Free markets. Real solutions.

R STREET SHORTS NO. 24
April 2016

IMPROVING THE MARKET FOR CLEAN ENERGY IN TEXAS

Josiah Neeley

INTRODUCTION

The last few years have seen an incredible decline in the price of technologies that provide clean energy or increase energy efficiency. The cost of solar power has fallen by more than half since 2009.[1] In April 2015, Tesla announced the release of its new Powerwall battery, providing commercially available electrical-storage options for residential and commercial consumers, as well as for utilities.[2]

The untapped benefits to Texas from clean-energy technologies are enormous. Texas has more solar-power potential than any other state.[3] A 2008 study by the Public Utility Commission of Texas found that energy-efficiency measures could save Texans between $4.2 billion and $11.9 billion.[4] Moreover, the Lone Star State's considerable manufacturing base is ideally suited to take advantage of large-scale cogeneration, in which heat generated as a side-effect of the manufacturing process is used to produce electricity.

Yet when we turn from potential to reality, Texas often lags. Despite falling prices, Texas ranks behind such states as Colorado and New Jersey in solar-electric capacity.[5] Many energy-efficiency and other projects that generate significant cost savings on paper remain undeveloped.

The key question – is Texas' low utilization of clean energy and energy efficiency something about which free-market advocates should be concerned? The answer depends on the cause of the lag. Other states may use more solar power because government subsidies and mandates have increased demand artificially.

To the extent that lower use of clean energy and energy-efficiency technologies is genuinely the result of market forces and consumer preferences, this should be respected. Government should not use subsidies or mandates to increase demand for clean-energy sources.

On the other hand, if Texas isn't meeting its potential on clean energy because of structural factors, regulatory barriers or a lack of appropriate financing options, addressing these problems should be seen as an opportunity to allow the market to function more effectively by removing obstacles in its path. Many clean-energy technologies require high upfront costs that are repaid over the lifetime of the system. These initial costs may deter widespread adoption, either because of uncertainty or lack of financing.

Fortunately, the last few years have seen the development of a number of new financing options that allow for greater access to clean energy without undercutting market forces.

PACE FINANCING

Energy-efficiency projects typically involve a trade-off of upfront capital expenditures for savings down the road. Making the energy-saving improvements requires an initial investment that can be recouped over subsequent years through lower energy bills. Depending on the size of the savings and how quickly the capital expenditures can be recovered, these improvements may prove very valuable.

At the same time, businesses might be hesitant to undertake efficiency upgrades that produce long-term benefits when they are uncertain how long they will continue to own the building in question. Were they to sell the building before the repayment window closes, they might not be able to recoup their outlays through a higher sales price, while the new owner would get a windfall in the form of continued energy savings. While it's difficult to quantify the extent to which this concern deters businesses from undertaking energy improvements, it could have a sizable effect.

An innovative mechanism to overcome this barrier is a program called Property Assessed Clean Energy (PACE) financing.[6] Under PACE, responsibility to repay the loan to finance a property's energy-efficiency improvements attaches to the property itself, rather than the property owner. Money borrowed under PACE is repaid via a voluntarily agreed-to increase in the property-tax assessment, representing the property's increased value due to the improvements. Because this obligation attaches to the property, there is no risk that an owner will be left paying the obligation in the event the property is sold before the loan is repaid.

Importantly, use of PACE need not involve increased financial risks to government. Individuals and organizations using PACE will still seek out private financing. Government is involved only in providing the mechanism for repayment.

In 2013, the Texas Legislature passed S.B. 385, which gave localities the authority to implement PACE financing for commercial property if they chose to do so.[7] Various localities currently are in the early stages of implementing a PACE program for commercial property. Travis County launched its program in March 2015, the City of Houston adopted a citywide program in December 2015 and Williamson County approved its program in April 2016. As of this writing, PACE programs are under consideration in numerous other localities throughout the state.

ON-BILL REPAYMENT

Another mechanism designed to solve the clean-energy financing problem is on-bill repayment.[8] On-bill repayment is similar to PACE, except that instead of repaying a clean-energy loan via a property-tax assessment, individuals make payments through an assessment included on their monthly utility bill. To qualify for on-bill repayment, the expected savings from efficiency improvements must exceed the assessment for repayment; in other words, the customer's utility bill must be the same or less than it was prior to the improvement. Several states, including Hawaii and New York, allow this type of arrangement.

Unlike PACE, which for regulatory reasons has been confined to commercial properties, on-bill repayment is well-suited for use by residential homeowners. Funding mechanisms for residential homeowners are particularly important, as they often lack sufficient access to capital to make the improvements without borrowing. Repayment rates for utility bills have historically been quite high, indicating that on-bill repayment can be a low-risk option for lenders. The Environmental Defense Fund has estimated that on-bill repayment could spur $5.76 billion in clean-energy investment in Texas over the next 12 years.[9]

ENERGY-SAVINGS PERFORMANCE CONTRACTS

There are also particular financing challenges that apply to government-owned facilities, such as schools, office buildings or other structures. Government entities face special budget constraints that limit their ability to implement energy-efficiency programs, and may lack the private sector's incentives to cut costs.

For roughly two decades, federal buildings have been eligible for energy-savings performance contracts (ESPCs).[10] Under the Energy Policy Act of 1992, federal agencies are permitted to use private financing to implement energy-saving programs, which then are repaid out of the money saved from lower energy use. The bulk of the energy and cost savings from ESPCs are guaranteed by the energy-service companies that implement the program. As of year-end 2014, the U.S. Department of Energy had approved $3.41 billion in ESPCs.[11]

ZONING

Aside from financing issues, the growth of certain kinds of clean-energy technologies, such as rooftop solar, can be impaired by local regulation. Regulation by homeowners associations or zoning boards may place unreasonable limits on the ability of property owners to install solar panels on their homes.

Texas law provides some protection to the private property right of a homeowner to use rooftop solar, though this protection is not absolute. For example, developers have the right to prohibit solar installation on homes in certain housing developments where new homes are still under construction. The prohibition applies even to homes that are already sold. Given that developments can take years to be fully built, this can impose a significant burden on some homeowners.

During the 2015 legislative session, Texas passed S.B. 1626, which limited a developer's authority to prohibit solar installation to developments with less than 51 planned units. While a positive step, developers should not have the ability to prohibit solar installation at all on houses that they do not own.

CONCLUSION

While government should not be picking winners and losers in the energy marketplace, it should take care that it has not created barriers to the emergence of new energy technologies. Providing mechanisms that allow private financing and voluntary development of clean energy and energy-saving systems offers Texas consumers the ability to decide what makes sense for them. If properly designed, these new options can deliver billions in energy savings to Texans, without using the heavy hand of taxpayer funding or government mandates.

ABOUT THE AUTHOR

Josiah Neeley is senior fellow and Texas director for the R Street Institute. He has worked extensively on energy and environmental issues, including federal air quality regulation, climate change, water markets, oil and gas production, renewable energy and electricity.

Josiah was previously a policy analyst for the Center for Tenth Amendment Studies and the Armstrong Center for Energy & the Environment at the Texas Public Policy Foundation.

Before TPPF, Josiah was an associate specializing in constitutional litigation with the firm of Bopp, Coleson & Bostrom in Terre Haute, Ind. He also clerked for U.S. District Court Judge Roger Vinson in Pensacola, Fla.

Josiah's writing has appeared in the Houston Chronicle, the Austin American Statesman, the Dallas Morning News, First Things, The Federalist, and the Texas Tech Administrative Law Journal, among other publications.

He has a bachelor's in government and philosophy from the University of Texas and law degree from Notre Dame Law School. He is a member of the State Bar of Texas.

Josiah and his wife Nicole reside in Round Rock, Texas.

ENDNOTES

1. Galen Barbose and Naïm Darghouth, "Tracking the Sun VIII: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States," Lawrence Berkeley National Laboratory, August 2015. http://www.seia.org/sites/default/files/Tracking%20the%20Sun%20VIII.pdf

2. Vivek Wadhwa, "Why Tesla's Powerwall is Such a Big Deal," *Venture Beat*, May 1, 2015 http://venturebeat.com/2015/05/01/why-teslas-powerwall-is-such-a-big-deal/

3. Alliance for Sustainable Energy LLC, "Dynamic Maps, GIS Data, & Analysis Tools," National Renewable Energy Laboratory, Feb. 2, 2016. http://www.nrel.gov/gis/re_potential.html

4. Itron Inc., "Assessment of the Feasible and Achievable Levels of Electricity Savings from Investor Owned Utilities in Texas: 2009-2018," submitted to Texas Public Utilities Commission, Dec. 23, 2008. https://www.puc.texas.gov/industry/electric/reports/misc/Electricity_Saving_2009-2018_122308.pdf

5. Solar Energy Industries Association, "Solar Industry Data: Solar Industry Breaks 20 GW Barrier - Grows 34% Over 2013," Dec. 17, 2014. http://www.seia.org/research-resources/solar-industry-data

6. George P. Shultz, Jeremy Carl and David Fedor, "The State Clean Energy Cookbook: A Dozen Recipes for State Action on Energy Efficiency and Renewable Energy," Hoover Institution, Sept. 11 2014. http://www.hoover.org/research/state-clean-energy-cookbook-dozen-recipes-state-action-energy-efficiency-and-renewable

7. PACE financing for residential properties has been stymied by the internal policies of Fannie Mae and Freddie Mac not to acquire mortgages associated with residential properties encumbered by PACE liens. Since Fannie and Freddie hold a majority position in the secondary mortgage market, this policy has precluded widespread use of PACE in the residential market.

8. Id., "State Clean Energy Cookbook," supra, note 6, at 60.

9. Environmental Defense Fund, "On-Bill Repayment in Texas," accessed April 17, 2016. https://www.edf.org/sites/default/files/content/tx_obr_fact_sheet.pdf

10. Id., "State Clean Energy Cookbook," supra, note 6, at 49.

11. Bob Slattery, "Reported Energy and Cost Savings from the DOE ESPC Program: FY 2014," Oak Ridge National Laboratory, March 2015. http://energy.gov/sites/prod/files/2015/04/f21/2014_savings_espcs.pdf