assert that if spending occurs on Project A, then one should account for the fact that Project B may not be pursued because of the diversion of funds to Project A. This view of the economy as a zero-sum game is clearly incorrect in the aggregate, because we observe economic growth despite constrained investment budgets. In this analysis we implicitly embrace this more realistic view because the PACE program, though enabled by public policy, is implemented by the private sector which faces incentives to only pursue cost-beneficial programs. This pursuit of economically efficient projects is consistent with the notion that selecting productivity-enhancing (and thus, resource sparing) projects enlarges the potential of an economy, in contrast to the implication of the zero-sum game perspective.

5. Build a model in IMPLAN that links the purchase data and local models, one by one, to the national model. Run the models to compute direct, indirect and induced impacts.

The manner of representing the PACE activities in IMPLAN is discussed further below.

Representing PACE Program Purchases in IMPLAN

In order to implement the IMPLAN model in the study of the PACE program, the purchases typically made with PACE projects must be associated with the sectors that are representable within IMPLAN. Recall that there are two, broad classes of PACE program projects:

1. The *energy efficiency* measures focus on reduction in the use of conventionally sourced energy through the use of higher-efficiency devices and products. Such measures include permanent improvements such as energy efficient HVAC systems; attic and wall insulation; duct and home sealing; cool roof systems; solar water heater systems; tankless water heaters; and evaporative coolers.
2. The *renewable energy* projects involve provision of energy to the household by means that are described as "renewable" because of their reliance on sunlight, wind, ocean waves and other, effectively non-depletable resources. Rooftop photovoltaic projects are expected to be the most common form of project associated with the PACE programs.

As the project descriptions above suggest, a diverse family of products constitute the PACE program, making it hazardous to assume a "typical" project. Installation of, say, a particular type of window product, is also difficult to represent in IMPLAN because IMPLAN is able to represent the production functions of a limited number of industrial products, and there is variation in production techniques ad product features across producers of the same, general class product.

In addition, the costs of energy efficiency measures vary widely due to regional climate and the local costs of labor and materials. Adding efficient central air conditioning to a home with existing forced air heat, for example, costs approximately $3,500-$4,000 and takes about two days.[11] Installing double-paned windows can cost as much as $20,000 in a two-story home.[12] According to GreenHomes America, a leading residential energy services company which operates from coast to coast, an average whole home retrofit project would cost the homeowner approximately $10,000.[13] Average labor costs represent 55% of the total and materials costs represent approximately 45%.[14]

Similarly, the costs of renewable energy projects of a given capacity in kilowatts (kW) is also variable due to variations in the availability of the underlying natural resource (e.g., sunlight in the case of photovoltaic devices), the cost of installation labor, variations in the characteristics of the property, etc.

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[11] http://www.fhfa.gov/webfiles/15884/PACESTMT7610.pdf

[12] Lawrence Berkeley National Laboratory, "Clean Energy Financing Policy Brief", August 11, 2010. http://eetd.lbl.gov/ea/emp/ee-pubs.html

[13] Email correspondence of Mr. Cliff Staten with GreenHomes America Senior VP Michael Rogers, 2/18/11.

[14] *ibid*

According to a December 2010 report by the Lawrence Berkeley National Laboratory, the national average for a 4kW solar photovoltaic system is $30,000.[15] Materials account for 52%, while labor costs associated with marketing, permitting and system installation accounts for approximately 48% of the total.[16]

Because of the variations in the nature of energy efficiency and renewable energy projects, we determined it is not appropriate to characterize a "typical" PACE project. In addition, energy efficiency and renewable energy project activities are not represented at high resolution in the available input-output model data. These models disaggregate the economy into approximately 440 sectors, and it is necessary to represent project spending in terms of these sectors. Therefore, in the analysis that is presented herein, the PACE projects are not specified in detail; rather, we model the impacts in the following fashion:

1. An arbitrary amount of purchases ($1 million in 2011 dollar terms) is used to represent PACE activity in a given locale. Since the inner workings of IMPLAN assume a constant production function (specific to the year the model data represents), taking this approach allows one to scale the impacts to an actual program simply by scaling actual spending to the $1 million placeholder value.
2. It is arbitrarily assumed that 50% of the assumed purchases is associated with photovoltaic (renewable energy) installations, and 50% with energy efficiency projects.
3. Energy efficient project purchases were evenly allocated to the various weatherization and other energy efficiency product sectors represented in IMPLAN. (See Exhibit 1 in Appendix C for the list of IMPLAN and associated North American Industrial Classification System (NAICS) sectoral codes that likely comprise the sectors affected by the energy efficiency and renewable energy project purchases.)
4. No special edits of the IMPLAN model coefficients were made during the modeling. Specifically, the regional purchase coefficients (RPCs) that represent the share of product purchases that are made within the US was left at the average that IMPLAN derives from national income accounting data. For example, solar photovoltaic systems in IMPLAN have an RPC of 75 percent (i.e., less than would be the case with higher US content), because it is not possible to distinguish retail photovoltaic products from other crystalline semiconductor products. This probably yields a somewhat more conservative (low) total domestic impact because an active program like PACE could make special efforts to source products with higher shares of US content.

Geographic Representation in IMPLAN

ECONorthwest and its client agreed that it would be useful to model the consequences of PACE activity in a variety of locales. The selected, four communities are:

1. Columbus, OH (built from Delaware and Franklin Counties)
2. Long Island, NY (built from Nassau and Suffolk Counties)
3. Santa Barbara, CA (represented by Santa Barbara County)
4. San Antonio, TX (represented by Bexar County)

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[15] "Tracking the Sun III," December 2010. http://eetd.lel.gov/ea/emp/re-pubs.html

[16] "The Prospect for $1/Watt from Solar" U.S. DOE Workshop Presentation by John Lushetsky, August 10, 2010.

The primary reason for modeling various locales is that vendor relationships vary geographically, with some areas able to source from the immediate locale, while others tending to source from distant US sources, or overseas suppliers. Budgetary considerations limited the number of locales able to be modeled, because representation of each locale requires acquisition of individual databases, in addition to linkages to the national model. However, the four chosen locales are diverse in geography and climate conditions, and are locales of interest to the PACE program.

Findings of the Project Spending Impact Analysis

The findings of the economic impact analysis are presented in detail in Exhibit 2 through Exhibit 10 in the Appendix C. These exhibits report the economic impacts of the hypothetical $1 million in project purchases. In the exhibits, these impacts are reported along the following dimensions:

- **The type of project**. This is defined as a mix of energy efficiency measures or a photovoltaic renewable energy installation;
- **The dimension of the economic impact**. The reported measures are economic output, personal income, jobs and tax revenues;
- **The type of impact**. The direct, indirect, induced and total impacts are reported.
- **The geography of the impact**. Impacts are measured for each of the modeled cities, for the rest-of-the-nation, and the nation as a whole. In the aggregation to the geographic level, a 50% weight is put on energy efficiency and photovoltaic projects, respectively.
- **The type of tax revenue generated**. For compactness, the wide variety of tax types reported by IMPLAN are grouped into four tax base levies–corporate profits and dividends taxes, indirect business taxes, personal taxes, and social insurance levies.
- **The level of government receiving the tax revenues**. These are presented as state and local, and federal subtotals, respectively.

It would be cumbersome to describe here each of the several hundred impact measures provided in the exhibits. Instead, we first report here the range of impacts reported in the summary exhibits, Exhibit 2 and Exhibit 3 in Appendix C. These tables summarize the impacts by the type of project, the type of impact, and the dimension of the economic impact for each of the cities, and for elsewhere-in-the-US and the US as a whole.[17]

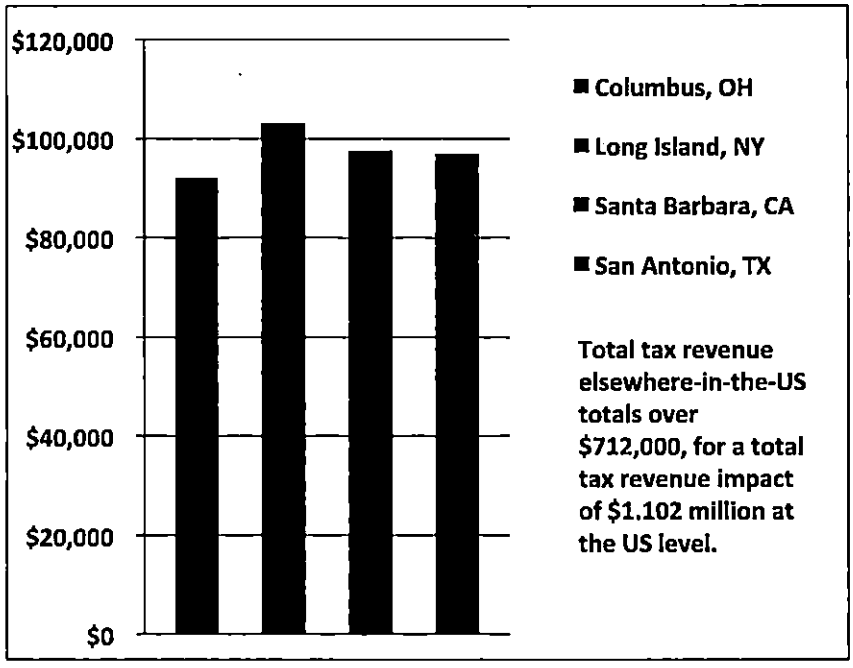
Turning first to solar photovoltaic projects, we find the following impacts for spending $1 million in each of the four cities:

- The impact on total economic output ranges from approximately $718,000 to $872,000 at the individual city level, and is $7.044 million for the rest of the US, and $10.250 million for the US as a whole.
- The impact on personal income ranges from approximately $284,000 to $330,000 at the individual city level, and is $2.066 million for the rest of the US, and $3.325 million for the US as a whole.

[17] Elsewhere-in-the-US and national totals aggregate across the four analyzed cities.

- The impact on jobs ranges from 6 to 8 additional jobs at the individual city level, and is 35 for the rest of the US, and 60 for the US as a whole.
- Tax revenue impacts at the federal level range from $55,000 to $63,000 at the individual city level, and is $426,000 for the rest of the US, and $669,000 for the US as a whole.
- Tax revenue impacts at the state and local level range from $34,000 to $41,000 at the individual city level, and is $287,000 for the rest of the US, and $433,000 for the US as a whole.
- Total tax revenue impact at all levels of government is $1.102 million at the US level.

Figure 1. Total Tax Revenue (Fiscal) Impacts at the City Level, per $1 million in Project Spending per City.



For energy efficiency projects, we find the following impacts for each $1 million in purchases at the city level:

- The impact on total economic output ranges from approximately $717,000 to $939,000 at the individual city level, and is $7.570 million for the rest of the US, and $10.925 million for the US as a whole.
- The impact on personal income ranges from approximately $283,000 to $352,000 at the individual city level, and is $1.943 million for the rest of the US, and $3.232 million for the US as a whole.
- The impact on jobs ranges from 5 to 8 additional jobs at the individual city level, and is 35 for the rest of the US, and 61 for the US as a whole.
- Tax revenue impacts at the federal level range from $60,000 to $66,000 at the individual city level, and is $307,000 for the rest of the US, and $658,000 for the US as a whole.
- Tax revenue impacts at the state and local level range from $35,000 to $41,000 at the individual city level, and is $259,000 for the rest of the US, and $411,000 for the US as a whole.
- Total tax revenue impact at all levels of government is $1.058 million at the US level.

As we have modeled the two project types in IMPLAN, there appears to be a somewhat greater local impact associated with the energy efficiency versus the solar photovoltaic project types. This is consistent with the fact that the specialized products and labor needed to produce photovoltaic products are not likely to be as localized as are the products used in energy efficiency improvements.

When viewed from the jobs impact perspective, the $4 million of PACE-type project spending across the four cities is associated with approximately 60 jobs somewhere in the nation. If one viewed the PACE program as a jobs stimulus program (akin to those pursued at public expense under American Recovery and Reinvestment Act of 2009), the cost per job at $67,000 is quite modest. In fact, of course, in the PACE program the only significant role of government is to authorize a financing mechanism to overcome what some believe to be non-economic impediments to credit access.

If viewed, alternatively, from a fiscal perspective, the $4 million of spending across the four cities ultimately provides over $1 million in tax revenue to local, state or federal taxing entities. If the PACE program is able to identify and stimulate cost-beneficial investments in energy enhancements of housing, government stands to be a major beneficiary of the associated private spending.

Measuring the PACE Program's Household Budget Impacts

In addition to the spending impacts associated with developing PACE-type projects, cost-beneficial PACE projects[18] should also reduce and/or stabilize the cost of energy to the households that occupy the affected housing units. By definition, a cost-beneficial project is one that, over its lifetime, provides the property owner more in the form of avoided energy costs than is spent enhancing the home.[19] Access to alternative energy sources (through so-called renewable energy projects) can also provide, in effect, insurance against the uncertainty about the path of future fossil fuel prices. This insurance effect can be modeled as a financial option that has a positive financial value even if conventional fuel prices are just variable, and do not necessarily trend upward.

Regardless of whether the project persistently lowers the market-energy needs of the household (through energy efficiency projects) or simply provides insurance against uncertainty in market fuel price movements, a cost-beneficial project reduces a household's effective budgetary burden of home

[18] ECONorthwest was not asked to opine on whether typical PACE projects are, in fact, cost-beneficial. However, since private agents are the ones primarily involved in the decision-making, it is reasonable to anticipate that the projects that are successfully adopted are perceived as cost-beneficial by households or contractors developing the projects for sale to consumer households.

[19] The typical financial calculus involved in this determination involves, therefore, comparing the present value at the time the enhancement spending occurs of the stream of expected energy cost savings enjoyed over the lifetime of the energy enhancements. A discount rate is applied to the stream of energy cost savings in this calculation.

ownership.[20] Thus, to the extent that the project results in additional free cash flow in the household (after paying the tax increment used to pay for the PACE improvements), there can be annual increments of economic impact associated with the likely additional spending that the household will perform.

This impact can also be measured using the IMPLAN modeling system by assuming a hypothetical quantity of additional, non-utility spending by households. As with the PACE program spending impacts, there are direct, indirect, and induced effects of this spending. In this case, however, the amount measured by this method yields only the gross spending effects; the loss of spending to the utility sector will result in a partial offset to these impacts.[21]

Exhibit 11, on page 31, summarizes the city-level and US total impacts, in present value terms, of a household enjoying energy cost savings of $1,000 per year in 2011 dollars for 25 years. As the exhibit reveals, the gross impacts of even a modest annual cost savings can yield large impacts on output, personal income, jobs, and tax revenues over a 25-year period.

Conclusions: The Implications of the Analysis for Issuers of Mortgages on PACE Project Properties

The background of the PACE program reveals that the program is currently not operational because of concerns of bank regulators and secondary mortgage market entities regarding the security of their access to the collateral value of the property in the event of default. The existence of a senior lien (senior to the mortgage) is always of concern to mortgage issuers, especially in non-recourse states (i.e., states in which the lender may not levy claims against assets other than the mortgaged property itself).[22]

Several aspects of the impact analysis presented here bear upon the position taken by those concerned about such risks. First, to the extent that the PACE program operates in the manner assumed in the analysis in this report, use of the program has the potential to have positive economic impacts on the regional (city) economy, as well as the nation as a whole. Cost-beneficial programs that generate such impacts can contribute to the process of recovery for both the economy in general, and the construction services sector in particular.

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[20] Even in the special case where a renewable energy project only provides insurance against future volatility of market fuel prices, the household enjoys budgetary relief. It need not set aside funds against the eventuality of a surprise upward movement in energy costs.

[21] Without knowing the composition of utility and non-utility spending of the affected income groups, the effects of the shift in spending composition can only be estimated in rough terms.

[22] There are 17 such non-recourse states.

Second, to the extent that the projects generate the generous revenues for local, state and federal jurisdictions modeled here, additional stabilization of the general economy can be expected. This is because the difficulties that governments currently have in balancing their budgets is requiring either reductions in public services or increases in taxes, or both. The risk of loss of public services, or reductions in its quality, and the risks of increased taxation on private activity create an environment of uncertainty, in general, and disrupt household location, migration and housing tenure decisions. On some margin, these conditions weaken the strength of the housing market, aggravating lender collateral problems. Cost-beneficial private sector activity that has the effect of enhancing the value of housing services should not be discouraged by lenders, even from the perspective of their own self-interest.

Third, in an environment of uncertain and costly supply of conventional fuels, properties that are distinguished by having energy-sparing or inflation-defensive features will enjoy priority in desirability, and hence, enjoy superior pricing in the marketplace. In a manner similar to the relative price movements of gasoline-consumptive SUVs versus more fuel-efficient vehicles, properties with good energy efficiency characteristics will rise in price in an uncertain commodity price environment.

Finally, although the existence of a lien in a superior position to a mortgage is legitimately worrisome to lenders, the increment in value of the home that is represented by the energy technologies financed by the lien may well move counter-cyclically to other factors affecting home prices and collateral value. If this is the case, then the putative adverse presence of the lien may well be counterbalanced by the superior net resilience of PACE-improved home values. This seems true whether the economy fails to come gracefully out of the recession because of central bank difficulties managing the balance between inflation and real interest rates, or because of rising and/or uncertain energy costs:

- If the monetary expansion results in higher, general inflation levels in the future, households for whom the absolute energy cost of their budgets is below average will be less subject to inflation effects on energy cost components of their budgets than households with larger absolute energy budgets. Moreover, to the extent that the energy features of the home provide a hedge against some portion of general inflation, the value of the home will rise by an amount reflective of the value of that hedge.
- If real interest rates rise instead, those homes with fixed lien payments associated with the PACE program (and, ideally, a fixed-rate mortgage as well) enjoy, in effect, a reduction in the present value of the lien payment obligations. Although higher mortgage rates will not be favorable to home sales or home building, creditors with fixed-rate obligations enjoy an implicit capital gain (much as the holders of low rate mortgages will suffer a capital loss). Abandoning a home with a fixed lien in a rising real interest rate market makes no more sense than abandoning a low-rate mortgage in that environment.
- If energy prices rise independently of other prices (commodity price inflation), the value of the energy-sparing improvements will rise, even if and as the higher energy prices impair economic recovery, incomes and housing demand. By recognizing the value of the energy-sparing features of the home and accommodating borrowers who must take on property tax liens to enjoy these

> features, the lenders are, in effect, putting themselves in a better position than if they had lent the same principal amount to a homeowner who had not acquired protection against energy price movements.

In summary, it is hard to construct a scenario in which the presence of a lien that is associated with value-enhancing and stabilizing housing services adds to the riskiness of a mortgage vs. a loan on a home without the lien and energy features, everything else being equal.

These arguments would be less persuasive, of course, if one did not believe that (a) the housing market recognizes the value of energy-sparing features of homes or that (b) the programs of PACENow and like initiatives will deliver improvements that cost-effectively provide the homeowner with lower energy cost burdens and/or a hedge against rising or uncertain energy prices. ECONorthwest cannot opine on the logic of (b), but has experience in evaluating the relationship between the market prices of homes and their energy features. In 1993, ECONorthwest published a study of an energy-efficient mortgage program that was performed for the Oregon Department of Energy. Using a unique database that contained information on various home insulation and heat source features of homes that sold in Oregon, ECONorthwest established both that the market does recognize the present value of energy cost savings in higher home prices and that the changes in Oregon's building code in 1992 (to reduce energy use by housing) were cost-beneficial.[23]

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[23] See, *Implementing Oregon's Energy Efficient Mortgage Program: Final Report*, ECONorthwest, June 1993. In Part 3 of that report ("Market Response to Energy Saving Features") an econometric analysis was performed using a special database provided by the Appraisers' Comp Service (ACS). At the time, the ACS maintained a database of real estate sales in major markets so that appraisers may obtain comparable sales information for use in appraisals. Uniquely, the database contained information on certain energy-related features of the homes sold including ceiling insulation value, floor insulation value, wall insulation value, type of heating and whether the home had been built to the 1992 code (in addition to many other features of the homes). The sales prices covered a narrow period of September 4, 1992 to June 15, 1993, and comprised approximately 2,780 total observations in two metropolitan areas of Oregon. The econometric analysis revealed that buyers assigned high values to energy-sparing features. The value of those features was such that ECONorthwest concluded on page 48 that "...the 1992 code enhancements are associated with significant enhancements in home value. All of the estimates are far in excess of the estimated costs of the 1992 code described by builders in Part One of this report."

Appendix A: About the Authors

Randall Pozdena, PhD, Senior Economist and Managing Director

Dr. Pozdena leads ECONorthwest's quantitative analysis practice. He joined ECONorthwest as a managing director and head of its Portland office in 1991. He has extensive experience in macro-economic modeling and forecasting, project feasibility analysis, banking and securities markets, real-estate economics, and monetary policy. In this capacity, he has developed and applied project evaluation and pricing tools, and state, regional and sectoral macroeconomic forecasting and economic impact models. Prior to joining ECONorthwest, Pozdena was research Vice President of the Federal Reserve Bank of San Francisco. He directed the Banking and Regional Studies section, which advised on matters relating to financial-market developments, mortgage and housing markets, banking operations and regulation, and the regional economies of the eight western United States. The latter duties involved developing and operating models of states and metropolitan-area economies and analysis of credit flows in the economy. Before his work at the Federal Reserve Bank, Pozdena was a senior economist at SRI International, where he provided consulting on economics, finance, and transportation economics. In addition, he has taught economics and finance at the Graduate School of Business, University of California, Berkeley and at the Graduate School of Administration, University of California, Irvine. He was also associated with the Institute of Transportation Studies at Irvine. Pozdena has been a member of the CFA Institute for over 15 years and a member, and former board member, of the Portland Society of Financial Analysts. He has written over 50 published books and papers, has 21 listings in the Journal of Economic Literature, and over 5,000 search cross-references in Google Research.

Alec Josephson, MA, Senior Economist and Director of Economic Impact Analysis

Josephson has been with ECONorthwest since 1992 and has participated in well over 300 economic impact studies using the IMPLAN modeling systems. Josephson's experience spans a wide range of industries, sectors, and programs, including major transportation improvement projects; heavy and light manufacturing activities; renewable energy projects and technologies; agriculture, forestry, mining, and commodities; and economic development projects. Josephson recently completed a comprehensive economic analysis of the impacts from proposed changes to Seattle area transportation resulting from restructuring of the Alaska Way Viaduct, including analysis of tolling and other congestion models, impacts of freight traffic, analysis of the short-term construction impacts and the long-term accessibility and business development impacts. In addition to his work with ECONorthwest, Mr. Josephson is an adjunct professor of economics at Pacific University, where he teaches courses in energy and environmental economics, microeconomics, and macroeconomics. Mr. Josephson and his staff conducted the modeling presented in this report.

Appendix B: The IMPLAN Modeling System[24]

Social Accounting

IMPLAN's Social Accounting Matrices (SAMs) capture the actual dollar amounts of all business transactions taking place in a regional economy as reported each year by businesses and governmental agencies. SAM accounts are a better measure of economic flow than traditional input-output accounts because they include "non-market" transactions. Examples of these transactions would be taxes and unemployment benefits.

Multipliers

Social Accounting Matrices can be constructed to show the effects of a given change on the economy of interest. These are called Multiplier Models. Multiplier Models study the impacts of a user-specified change in the chosen economy for 440 different industries. Because the Multiplier Models are built directly from the region specific Social Accounting Matrices, they will reflect the region's unique structure and trade situation.

Multiplier Models are the framework for building impact analysis questions. Derived mathematically, these models estimate the magnitude and distribution of economic impacts, and measure three types of effects that are displayed in the final report. These are the direct, indirect, and induced changes within the economy. Direct effects are determined by the Event as defined by the user (i.e. a $10 million dollar order is a $10 million dollar direct effect). The indirect effects are determined by the amount of the direct effect spent within the study region on supplies, services, labor and taxes. Finally the induced effect measures the money that is re-spent in the study area as a result of spending from the indirect effect. Each of these steps recognizes an important leakage from the economic study region spent on purchases outside of the defined area. Eventually these leakages will stop the cycle.

Trade Flows Method

Unique to IMPLAN data, 2008 and forward, is a method of tracking regional purchases by estimating trade flows. An updated and improved method for calculating and tracking the movement of commodities between industries within a region, this method tracks over 500 commodities in each study area, and allows more accurate capturing of indirect and induced effects. This new method of capturing regional purchase coefficients also makes it possible for our Version 3 software to perform Multiregional Analysis, so users can see how a change in their local region causes additional affects surrounding areas.

Cost-Effective Modeling

Tremendous amounts of data are required in order to run Social Accounting Matrices and Multiplier Models that will accurately estimate the effects of a given event on an economy. There are numerous

[24] Abstracted from descriptive materials offered by IMPLAN at www.implan.com.

factors that need to be taken into account to fully visualize direct, indirect and induced effects of an event. The expense and labor of developing this data independently are prohibitive. By offering the data in many discreet forms, IMPLAN also allows studies to be localized effectively and only data of interest to be purchased.

Appendix C: Exhibits[25]

[25] The data in all exhibits is from ECONorthwest using IMPLAN modeling and emulation of PACE project purchases as described in the text of the report.

Exhibit 1: IMPLAN and NAICS Sectors Associated with PACE Project Activity

IMPLAN Sector	IMPLAN Description	2007 NAICS Codes
40	Maintenance and repair construction of residential structures	23*
99	Wood windows and doors and millwork manufacturing	32191
128	Synthetic rubber manufacturing	325212
137	Adhesive manufacturing	32552
146	Polystyrene foam product manufacturing	32614
149	Other plastics product manufacturing	32619
168	Mineral wool manufacturing	327993
216	Air conditioning- refrigeration- and warm air heat	333415
243	Semiconductor and related device manufacturing	334413

Exhibit 2: Summary of Economic Impacts of Photovoltaic Projects, per $1 million in Project Purchases

Economic Impacts - Solar Photovoltaics

Impact Area / Type of Impact	Direct	Indirect	Induced	Total
Santa Barbara, CA				
Output	$490,221	$116,918	$173,047	$780,185
Personal Income	$214,608	$45,318	$59,668	$319,593
Jobs	3	1	1	6
San Antonio, TX				
Output	$507,649	$145,867	$218,552	$872,068
Personal Income	$198,656	$57,671	$73,611	$329,937
Jobs	5	1	2	8
Columbus, OH				
Output	$501,674	$132,488	$201,844	$836,006
Personal Income	$202,121	$55,477	$68,120	$325,718
Jobs	4	1	2	7
Long Island, NY				
Output	$438,330	$121,541	$157,729	$717,599
Personal Income	$177,780	$49,051	$57,453	$284,284
Jobs	3	1	1	5
Elsewhere in the United States				
Output	$1,587,757	$2,597,183	$2,859,334	$7,044,273
Personal Income	$409,984	$778,674	$877,716	$2,066,374
Jobs	4	12	18	35
United States Total				
Output	$3,525,630	$3,113,996	$3,610,504	$10,250,130
Personal Income	$1,203,148	$986,190	$1,136,566	$3,325,904
Jobs	20	16	24	60

Exhibit 3: Summary of Fiscal Impacts for Solar Photovoltaics, per $1 million in Project Purchases

Fiscal Impacts - Solar Photovoltaics

Impact Area / Type of Impact		Direct	Indirect	Induced	Total
Santa Barbara, CA					
Federal		$33,390	$17,238	$12,393	$63,021
State and Local		$12,188	$8,920	$13,578	$34,685
	Total All	$45,578	$26,158	$25,971	$97,706
San Antonio, TX					
Federal		$33,990	$13,135	$16,104	$63,228
State and Local		$6,964	$12,005	$14,725	$33,693
	Total All	$40,953	$25,139	$30,829	$96,921
Columbus, OH					
Federal		$29,878	$10,819	$14,317	$55,013
State and Local		$10,491	$11,259	$15,467	$37,217
	Total All	$40,369	$22,078	$29,784	$92,230
Long Island, NY					
Federal		$36,904	$11,239	$13,725	$61,867
State and Local		$15,494	$11,213	$14,451	$41,157
	Total All	$52,398	$22,451	$28,176	$103,024
Elsewhere in the United States					
Federal		$88,116	$149,923	$187,622	$425,660
State and Local		$37,306	$100,785	$148,646	$286,737
	Total All	$125,422	$250,707	$336,268	$712,396
United States Total					
Federal		$222,276	$202,352	$244,160	$668,788
State and Local		$82,442	$144,180	$206,866	$433,488
	Total All	$304,718	$346,532	$451,026	$1,102,276

Exhibit 4: Summary of Economic Impacts of Energy Efficiency Programs, per $1 million in Project Purchases

Economic Impacts - EE Measures

Impact Area / Type of Impact	Direct	Indirect	Induced	Total
Santa Barbara, CA				
Output	$513,252	$123,023	$174,721	$810,996
Personal Income	$215,490	$46,942	$60,245	$322,677
Jobs	3	1	1	6
San Antonio, TX				
Output	$513,521	$145,532	$219,473	$878,525
Personal Income	$199,952	$57,372	$73,921	$331,244
Jobs	5	1	2	8
Columbus, OH				
Output	$565,830	$155,640	$217,883	$939,353
Personal Income	$215,850	$62,958	$73,534	$352,342
Jobs	4	1	2	8
Long Island, NY				
Output	$442,063	$113,635	$161,223	$716,921
Personal Income	$180,828	$44,978	$57,298	$283,104
Jobs	3	1	1	5
Elsewhere in the United States				
Output	$1,772,714	$3,070,827	$2,735,981	$7,579,521
Personal Income	$367,042	$736,774	$839,779	$1,943,594
Jobs	6	11	17	35
United States Total				
Output	$3,807,378	$3,608,656	$3,509,280	$10,925,314
Personal Income	$1,179,160	$949,024	$1,104,776	$3,232,960
Jobs	21	16	24	61

Exhibit 5: Summary of Fiscal Impacts of Energy Efficiency Measures, per $1 million in Project Purchases

Fiscal Impacts - EE Measures

Impact Area / Type of Impact		Direct	Indirect	Induced	Total
Santa Barbara, CA					
Federal		$33,515	$17,551	$12,513	$63,578
State and Local		$12,119	$9,146	$13,709	$34,973
	Total All	$45,633	$26,697	$26,222	$98,551
San Antonio, TX					
Federal		$36,421	$12,584	$16,715	$65,720
State and Local		$8,334	$11,458	$15,287	$35,079
	Total All	$44,755	$24,042	$32,002	$100,798
Columbus, OH					
Federal		$32,427	$12,301	$15,454	$60,181
State and Local		$11,852	$12,613	$16,695	$41,159
	Total All	$44,279	$24,913	$32,149	$101,340
Long Island, NY					
Federal		$37,245	$10,333	$13,688	$61,265
State and Local		$15,578	$10,439	$14,413	$40,429
	Total All	$52,823	$20,771	$28,101	$101,694
Elsewhere in the United States					
Federal		$72,768	$145,060	$178,967	$396,795
State and Local		$17,150	$101,554	$140,997	$259,701
	Total All	$89,918	$246,614	$319,964	$656,495
United States Total					
Federal		$212,374	$197,828	$237,336	$647,538
State and Local		$65,032	$145,208	$201,100	$411,340
	Total All	$277,406	$343,036	$438,436	$1,058,878

Exhibit 6: Summary of Impacts, Columbus Ohio, per $1 million in Project Purchases

Solar Photovoltaics

Type of Impact	Direct	Indirect	Induced	Total
Output	$501,674	$132,488	$201,844	$836,006
Personal Income	$202,121	$55,477	$68,120	$325,718
Jobs	4.3	1.2	1.7	7.2

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$1,831	$829	$1,818	$4,478
Indirect Business	$534	$1,804	$2,378	$4,715
Personal	$9,924	$2,589	$3,164	$15,676
Social Insurance	$17,590	$5,597	$6,958	$30,144
Total Federal	$29,878	$10,819	$14,317	$55,013
State and Local				
Corporate Profits and Dividends	$1,949	$883	$1,935	$4,766
Indirect Business	$2,589	$8,752	$11,539	$22,880
Personal	$5,391	$1,406	$1,719	$8,515
Social Insurance	$564	$219	$275	$1,057
Total State and Local	$10,491	$11,259	$15,467	$37,217
Total All	$40,369	$22,078	$29,784	$92,230

Energy Efficiency

Type of Impact	Direct	Indirect	Induced	Total
Output	$565,830	$155,640	$217,883	$939,353
Personal Income	$215,850	$62,958	$73,534	$352,342
Jobs	4.5	1.3	1.8	7.6

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$2,225	$1,004	$1,963	$5,192
Indirect Business	$645	$1,999	$2,566	$5,210
Personal	$10,560	$2,937	$3,415	$16,912
Social Insurance	$18,997	$6,361	$7,511	$32,868
Total Federal	$32,427	$12,301	$15,454	$60,181
State and Local				
Corporate Profits and Dividends	$2,368	$1,069	$2,089	$5,525
Indirect Business	$3,129	$9,701	$12,455	$25,284
Personal	$5,736	$1,595	$1,855	$9,186
Social Insurance	$620	$249	$297	$1,165
Total State and Local	$11,852	$12,613	$16,695	$41,159
Total All	$44,279	$24,913	$32,149	$101,340

Exhibit 7: Summary of Impacts, Long Island, NY, per $1 million in Project Purchases

Solar Photovoltaics

Type of Impact	Direct	Indirect	Induced	Total
Output	$438,330	$121,541	$157,729	$717,599
Personal Income	$177,780	$49,051	$57,453	$284,284
Jobs	3.0	0.8	1.1	5.0

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$1,279	$556	$1,002	$2,836
Indirect Business	$360	$856	$1,086	$2,301
Personal	$16,486	$4,537	$5,298	$26,320
Social Insurance	$18,780	$5,291	$6,340	$30,411
Total Federal	$36,904	$11,239	$13,725	$61,867
State and Local				
Corporate Profits and Dividends	$2,174	$945	$1,705	$4,823
Indirect Business	$3,135	$7,458	$9,455	$20,048
Personal	$9,489	$2,611	$3,050	$15,150
Social Insurance	$697	$199	$241	$1,137
Total State and Local	$15,494	$11,213	$14,451	$41,157
Total All	$52,398	$22,451	$28,176	$103,024

Energy Efficiency

Type of Impact	Direct	Indirect	Induced	Total
Output	$442,063	$113,635	$161,223	$716,921
Personal Income	$180,828	$44,978	$57,298	$283,104
Jobs	3.1	0.8	1.1	4.9

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$1,324	$530	$1,000	$2,854
Indirect Business	$341	$799	$1,083	$2,222
Personal	$16,805	$4,161	$5,283	$26,248
Social Insurance	$18,776	$4,844	$6,323	$29,942
Total Federal	$37,245	$10,333	$13,688	$61,265
State and Local				
Corporate Profits and Dividends	$2,252	$902	$1,701	$4,854
Indirect Business	$2,965	$6,961	$9,430	$19,355
Personal	$9,672	$2,395	$3,042	$15,109
Social Insurance	$690	$182	$241	$1,112
Total State and Local	$15,578	$10,439	$14,413	$40,429
Total All	$52,823	$20,771	$28,101	$101,694

Exhibit 8: Summary of Impacts, San Antonio, Texas, per $1 million in Project Purchases

Solar Photovoltaics

Type of Impact	Direct	Indirect	Induced	Total
Output	$507,649	$145,867	$218,552	$872,068
Personal Income	$198,656	$57,671	$73,611	$329,937
Jobs	4.5	1.3	1.8	7.7

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$2,388	$1,075	$2,043	$5,506
Indirect Business	$610	$1,566	$1,891	$4,067
Personal	$11,903	$3,747	$4,305	$19,955
Social Insurance	$19,089	$6,747	$7,865	$33,701
Total Federal	$33,990	$13,135	$16,104	$63,228
State and Local				
Corporate Profits and Dividends	$818	$368	$700	$1,886
Indirect Business	$4,300	$11,030	$13,323	$28,652
Personal	$1,564	$492	$566	$2,621
Social Insurance	$283	$115	$137	$534
Total State and Local	$6,964	$12,005	$14,725	$33,693
Total All	$40,953	$25,139	$30,829	$96,921

Energy Efficiency

Type of Impact	Direct	Indirect	Induced	Total
Output	$513,521	$145,532	$219,473	$878,525
Personal Income	$199,952	$57,372	$73,921	$331,244
Jobs	4.5	1.3	1.8	7.7

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$2,845	$1,058	$2,121	$6,023
Indirect Business	$767	$1,493	$1,963	$4,222
Personal	$12,659	$3,600	$4,469	$20,727
Social Insurance	$20,151	$6,434	$8,163	$34,748
Total Federal	$36,421	$12,584	$16,715	$65,720
State and Local				
Corporate Profits and Dividends	$974	$362	$727	$2,063
Indirect Business	$5,403	$10,514	$13,832	$29,748
Personal	$1,663	$473	$587	$2,723
Social Insurance	$295	$109	$142	$546
Total State and Local	$8,334	$11,458	$15,287	$35,079
Total All	$44,755	$24,042	$32,002	$100,798

Exhibit 9: Summary of Impacts, Santa Barbara, California, per $1 million in Project Purchases

Solar Photovoltaics

Type of Impact	Direct	Indirect	Induced	Total
Output	$490,221	$116,918	$173,047	$780,185
Personal Income	$214,608	$45,318	$59,668	$319,593
Jobs	3.4	0.9	1.4	5.6

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$1,094	$150	$892	$2,135
Indirect Business	$412	$3,574	$1,431	$5,416
Personal	$13,958	$2,572	$3,779	$20,308
Social Insurance	$17,927	$10,944	$6,292	$35,162
Total Federal	$33,390	$17,238	$12,393	$63,021
State and Local				
Corporate Profits and Dividends	$1,352	$507	$1,102	$2,961
Indirect Business	$2,945	$6,710	$10,233	$19,887
Personal	$7,218	$1,486	$1,955	$10,658
Social Insurance	$673	$218	$289	$1,180
Total State and Local	$12,188	$8,920	$13,578	$34,685
Total All	$45,578	$26,158	$25,971	$97,706

Energy Efficiency

Type of Impact	Direct	Indirect	Induced	Total
Output	$513,252	$123,023	$174,721	$810,996
Personal Income	$215,490	$46,942	$60,245	$322,677
Jobs	3.4	0.9	1.4	5.7

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$1,083	$177	$900	$2,160
Indirect Business	$400	$3,592	$1,445	$5,436
Personal	$14,014	$2,675	$3,816	$20,504
Social Insurance	$18,019	$11,107	$6,353	$35,479
Total Federal	$33,515	$17,551	$12,513	$63,578
State and Local				
Corporate Profits and Dividends	$1,338	$541	$1,113	$2,991
Indirect Business	$2,858	$6,841	$10,332	$20,030
Personal	$7,246	$1,539	$1,973	$10,758
Social Insurance	$678	$225	$292	$1,195
Total State and Local	$12,119	$9,146	$13,709	$34,973
Total All	$45,633	$26,697	$26,222	$98,551

Exhibit 10: Summary of Impacts, United States (aggregate), per $1 million in Project Purchases per City

Solar Photovoltaics

Type of Impact	Direct	Indirect	Induced	Total
Output	$3,525,630	$3,113,996	$3,610,504	$10,250,130
Personal Income	$1,203,148	$986,190	$1,136,566	$3,325,904
Jobs	19.6	16.0	24.4	60.0

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$20,048	$19,414	$27,984	$67,446
Indirect Business	$7,214	$17,650	$26,040	$50,904
Personal	$73,692	$59,976	$69,150	$202,818
Social Insurance	$121,322	$105,312	$120,986	$347,620
Total Federal	$222,276	$202,352	$244,160	$668,788
State and Local				
Corporate Profits and Dividends	$17,330	$16,778	$24,188	$58,296
Indirect Business	$45,408	$111,096	$163,900	$320,404
Personal	$17,102	$13,922	$16,048	$47,072
Social Insurance	$2,602	$2,384	$2,730	$7,716
Total State and Local	$82,442	$144,180	$206,866	$433,488
Total All	$304,718	$346,532	$451,026	$1,102,276

Energy Efficiency

Type of Impact	Direct	Indirect	Induced	Total
Output	$3,807,378	$3,608,656	$3,509,280	$10,925,314
Personal Income	$1,179,160	$949,024	$1,104,776	$3,232,960
Jobs	21.4	15.8	23.6	60.8

Type of Tax	Direct	Indirect	Induced	Total
Federal				
Corporate Profits	$17,460	$22,090	$27,204	$66,754
Indirect Business	$4,870	$17,546	$25,312	$47,728
Personal	$72,308	$57,784	$67,216	$197,308
Social Insurance	$117,736	$100,408	$117,604	$335,748
Total Federal	$212,374	$197,828	$237,336	$647,538
State and Local				
Corporate Profits and Dividends	$15,094	$19,092	$23,514	$57,700
Indirect Business	$30,656	$110,454	$159,330	$300,440
Personal	$16,780	$13,410	$15,602	$45,792
Social Insurance	$2,502	$2,252	$2,654	$7,408
Total State and Local	$65,032	$145,208	$201,100	$411,340
Total All	$277,406	$343,036	$438,436	$1,058,878

Exhibit 11: Economic Impacts of $1,000 in Annual Household Energy Costs for 25 Years (in Present Value)

Impact Area	Output	Personal Income	Jobs (Full- and Part-time)	Federal Taxes	State and Local Taxes
Santa Barbara, CA	$19,484	$6,648	0.15	$1,383	$1,515
San Antonio, TX	$21,730	$7,197	0.18	$1,441	$1,358
Columbus, OH	$19,979	$6,578	0.17	$1,548	$1,404
Long Island, NY	$21,007	$7,400	0.15	$1,769	$1,879
United States (est.)	$306,914	$98,453	1.97	$19,119	$12,722

The impacts are the present value effects of $1,000 in energy cost savings per year for 25 years. To reduce this stream of savings to a single number for comparability with project purchase impacts, the so-called *present value* of the savings is calculated. For the present value calculation, it is assumed that the appropriate real (inflation adjusted) discount rate is 3 percent, and that energy costs rise at a rate that is one percentage point higher than other prices. The US totals are estimated outside of IMPLAN using total US spending relative to the city totals observed in the program purchase modeling. These impacts should be considered gross impacts, since the potentially offsetting impacts of reduced utility activity are not captured in these measures.

EXHIBIT 2 (to Resolution 2022-023)

PROGRAM GUIDEBOOK:
C-PACE PROGRAM

Deschutes County, OREGON

Table of Contents

I. Introduction

ABOUT C-PACE

Deschutes County (the "County") administers a Commercial Property Assessed Clean Energy ("C-PACE") financing program (the "C-PACE Program" or the "Program"). The C-PACE Program allows owners of eligible commercial property to obtain long-term financing from private capital providers for certain qualified improvements. While the financing is repaid to the Capital Provider, the C-PACE Act directs the County to impose a voluntary benefit assessment and record a lien (the "C-PACE Lien") on the property. This approach to financing has been used by programs like C-PACE on thousands of properties in more than 24 states and the District of Columbia.

The Oregon Statutes (ORS 223.680 and ORS 223.685) authorize local governments to establish property assessed financing programs that help property owners finance energy, water, renewable, and seismic Improvements to qualifying real property. The financing is secured with a lien on the benefitted property (Benefit Assessment Lien) with the same priority as a lien for the assessment for local improvements. The local improvement lien is an established mechanism used by municipalities for decades to finance projects that provide a public benefit such as street improvements, water, sewer and street lighting.

Individual cities and counties may now take action to create their own C-PACE programs and help buildings become more efficient and resilient. Creating a county C-PACE program is simple: first, a city/county adopts a resolution and guidelines that govern how its C-PACE program works. Second, since the repayment of the C-PACE financing is between a private lender and a property owner, when the lender's lien against the property is filed, a county only has to review the lien application for compliance with the C-PACE state law, and then record a unique agreement that includes the acknowledgment of a special property "benefit assessment" by the city/county.

In Oregon, C-PACE financing is available in four categories: energy efficiency, renewable energy, water conservation, and seismic rehabilitation improvements. Improvements that reduce greenhouse gas emissions would qualify, provided that the improvements also conserve energy or result in renewable energy improvements. A voluntary C-PACE loan is secured by a senior lien on the property and paid back over time; tax liens and other government assessments remain superior to the C-PACE lien. Like other assessments, C-PACE financing is non-accelerating, which means only current or past due payments can be collected, while future payments are the responsibility of whomever owns the property at the time. The C-PACE repayment obligation transfers automatically to the next owner if the property is sold. In the event of default, only the payments in arrears are due. This arrangement spreads the cost of qualifying improvements – such as energy-efficient HVAC equipment, upgraded insulation, new windows, solar installations, or seismic upgrades – over the useful life of the measures.

The Program exists as a function of Oregon's C-PACE legislation and the rules established by the County. No change in the Program or in Oregon's C-PACE legislation will affect a property owner's obligations to pay C-PACE assessments incurred under the Program prior to such changes.

OR-PACE Program Guidebook

This Guidebook was developed to help counties launch C-PACE programs. The Guidebook and related model materials are available at no cost to counties to use and adopt. A major benefit to using a ready-made and legally reviewed program is that it allows counties, property owners, contractors, and capital providers to follow a standard set of rules. This is critical in attracting the broadest capital investment to C-PACE projects.

In this document you can find information about:

- Statutory and programmatic eligibility requirements for C-PACE properties and projects in Oregon and Deschutes County
- Process for applying for C-PACE project approval

II. Benefits of C-PACE

C-PACE offers benefits to building owners, developers, municipalities, mortgage holders, and building professionals.

For Building Owners and Developers: One of the biggest barriers to converting potential projects to completed projects for efficiency and seismic upgrades are the up-front cost of the types of measures identified in the statute as qualifying improvements. C-PACE financing typically requires little up-front investment, and qualifying improvements improve property value. Energy efficiency measures, in particular, also lower operating costs. In addition, C-PACE financing has the following benefits:

- **Up to 100%, long-term financing**. Many owners lack the capital to complete efficiency and seismic improvements. All direct and indirect costs incidental to the qualified improvements can be wrapped into C-PACE financing.

- **Transferrable upon sale**. Some owners may want to sell the building before the financing is repaid. The C-PACE lien and assessment are attached to the property and transfers to the new owner.

- **Cash flow benefits**. C-PACE financing may be repaid over the useful life of the improvements, which because of the long-term financing options can have positive effects on cash flow.

- **Triple-net and Full-net leases may allow pass-through of assessment installments to tenants**. Under triple/full net leases, C-PACE payments can be passed along to tenants, who also typically derive benefit from any energy savings through reduced operating costs.

For Energy Auditors, Architects, Building Engineers, and Contractors: By allowing a property owner to access 100% up-front financing for longer terms than are typically available for conventional financing, more substantial efficiency and seismic improvements are now more affordable with C-PACE. Energy auditors, architects, engineers, and contractors can suggest C-PACE financing as a way for their clients to implement needed energy or seismic upgrades that might otherwise be unaffordable. Since the demand for building efficiency and seismic improvements will grow in a C-PACE-enabled jurisdiction, C-PACE is a powerful business growth catalyst for building professionals like energy auditors and contractors.

For Cities/Counties: C-PACE is an economic development tool. By making it more affordable for building owners to make major improvements to their buildings, local building stock value is enhanced, and more jobs are created. Energy, water, and seismic upgrades create a more competitive environment for retaining and attracting new businesses by lowering energy costs and improving the structural soundness of buildings. Upgraded buildings can generate higher property tax payments for the city/county. Energy upgrades also typically reduce greenhouse gases and other pollutants, which facilitates adherence to city/county or state climate action plans or goals.

For Existing Lien Holders: C-PACE improvements can enhance property value and typically improve a building's longevity, thereby reducing the risk of property value decline over time. In addition, C-PACE financing is non-accelerating, meaning only current or past due annual payments can be collected each year while future payments stay with the property. As such, existing mortgage holders see their collateral improved without substantial increase in credit risk and with only a modest impact on lien priority. C-PACE financing is not permitted without the consent of all existing lien holders and, under certain circumstances, the holders of certain other obligations encumbering commercial residential property.

III. C-PACE Financing Program Rules

The purpose of this Program Guidebook is to provide standard guidelines for counties to use in establishing efficient and effective C-PACE programs that are consistent from across Oregon State.

This Program Guidebook (the "Guidebook") is prepared as required by the C-PACE Act, at the direction of the City/county, and is approved in connection with, and as an attachment to, the enabling resolution/ordinance for this program (the "C-PACE Resolution/Ordinance") dated April 20, 2022. Capitalized terms used herein, but not defined herein, have the meaning given to such terms in the C-PACE Resolution/Ordinance.

The Guidebook establishes guidelines, eligibility, approval criteria, and an application form for the administration of the C-PACE Program for the City/county. The C-PACE Program enables financing for commercial property owners ("Property Owners") to make certain energy efficiency, renewable energy, water conservation, and seismic rehabilitation improvements (each, a "Qualified Improvement") as described in the C-PACE Act and further clarified in this Guidebook.

Qualified Improvements, including all eligible costs that are to be financed as described in a project application (the "Project Application") approved by the Program, constitute a "Qualified Project." Property Owners may receive funding for their Qualified Improvements only from qualified private investors ("Capital Providers") pursuant to a separate Financing Agreement negotiated between the Property Owner and Capital Provider (a "Financing Agreement").

In the following numbered subsections, a reader can find information about:

- Statutory and programmatic eligibility requirements for C-PACE project financing in Oregon State, and
- The appropriate steps and forms needed for a City/county to receive and process a C-PACE project lien application.

1. Establishment of C-PACE Program Boundaries

Deschutes County adopted Resolution No. 2022-023 and Ordinance No. 2022-005 on April 20, 2022, establishing the C-PACE Program for all eligible commercial properties within the boundaries of Deschutes County, including both incorporated and unincorporated territory (the "Region").

2. Administration of Program; Authorized Officials

The County Administrator's Office is designated and authorized to oversee development of the C-PACE program in accordance with ORS, this Program Guide, sample program documents and a fee schedule. This oversight shall extend to delegated and outsourced services and management and will include review of each Project Application to confirm that it is complete and contains no errors on its face. The County

Administrator's Office (or outsourced designee) will then execute the Benefit Assessment Agreement and C-PACE Lien documents on behalf of the City/county and record them with the real property records.

As part of Program operation, the County Administrator's Office (or outsourced designee) will:

- Accept Project Applications from Property Owners and Capital Providers for prospective C-PACE projects.
- Review the Project Application to determine conformance with the Application Checklist.
- Approve/conditionally approve/disapprove the Project Application and communicate to applicant.
- Execute the Benefit Assessment Agreement, Notice of Assessment Interest and C-PACE Lien ("Notice of Assessment Interest") and Assignment of Notice of Assessment Interest and Benefit Assessment Agreement ("Assignment").
- Record the Notice of Assessment Interest and Assignment.

3. Eligibility Requirements

Eligible Property means any privately-owned commercial, industrial, or multi-family real property of five (5) or more dwelling units located within the boundaries of the Region (including properties owned by a not-for-profit organization).

Ground leases on Eligible Property are permitted, so long as all requirements of the C-PACE Ordinance are met, including requiring the Property Owner to enter into a Benefit Assessment Agreement. On ground-leased property, therefore, the assessment and C-PACE Lien encumber the fee interest in the property, not the ground leasehold.

Property Owner means an owner of qualifying eligible property, which is the record owner of title to the Eligible Property. The Property Owner may be any type of business, corporation, individual, or non-profit organization.

Qualified Improvements means a permanent improvement affixed to the real property that must meet at least one of these criteria:

- Decrease energy consumption or demand through the use of efficiency technologies, products, or activities that reduce or support the reduction of energy consumption or allow for the reduction in demand or reduce greenhouse gas emissions ("Energy Efficiency Improvement");

- Support the production of clean, renewable energy, including but not limited to a product, device, or interacting group of products or devices on the customer's side of the meter that generates electricity, provides thermal energy, or regulates temperature ("Renewable Energy Improvement");

    - Guidance for Approval of Projects by County and their designees

    - Whereas through Administrative Order No. DEQ-27-2021 and other statewide rules, Oregon has set goals for greenhouse gas emission reductions. The County and its designees should consider prior to approval of any project:
    - Does the project increase emissions or discharge of pollutants? Pollutants are any substance that contaminates air, soil, or water and that in sufficient concentrations contributes to undermining public health.
    - Is the project clean energy? Clean energy is energy that comes from renewable, zero emission sources that do not pollute the atmosphere when used, as well as energy saved by energy efficiency measures.

- Does the project reduce greenhouse gas emissions? The County and its designees may rely upon experts and/or available guidance. This includes, but is not limited to the Oregon DEQ Chart on Carbon Intensity.

- Decrease water consumption or demand and address safe drinking water through the use of efficiency technologies, products, or activities that reduce or support the reduction of water consumption, allow for the reduction in demand, or reduce or eliminate lead from water which may be used for drinking or cooking ("Water Conservation Improvement"); or

- Increase seismic safety through rehabilitation improvements ("Seismic Improvement").

Qualified Projects include the following:

- The acquisition, construction (including new construction), lease, installation, or modification of a Qualified Improvement permanently affixed to an Eligible Property.

- For Renewable Energy Improvements, "permanently affixed" includes Qualified Projects that are subject to a power purchase agreement or lease between the Property Owner/applicant and the owner of the subject renewable energy system, if the power purchase agreement or lease contains all of the following provisions:

  a) The Renewable Energy Improvement relates to a Renewable Resource, which includes: (a) low impact hydropower projects~~water~~; (b) wind; (c) solar energy; (d) geothermal energy; (e) bioenergy from biomass (like manure or wood products) or biogas (like methane); (f) renewable hydrogen; (g) wave, ocean, or tidal power; ~~(h) Alternative fuels such as ethanol, biodiesel, renewable diesel.~~
  b) The term of the power purchase agreement or lease is at least as long as the term of the related Benefit Assessment Agreement.
  c) The owner of the Renewable Energy Improvement agrees to install, maintain, and monitor the system for the entire term of the Benefit Assessment Agreement.
  d) Neither the owner of the Renewable Energy Improvement, nor the Property Owner, nor any successors in interest are permitted to remove the system prior to completion of the full repayment of the C-PACE Lien.
  e) After installation, the power purchase agreement or lease is paid, either partially or in full, using the funds from the C-PACE financing.
  f) The power purchase agreement or lease specifies the holder of the C-PACE Lien is a third-party beneficiary of the power purchase agreement or lease until the C-PACE Lien has been fully repaid.

- Qualified Projects include the refinancing of existing properties that have had Qualified Improvements installed and completed for no more than three (3) years prior to the date of Project Application.

Qualifying Capital Provider may be any of the following:

- a corporation, partnership, or other legal entity that provides proof that it is currently registered as a C-PACE Capital Provider in two different states with C-PACE programs;
- a federal or state-chartered bank or credit union; or
- a private entity, whose principal place of business is located in Oregon state, provided it is licensed or permitted to do business within the state and can produce its most recent audited financial statement or regulatory business filing.

Qualifying costs that can be C-PACE financed include:

- Materials and labor necessary for installation or modification of a Qualified Improvement;
- Permit fees;
- Inspection fees;
- Financing or origination fees;
- Program application and administrative fees;
- Project development, architectural and engineering fees;
- Third-party review fees, including verification review fees;
- Capitalized interest;
- Interest reserves;
- Escrow for prepaid property taxes and insurance;
- Any other fees or costs that may be incurred by the Property Owner incident to the installation, modification, or improvement on a specific or pro rata basis.
- See also the definition of Total Eligible Construction Costs in Section 5(4)(B).

4. Application Process

The Program Guide reduces the administrative burden on participating cities and counties as much as possible. Thus, the County Administrator's Office (or outsourced designee) will review the Project Application Checklist for proof of compliance with the requirements of the statute that are necessary for the City/county to approve the application and execute the applicable documents for the proposed C-PACE transaction. All applicants are encouraged to review the Project Application Checklist accompanying the Application to ensure that the types of information that the City/county will rely upon to verify compliance with the statute are present in the completed Application.

The process of obtaining financing under the Program starts when a Property Owner approaches a Capital Provider. The Capital Provider will work with the Property Owner to collect a number of diligence items. Once all the items have been received, reviewed, and approved by the Capital Provider, the parties should settle on the loan terms.

The general flow of the C-PACE application process will be as follows:

(1) The Property Owner and the Capital Provider prepare the Project Application, consisting of the Project Application Checklist and all supporting documents (described below). Applicants are encouraged to review the Project Application Checklist accompanying the Project Application to ensure that the types of information that the City/county will rely upon to verify compliance with the C-PACE Act and C-PACE Resolution/Ordinance are present in the completed Project Application.

(2) The County Administrator's Office (or outsourced designee) will have 10 business days to review and approve the Project Application. If the office has received an unusually high number of applications, or if review is delayed because of some force majeure event, the office may notify the applicant that the application review and approval will be delayed by no more than 10 additional business days.

(3) The City/county application review process is confined to confirming that the Project Application is complete and all attachments conform to these guidelines. ***City/county approval does not constitute endorsement of any representations that may be made with regard to the operation and any savings associated with the Qualified Improvements. All risk and liability is borne by***

the property owner and capital provider. The County Administrator's Office (or outsourced designee) will review the Project Application for proof of compliance with the requirements of the C-PACE Act and C-PACE Resolution/Ordinance that are necessary for the City/county to approve the Project Application and execute the applicable documents for the proposed C-PACE transaction. Incomplete Project Applications will be returned to the applicant, and the County Administrator's Office (or outsourced designee) will notify the applicant about which items from the Project Application Checklist were not provided or are insufficient or inaccurate on their face. If the Project Application and supporting documents comply with the Project Application Checklist, the Project Application will be approved, and the approval communicated in writing to the applicant.

(4) The Project Application may be conditionally approved if the application is complete but the attachment regarding lender consent is not yet available. Conditional approval will be treated the same as an approval, with exceptions noted below.

(5) Upon receipt of approval, the Capital Provider will draft the following "Closing Documents": The Benefit Assessment Agreement, the Notice of Benefit Assessmentand C-PACE Lien, and the Assignment of the Notice of Assessment and Benefit Assessment Agreement. At or before closing, at the request of the applicant, the designated and authorized official will execute Closing Documents.

(6) If the Project Application received conditional approval, the Closing Documents executed by the City/county may not be released from escrow unless and until all contingencies (including lender consents) have been received and executed in accordance with the Program Guide.

(7) At closing, the City/county will record the Benefit Assessment Agreement, the Notice of Assessment Interest and C-PACE Lien, and the Assignment of the Notice of Assessment Interest and C-PACE Lien in the Office of the Clerk for Deschutes County. At the election of the applicant, the City/county may delegate the recording of the Closing Documents to the applicant or their designee(s).

(8) Upon confirmation of recordation, the Capital Provider will disburse funds in accordance with the Financing Agreement.

(9) The Property Owner begins making assessment payments per the Benefit Assessment Agreement and in accordance with the Financing Agreement

5. Application Documents

The Project Application must be submitted with the following documents appended:

- Project Application Checklist
- Lienholder(s) Consent
- Certificate of Qualified Improvements:

(1) <u>For Renewable Energy Improvements or Energy Efficiency Improvements on an existing building</u>: A certification stating that (a) the proposed Qualified Improvements will either result in more efficient use or conservation of energy or water, the reduction of greenhouse gas emissions, or the addition of renewable sources of energy or water; or (b) the subject property as a whole prior to the installation of the Qualified Improvements does not conform to the meeting

the current building energy or water code for the City/county, but will do so after the Qualified Improvements are installed.

The certification must be performed by a licensed professional engineer or accredited individual or firm from the following list:

- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
  - Building Energy Assessment Professional (BEAP)
  - Building Energy Modeling Professional (BEMP)
  - Operations & Performance Management Professional Certification (OPMP)
  - High-Performance Building Design Professional Certification (HBDP)
- Association of Energy Engineers (AEE)
  - Certified Energy Manager (CEM)
  - Certified Measurement and Verification Professional (CMVP)
  - Certified Energy Auditor (CEA)
- Building Performance Institute
  - Energy Auditor
- Investor Confidence Project
  - ICP Quality Assurance Assessor

Other professional entities may be accepted by the County at its discretion.

(2) For Renewable Energy Improvements that are solar photovoltaics, a North American Board of Certified Energy Practitioners (NABCEP) PV design specialist certification is acceptable, or a licensed Electrical Engineer, Building Energy Assessment Professional (BEAP), Building Energy Modeling Professional (BEMP), Certified Energy Manager (CEM), Certified Measurement and Verification Professional (CMVP), or Certified Energy Auditor (CEA). Other professional entities may be accepted by the County at its discretion.

(3) For Seismic Improvements on an existing building: A Tier 1 and Tier 2 building performance report that conforms to American Society of Civil Engineers and the Structural Engineering Institute 41 - Basic Performance Objectives for Existing Buildings (unless a Tier 3 evaluation is required by ASCE 41) is required on all Seismic Rehabilitation Improvement projects. All ASCE 41 evaluation must be performed by a State licensed structural engineer. The evaluation must justify the cost measures included in the Application as cost-effective.

(4) For New Construction:

(A) Relating to energy or water efficiency, certification by a licensed professional engineer stating that each proposed Qualified Improvement will enable the subject property to exceed the applicable energy efficiency, water efficiency, or renewable energy code requirements. If the building as a whole performs above code, all energy and water-related improvements are eligible for financing; or, alternatively, 30% of the Total Eligible Construction Costs qualify for C-PACE financing.

(B) "Total Eligible Construction Costs" or "TECC" means all direct and indirect costs of materials, labor, and soft costs related to the design, installation, and construction of the new structure. Soft costs may include, for example, architecture and engineering fees, energy modeling costs, surveys, and development fees and financing costs. Costs that are excluded from TECC

include the costs of land acquisition, off-site improvements, site permitting, environmental testing and remediation, and equipment not permanently installed on the property.

(5) Term of Benefit Assessment:
For all Qualified Improvements, the licensed engineer, individual or firm providing the certification of eligibility of the Qualified Improvements must attest that the proposed term of the financing does not exceed the weighted average effective useful life of the proposed Qualified Improvements and that the Qualified Improvements are permanently affixed, as described in this Guidebook.

6. Closing Documents

The following documents require the signature of the City/county and shall be part of the closing of any C-PACE transaction. Each document must be substantially similar in substance to the forms provided, although it is expected that Property Owners and Capital Providers will negotiate variations tailored to their specific projects.

- Benefit Assessment Agreement
- Notice of Benefit Assessment and C-PACE Lien
- Assignment of Notice of Benefit Assessment and C-PACE Lien and Benefit Assessment Agreement

7. Interest Rates

Interest rates are negotiated in a Financing Agreement between the Property Owner and the Capital Provider. A City/county has no role in reviewing, setting, or opining on such interest rates or other aspects of the Financing Agreement. Market forces – such as competition, the intended use of the property, potential risk –will affect the terms negotiated by the Property Owners and Capital Providers.

8. Billing and Collection of Assessments

Billing, collection and enforcement of delinquent C-PACE Liens or C-PACE financing installment payments, including foreclosure, remain the responsibility of the Capital Provider, and the terms are negotiated within the Financing Agreement.

9. Enforcement of C-PACE Lien

At the Capital Provider's discretion, a delinquent account can be referred to the County for enforcement through the Local Improvement District collection process outlined in ORS 223.505 to 223.650. The County is entitled to recover its costs during the enforcement proceeding. Further details are in the Capital Provider agreement in the Program Documents.

10. Program Fee

The County, as compensation for time and costs incurred in the establishment of the C-PACE Program, including the C-PACE Resolution/Ordinance, this Guidebook, the draft documents, as well as for reviewing a Project Application for completeness and executing the Benefit Assessment Agreement, C-PACE Lien,

and Assignment, is entitled to a fee equal to 1% of the amount financed by the Property Owner, or a minimum of $2,500 and capped at a total of no more than $15,000. The Property Owner must pay this fee to the County at the closing of the transaction between the Property Owner and the Capital Provider, and such payment is a condition precedent to recording.

11. Term of a Benefit Assessment; Calculation of Useful Life of Qualified Improvements

The maximum term of a Benefit Assessment may not exceed the useful life of the Qualified Improvement, or weighted average life if more than one Qualified Improvement is included in the Qualified Project.

12. Form of Closing Documents

The Program has adopted form Closing Documents: The Benefit Assessment Agreements, Notice of Benefit Assessment and C-PACE Lien, and Assignment of Notice of Benefit Assessment and Benefit Assessment Agreement. A Property Owner and Capital Provider may adapt the forms to the needs of their particular transaction but must not modify or omit any material substantive terms contained in the forms.

13. Written Consent from Lienholder(s) Required

Before entering into a Benefit Assessment Agreement with the County, and pursuant to Oregon Statutes 223.680(6)(a) and (b) and 223.685(5)(a) and (b), the Capital Provider must obtain, and the Project Applications must show proof of notice and written consent for the placement of the assessment and C-PACE Lien from any holder of a lien, mortgage, or security interest in the real property.

If the consents are executed at closing, the signatures of the County to the Closing Documents will be held in escrow and will not be released until the consents are obtained. After closing, at the election of the County Administrator's Office (or outsourced designee), an amended Project Application with the consents attached must be sent to the County. Capital Providers are responsible for providing their own form of consent that conforms to the C-PACE Resolution/Ordinance and C-PACE Act.

14. Provisions for Marketing and Participant Education

This Guidebook will be made available to the public on the County website. ~~It is determined that there is no need for marketing and participant education at this time.~~ It is presumed that Property Owners and Capital Providers understand the principles and processes associated with C-PACE financing and will look to the Guidebook for understanding and clarification of the County Program.

15. County Has No Liability or Financial Responsibility

As detailed in the Benefit Assessment and Assignment Agreements, neither the County, its governing body, executives, or employees are personally liable as a result of exercising any rights or responsibilities granted under this Program. The County shall not pledge, offer, or encumber its full faith and credit for any lien amount under the C-PACE program. No public funds may be used to repay any C-PACE financing obligation.