



Property Assessed Clean Energy (PACE) and Economic Impacts in Boulder County



Promoting Energy Efficiency
in Your Community and the
Future of Property Assessed
Clean Energy

Jason Coughlin

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Agenda

Brief Introduction to PACE

Preliminary Results from an on-going NREL study in Boulder County, Colorado

Introduction to PACE

Property Assessed Clean Energy (“PACE”) is a mechanism to finance energy efficiency and renewable energy projects for both residential and commercial properties

Based on existing practice of property tax-assessed financing.

Variety of funding sources to capitalize PACE programs

What are the Benefits?

COST

Eliminates the high upfront cost barrier to energy efficiency and particularly renewable energy projects.

ABILITY TO TRANSFER

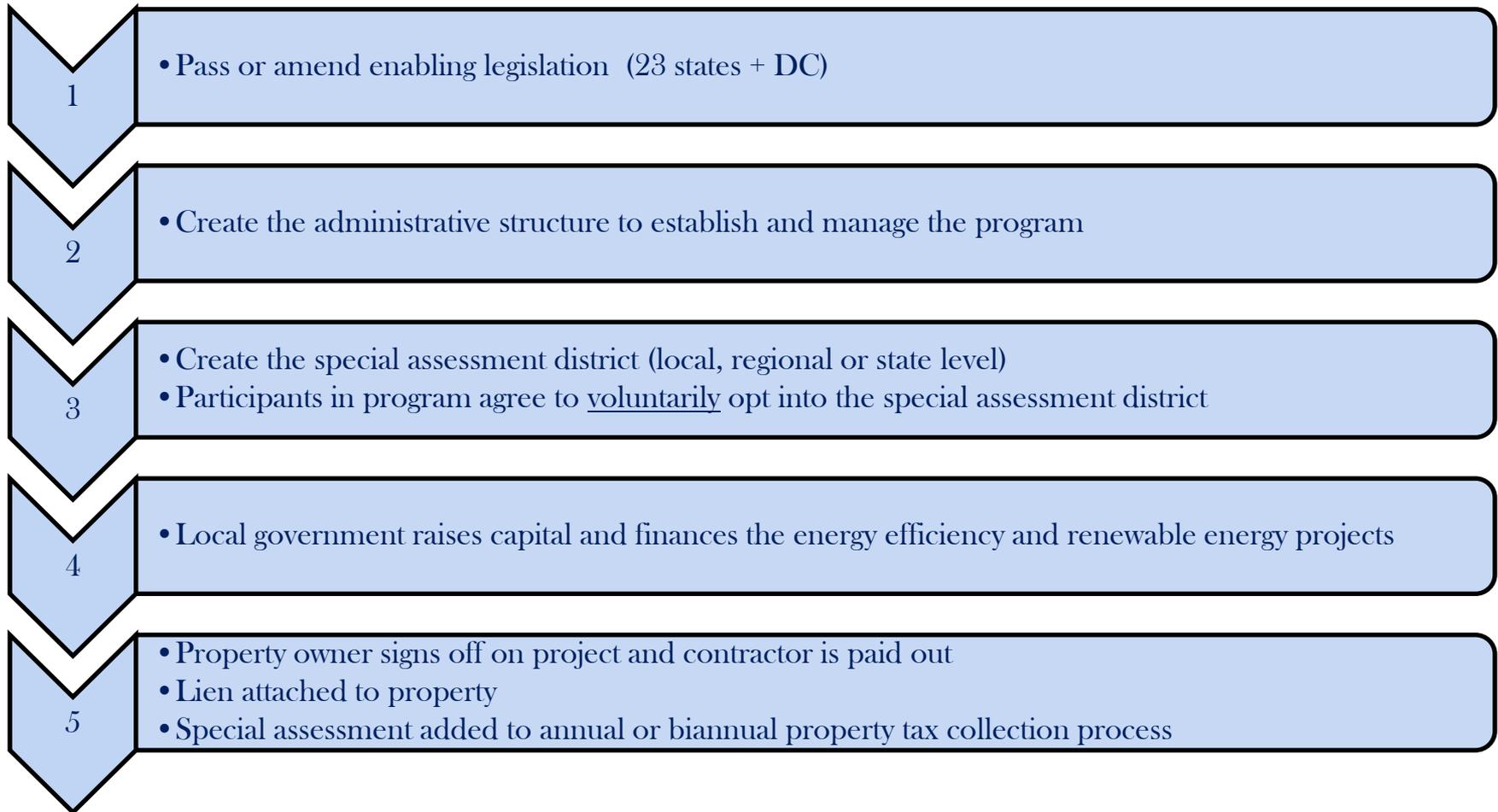
Addresses the reluctance of property owners to make energy savings-related investments if they expect to move in the future given that the lien remains with the property.

CASH FLOWS

Better matches the cash flows between the cost of the project with the energy savings.

On-going savings offset special assessment payments

What is the process to create a PACE program?



What are some caveats?

Time consuming process to establish and manage a PACE program.

Most existing PACE programs are (were) in their pilot phase so both long run demand and availability of permanent financing are still to be determined.

May not be cheapest solution for all property owners.

Liens may not automatically transfer in all cases if property owner decides to sell or refinance underlying mortgage.

Interplay with tax credits may not be the most efficient

- Long term financing of federal ITC as an example



Boulder County, Colorado Economics Impacts Analysis 2009 Residential PACE Program

Background

- In February 2010, Boulder County requested (through its U.S. Rep. Jared Polis) assistance from NREL to conduct an analysis of the economic benefits of its ClimateSmart PACE program.
- NREL selected MRG & Associates based on MRG's experience in this field (including NREL's Jobs and Economic Development Impacts (JEDI) model).
- Focus was on 1st 2 tranches of Boulder's residential PACE program in 2009
- Approximately 600 individual projects for roughly \$9MM in PACE financing

What were the direct, indirect, and induced economic impacts of the 2009 PACE investment in Boulder County for both the County and the state?

Methodology

The study adapted industry multipliers derived from the 2008 IMPLAN* model for the analysis. Impacts (jobs, earning and output) per million dollar of investment.

Direct Benefits: refers to the on-site or immediate effects produced by an expenditure.

- Boulder County pays the installer and equipment vendors for the project.

Indirect Benefits: refers to the increase in economic activity that occurs when a contractor or vendor receives payment for goods or services delivered and he or she is able to pay others who support their businesses.

- Installer pays his accountant
- Equipment manufacturer pays its employees

Induced Benefits: the spending of worker earnings associated with the direct and indirect benefits created by the energy efficiency expenditures.

- Installer's accountant buys groceries with his wages
- Employees of the equipment manufacturer using their wages to pay their mortgages

*Implan Economic Modeling (www.implan.com)

Methodology

Looked at both Boulder County and the State of Colorado

- State approach allows MRG to capture some of the “leakage” in economic activity.
 - e.g. 124 of the 295 (42%) contractors came from outside Boulder County

Calculated the resources leveraged by the PACE investment, i.e. utility rebates and personal funds spent on projects.

Analyzed each invoice submitted to Boulder County

The results do not yet include the economic impacts of how the program participants are spending their utility bill savings.

- Assumption is that roughly 60% of savings will be spent in Boulder County and an additional 15% will be spent in the state.
- Utility jobs lost as a result of lower revenues to the utility will be factored in.
- The local spending of these utility bill savings will have a much longer lifecycle as these will be annual savings as compared to the one time injection of the project funding.

Importantly, the results also do not capture the investments by homeowners who educated themselves about energy efficiency and renewable energy thru ClimateSmart but then financed the project using other methods.

Results for Boulder County

Boulder County Residential Climate Smart Loan Program 2009-2010							
Boulder County Summary Impacts - from In-County Spending Only							
Measure	Boulder County CSLP Loans¹	Total Investment²	Local Contractor Share³	Local Sales Tax Generated⁴	Local Jobs⁵	Earnings (Millions)⁶	Output (Millions)⁷
Photovoltaics	\$3,247,740	\$6,801,922	\$6,248,104	\$125,840	49	\$2.71	\$8.31
Windows	\$2,213,237	\$2,270,722	\$1,277,905	\$42,008	12	\$0.75	\$1.84
Insulation	\$883,702	\$897,644	\$517,104	\$16,606	6	\$0.45	\$0.78
Roofing	\$496,859	\$504,016	\$273,970	\$9,324	3	\$0.21	\$0.39
Air/Water Heaters	\$1,738,110	\$1,757,210	\$1,364,442	\$32,508	12	\$0.82	\$1.88
Solar Hot Water	\$411,558	\$442,829	\$374,833	\$8,192	3	\$0.20	\$0.51
Landscaping	\$16,663	\$17,198	\$15,678	\$318	0.1	\$0.01	\$0.02
Total	\$9,007,868	\$12,691,542	\$10,072,036	\$234,798	85	\$5.15	\$13.75

For every dollar of PACE investment in Boulder County, an additional \$0.41 was invested in the projects.

Every dollar of PACE investment spurred at least another \$0.53 in economic activity within the County.

Approximately 80% of the money paid to contractors/vendors went to Boulder County contractors/vendors.

On average, about 70% of workers employed by the contractors live in Boulder County.

Results for Colorado

Boulder County Residential Climate Smart Loan Program 2009-2010						
State Summary Impacts - from All In-State Spending						
Measure	Boulder County CSLP Loans¹	Total Investment²	Local Sales Tax Generated³	Jobs⁴	Earnings (Millions)⁵	Output (Millions)⁶
Photovoltaics	\$3,247,740	\$6,801,922	\$125,840	61	\$3.16	\$10.00
Windows	\$2,213,237	\$2,270,722	\$42,008	25	\$1.38	\$3.65
Insulation	\$883,702	\$897,644	\$16,606	12	\$0.82	\$1.58
Roofing	\$496,859	\$504,016	\$9,324	6	\$0.40	\$0.83
Air/Water Heaters	\$1,738,110	\$1,757,210	\$32,508	18	\$1.11	\$2.73
Solar Hot Water	\$411,558	\$442,829	\$8,192	4	\$0.25	\$0.67
Landscaping	\$16,663	\$17,198	\$318	0.2	\$0.01	\$0.03
Total	\$9,007,868	\$12,691,542	\$234,798	126	\$7.14	\$19.49

Every dollar of PACE investment spurred at least another \$1.16 in economic activity within the State.

Conclusions from the Study

In Boulder County, PACE

1. leveraged additional investment
2. had a positive economic impact
3. will channel utility bill savings into the local economy
4. created or preserved jobs
5. generated local sales tax revenue
6. educated the local community about energy efficiency
7. was not the solution for everyone (and that's ok)