

My name is Jane Twitmyer. I am a former mortgage broker and real estate agent who has spent the past three years researching and writing about renewable energy. I write today to ask you to allow the PACE bond market to develop in its originally designed form. The PACE process was carefully framed by its originating participants. Their goal was creating a unique and readily available method for homeowners and small business owners to access funds for energy efficiency retrofit and on-site PV production. PACE remains the best financing method available to scale the on-site solarPV, small wind and efficiency markets.

I came across the Berkeley project early in my research and saw the advantages of a financial vehicle that was not tied to equity at a time when the real estate and mortgage markets were devastated. I took the trouble to listen to the founding national conference held by the Milken Institute. Using the bond market, or a revolving fund mechanism, combined with a special taxing district, creates a unique and easy solution for the property owner whose income can easily service a loan, but whose property value may have been decimated by the bank crisis and real estate prices.

PACE bonds can, and should be, an important part a national investment strategy to fund clean building energy. Our residences and our commercial buildings consume 70% of our electricity. Investment dollars are required today because the system that produces our electricity today is old and inefficient. Many do not warrant increased investment dollars. 70% of our coal plants and all of our nuclear facilities are more than 30 years old. 30% of our coal plants are more than 40 years old. Retrofitting or replacing them will cost \$70-100 Billion over the next 10 years. (*Credit Suisse, Growth from Subtraction*) One alternative is to replace the old centralized system with new sources of primary power, a change that will also change the system itself.

PACE was designed to support a different kind of business structure, a structure of many owners and sellers joined together through our interconnected grid. This new system will be a much more efficient way to make and deliver electricity. Renewable energy is captured. Fossil resources, coal, gas and uranium, must be converted into electric energy, and the conversion is a highly inefficient process. For coal, the waste heat created during conversion to electricity is 50% of coal's primary energy value. Producing electricity from nuclear energy has been equated with bringing a chain saw into the kitchen to slice the butter.

Transmitting electricity from the conversion plant to the user is also a highly inefficient process. Depending on the quality of the lines, transmission can lose up to 60% of the converted electricity. The customer at the end of the wire actually requires 1/3 more than the amount delivered and recorded on his bill, 2/3rds more if you count the losses at the process of conversion.

PACE was created to provide the funds to invest in producing electricity where it is used. A PACE investment combines what was a piece of the central utilities' capital investment with what is essentially a consumer's prepaid electric bill. Viewed this way a new business structure is created and the incentives to use less and produce electricity efficiently are realigned.

Using less is the best way to reduce the investment required by the system. Making our buildings efficient, working our way to Net-Zero energy buildings, buildings that produce enough energy to meet their own needs, is an opportunity for building owner savings and for job creation as well as energy system savings. *Reinventing Fire*, from the Rocky Mountain Institute, estimates building efficiency as a \$1.4Trillion opportunity between now and 2050.

Finding the funds for this enormous opportunity in today's market is difficult, especially when equity has been stripped by the drop in market prices. If equity is the only avenue open to secure investment funds to for efficiency measures, building improvements simply will not be done, and we will have missed a great opportunity. Another example ... *Energy Efficiency in the South*, a report from Duke and Georgia Tech Universities, discusses the value of efficiency measures. "In 2020, energy bills in the South would be reduced by \$41 billion, electricity rate increases would be moderated, 380,000 new jobs would be created, and the regions economy would grow by \$1.23 billion."

Building efficiency can keep electricity demand level through 2030. Rooftop, or on site, solar can supply 25-30% of our electric needs. Both new markets can be served by PACE bonds. The Rocky Mountain Institute estimates that it is possible by 2050 for our buildings to use 19% less energy than they used 2010 and contain 70% more floor space. These are all substantial numbers. Putting PACE back on track as a vehicle for the investment dollars can rejuvenate the real estate and the construction market.

In addition, McKinsey estimated that 20% of the electricity we need could be supplied by rooftop solar. The figures vary by state. States in the south and southwest are able to produce over 50% of their needs with on-site solar production. Again, the size of this particular market can also do a lot to rejuvenate the construction/job market.

One final comment; scaling this market is important. In Germany, where a feed-in-tariff has supported scaling the on-site solar market, the cost of installing a system is 56-67% less than here in the United States. Both markets have access to the same materials at the same global prices. The only difference is the maturity of the two markets. PACE can bring us German pricing. “If Americans could install solar at the same price as the Germans, “47 million Americans in the nation’s largest cities would be at solar grid parity – without subsidies – *right now*. “ (*German Policy Could Make Solar in America "Wunderbar"*. John Farrell-REW Solar 3/22/12)

I urge you to reinstate the PACE process as designed. PACE bonds are important and appropriate financial vehicles to scale the retrofit and on-site energy markets.

Thank you.

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