Using REITs to Invest in Utility Scale Solar Projects

By: Brian McKinley

Public policy in the form of Renewable Portfolio Standards, rising electricity costs, and a sharp decline in upfront costs for commercial and utility scale solar power projects in recent years have allowed for the rapid growth of new solar power installations, and with them, a new opportunity for real estate investors. In this article we discuss solutions to one challenge in the growth of this asset class, securing a viable public financing structure through the utilization of Real Estate Investment Trusts (REITs) that will allow large scale investment to take place and the cost of capital to fall.

One concern regarding large-scale deployment of solar energy is its potentially significant land use.
Land Use Requirements for Solar Power Plants in the United States, NREL, 2012.

Technology feeds on itself. Technology makes more technology possible.
Alvin Toffler, Future Shock, 1970.

The History, the Present, and the Potential

The History

Thomas Newcomen invented the world's first practical steam engine in 1712. In 1787, John Fitch began the first commercial steam ferry service in America across the Delaware River. Twenty years later, in 1807, Robert Fulton launched the North River Steamboat, and with it the first commercially successful steamship service in the world. In 1804, Englishman Richard Trevithick completed the first successful steam locomotive trip in history. In 1830, Peter Cooper's locomotive, Tom Thumb, traveled 13 miles along Baltimore & Ohio track. By the time the Transcontinental Railroad was completed in 1869, the United States had laid nearly 50,000 miles of track, peaking at approximately 254,000 miles in 1916.[1] In 1882, Thomas Edison paired his successful incandescent light bulb invention with the steam engine when he founded the first investor owned utility. New technology does not spring forth fully formed from a single individual in a sudden burst of inspiration. It is refined and improved upon through the input and ideas of many people over time. It took steam technology approximately 150 years to go from a practical idea to becoming the most important driver of economic growth in America.

The Present and Potential

In 1839, at the same time steam powered locomotives were beginning to challenge river and canal barges for supremacy in the quest to ship goods and people across the United States cheaply and efficiently, a 19 year old French scientist named A.E. Becquerel discovered the

[1] http://people.hofstra.edu/geotrans/eng/ch3en/conc3en/usrail18402003.html

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photovoltaic effect, in which the use of light is used to produce electricity. In 1876, six years before Edison founded his electric company, the production of electricity through sunlight was further refined by William Grylls Adams, a professor at King's College, London, who made the first non-moving photovoltaic device. In 1921 Albert Einstein was awarded the Nobel Prize in physics for his discovery and explanation of the Photoelectric Effect about which he had written in 1905. Solar technology was truly refined into a viable product in 1953, when a research team at Bell Laboratories comprised of Calvin Souther Fuller, Gerald Pearson, and Daryl Chapin developed the world's first silicon based photovoltaic cell. Their silicon cell was able to convert sunlight into electricity at a rate of 6%, as opposed to Grylls Adams' selenium device which could only achieve 0.5% efficiency.[22] With this invention, solar cells began appearing commercially for the first time, mostly in toys and other novelties, until 1958, when NASA's Vangaurd I space satellite became the first major practical application of solar power (as Peter Cooper's Tom Thumb locomotive was to the steam engine). The satellite orbits the Earth to this day and is the oldest man-made object in space. It was the Bell Labs scientists' invention that was the progenitor of today's silicon photovoltaic panels, which today typically convert sunlight into electricity at a rate of between 14-19% in commercial applications, and into the mid-40% range in research labs.[3] The theoretical limit of efficiency for photovoltaic cells is 86%. Meanwhile, the cost per installed watt of electricity has fallen from $76.67 per watt in 1977 to 74 cents today.[4] Today, as solar power nears a tipping point in its importance in the world's electricity production, it, like the steam engine, took the input and ideas of numerous talented individuals, across approximately 150 years to get to this stage.

Recent Market Trends

Installed Capacity

The amount of solar power capacity that is being added to the grid in the United States every year outpaces only the rate at which installation costs are falling. The most recently available data from the Solar Energy Industries Association (SEIA) shows that 4,751 MW of PV were installed in 2013, which is a 41% increase in installations over 2012 (3,369 MW) and 148% more than 2011 (1,919 MW). This 4,751 MW of installations represents the largest year in the history of the U.S. Market. These recent installations have raised the amount of installed capacity in the United States as of the end of 2013 to over 12,100 MW of photovoltaic solar power. To highlight the recent rapid growth of the solar power industry, over half of the U.S. installed PV capacity was placed in service in the past 18 months. At that level, it would be the first time in history the United States installed more capacity than Germany, the world's leader in solar power. Going forward, the pace of growth is expected to continue, with the yearly amount of installed capacity to double within the next two years, by 2016.[4] Additionally, solar accounted for 29% of all new electricity generation capacity in the United States in 2013. Despite this rapid growth, the percentage of electric generating capacity in the United States that comes from solar power is less than 1% of the total across all sources.[5]

Installation Costs

At the same time the supply of installed solar generating capacity has been increasing, steep price declines in the cost of those installations have been occurring. Between the

2 The Silicon Solar Cell Turns 50, John Perlin, NREL

3 http://www.nrel.gov/ncpv/images/efficiency_chart.jpg

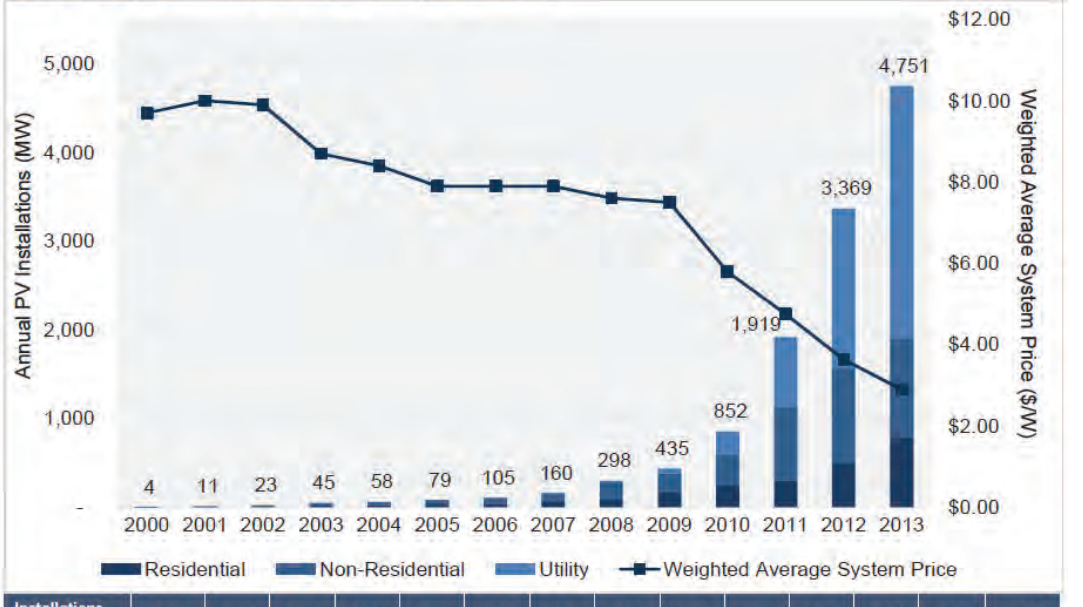
4 http://cleantechnica.com/2013/05/24/solar-powers-massive-price-drop-graph/

5 http://www.instituteforenergyresearch.org/energy-overview/solar/

third and fourth quarters of 2013, the national average system price declined by 15%. Costs fell from $3.05/W to $2.59/W, and dropped 14.8% from $3.04/W a year earlier.[6] Hard costs for solar installations (panels, inverters, mounting hardware, etc.), which represent approximately half the cost of solar power installations are expected to stay flat, or even increase slightly, after years of record price drops. However, according to the Lawrence Berkeley National Laboratory, in Germany (the largest user of Solar power in the world) soft installation costs are roughly 10% of the amount they are in the United States, indicating that further significant cost reductions are possible. There are several potential reasons for this. Possible reasons include the fact that in Germany, solar installations are most often owned by the customer who is consuming the power, whereas in the United States they are often owned by third parties who lease systems to consumers resulting in more complex capital structures. Secondly, the capacity of their installations is at least four times the size of the United States allowing for a greater learning curve. Finally, Germany's incentive system is based upon a continuously shrinking feed in tariff which rewards lowered costs, while the United States' tax credit based system may reward more expensive systems by enabling an increase in the tax credit available. A feed in tariff is a payment made for the production of electricity by a solar power installation. In Germany, the amount paid out per kilowatt hour of production is phased down monthly to reflect the fact that installation costs are also declining. Perhaps most important to this paper, Germany has lower installation costs because their cost of capital is lower than in the United States.[7]

Figure 1

U.S. PV Installations and Average System Price, 2000-2013



Installations (MW)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Residential	1	5	11	15	24	27	38	58	82	164	246	304	494	792
Non-Residential	2	3	9	27	32	51	67	93	200	213	339	831	1,072	1,112
Utility	0	3	2	3	2	1	0	9	16	58	267	784	1,803	2,847
Total Installations	4	11	23	45	58	79	105	160	298	435	852	1,919	3,369	4,751

Recent Market Trends Summary

The rapidly increasing supply of solar power and meaningful installation cost decreases, combined with continuously increasing utility costs mean solar power has reached a tipping point in scale, and in the near future installations will mushroom as the economics continue

[6] US Solar Market Insight Report 2013 Year in Review Executive Summary, SEIA

[7] http://emp.lbl.gov/sites/all/files/german-us-pv-price-ppt.pdf

to improve and allow solar power to reach grid parity. Grid parity is the point at which the cost of solar power is equal to or lesser than the cost to purchase power from the grid. US solar projects aren't yet being sold to the grid on the spot market, but they are below retail prices in some regions and approaching parity with prices on the wholesale market. For example, SunPower signed an agreement to sell power from its 100 MW Henrietta Plant in California for 10.5 cents per kW-hr in late 2012, well below the state's retail rate of about 16 cents per kW-hr. First Solar is also selling power from a Macho Springs project in New Mexico for 5.79 cents per kW-hr. Even when you add in state incentives amounting to about 2.7 cents per kW-hr for the next ten years, the cost of about 8.5 cents per kW-hr is well below the 10.1 cent per kW-hr average cost of electricity in New Mexico during July.[8]

The paper identifies the similarities between solar power assets and real estate assets, and how the rapid increase in demand will lead to opportunities for real estate investors as the industry seeks to lower its cost of capital and grow quickly. The article then discusses how real estate investors can capture this growth through various public investment ownership structures, such as REITs.

Solar Power Basics

Technology Overview

Photovoltaics (PV) convert sunlight directly to electricity and continue to be the largest component of solar market growth in the U.S. The solar power systems can be broken into three categories based upon the customer buying the power. The residential market, which includes mostly solar systems mounted on home roof tops, which is not considered in this paper, are typically the smallest systems. The non-residential market, whose solar system sizes are bigger than residential users but typically smaller than utility scale projects, are systems that produce power for commercial uses, such as solar arrays built on the roofs of buildings where the power is used by the building's tenant. This could include any type of commercial real estate, as well as public, government, and civic buildings. They are, technically speaking, the same as residential installations, only larger in scale. Utility scale solar arrays, which make up the largest installations in the United State, are typically ground mounted, and are supported by long term power purchase agreements (PPA) signed by utilities, municipalities, or agencies for whom the electricity is produced. PPAs, which are also used in the residential and non-residential markets, typically range from 10 to 25 years and the developer typically remains responsible for the operation and maintenance of the system for the duration of the agreement. At the end of the PPA contract term, a customer may be able to extend the PPA, or perhaps choose to buy the solar energy system from the developer. The benefit to the power purchaser is that they are able to avoid upfront costs while obtaining electricity cost savings. Additionally, under the current incentive regime, entities that are untaxed but wish to obtain the benefits of renewable energy are able to do so through power purchase agreements.[9]

Non-utility scale systems typically connect to the power grid under a framework called net-metering, which enables the system owner to "sell-back" any unused power to the utility company, and ensures there is power even when the sun is not shining. In net metering, when the system produces more power than the building uses, the electric utility deducts this excess when computing the bill. Solar power is a desirable form of electricity generation for several reasons. In utility scale applications, it allows utility companies to achieve predictable costs and electric output for peak mid-day power, the most expensive power provided to the grid. For residential and commercial scale users, it allows these

[8] http://www.fool.com/investing/general/2013/10/15/solar-energy-has-blown-past-grid-parity.aspx

[9] http://www.seia.org/research-resources/solar-power-purchase-agreements

direct users to achieve cost savings through lower electric costs as well as lowering demand charges from on-site generation. The installed solar power takes up a lot of space. According to NREL, the average solar project utilizes approximately 8 acres per megawatt of installed capacity.[10] Based upon the 12,100 MW installed in the United States, this means that there is a need for 96,800 acres of space (either on the ground or mounted to buildings) to host solar power. This is the equivalent of over 151 square miles. However, a significant portion of installed U.S. capacity is placed on building roofs, which are typically treated as "wasted space."

Public Financing will Lower the Cost of Capital

Historically, solar power has been economically feasible due to healthy tax credit based incentives from the US Federal Government, which allows a tax credit to be taken for 30% of the installation cost of the system. These tax credits have been successful, although this type of incentive created a need for specific financing in the form of tax equity financing. The market for tax equity financing, however, is limited in size compared to the rest of the private and public finance markets and will be unable to keep up with increased installation demand, regardless. Additionally, federal tax incentives have become less necessary due to large cost reductions, and are indeed beginning to be phased out at the end of 2016 when the current set of federal subsidies expires. Solar power developers that do not have enough taxable income to take full advantage of the tax credit subsidies often involve tax equity investors. According to NREL,

> *"Structuring projects to attract tax equity investors has proven to be a time-consuming and expensive process, requiring extensive legal, engineering, and environmental due diligence analysis. Further, tax equity investment is highly specialized because it requires investors who, among other things:*
>
> - *Have a substantial current and future tax liability*
> - *Have the financial acumen to engage in a complex project structure*
> - *Are willing to hold their ownership interests in the projects for several years*
> - *Are able to invest in illiquid assets that tie up cash and cannot easily be resold*
> - *Are sufficiently sophisticated to account for a shifting tax policy environment in their investment decisions*
>
> *…The complexity of tax-equity-based finance has limited the number of tax equity investors to fewer than 20, and the amount of tax equity to $3–$6 billion per year for the entire RE industry, over the past several years. The limited supply of tax equity essentially caps the number of RE projects that are deployed."*[11]

As growth in the industry occurs, public financing will necessarily come into play to enable truly large scale capital deployment. Additionally, as this paper describes, the cost of capital for solar power development is unnecessarily high due to current investment structures. Ideally, a vehicle with a tax advantaged structure would be able to utilized, and while limited liability corporations provide that benefit, they are unwieldy for raising large scale public capital. REITS, which offer the benefit of pass through taxation and the widespread acceptance by public investors combined with REIT regulations as they pertain to solar power may provide the best option for investment, which is the subject of the rest of this article.

REIT Asset Qualification

[10] Land-Use Requirements for Solar Power Plants in the United States, NREL.

[11] Financing U.S. Renewable Energy Projects Through Public Capital Vehicles: Qualitative and Quantitative Benefits, NREL

For assets to qualify for the privileges bestowed upon a REIT, they must pass what are known as the asset and income tests. The asset test determines what qualifies as a real estate asset. As background, U.S. Code Section 856(c)(4) provides the "asset test" requirement for an eligible entity to be taxed as a REIT, which includes the requirement that, at the close of each quarter of the taxable year, at least 75% of the value of its total assets be represented by real estate assets, cash and cash items (including receivables), and Government securities. U.S. Code Section 856(c)(2) provides, with respect to certain REIT "income test" requirements, that at least 95% of a REIT's gross income must be derived from, among other sources, "interest." U.S. Code Section 856(c)(3) provides that at least 75% of a REIT's gross income must be derived from, among other sources, "interest on obligations secured by mortgages on real property or on interests in real property." U.S. Code Section 856(c)(5)(B) provides that "real estate assets" means, in part, real property (including interests in real property and interests in mortgages on real property) and shares (or transferable certificates of beneficial interest) in other real estate investment trusts that meet certain requirements.[12]

Because solar power arrays did not exist when REITs were first created in the 1960s, knowledge of their legality as REIT assets has been determined by analyzing various IRS rulings known as "Private Letter Rulings (PLR)." A private letter ruling is a request made by a person or entity to obtain an interpretation of statute or administrative rules and their application to a particular set of facts or circumstances. The private letter ruling addresses unusual or complex questions pertaining to a particular taxpayer and his or her tax situation. The purpose of the letter ruling is to advise the taxpayer regarding the tax treatment he or she can expect from the IRS in the circumstances specified by the ruling. In the context of a REIT, private letter rulings encompass many types of assets that are not typically thought of as real estate, or the status of the asset as real estate was in question, such as cell phone towers, electricity transmission towers, wind turbine towers, data centers, as well as solar power arrays.[13]

Through its sometimes contradictory rulings, an article written in the publication Tax Notes by Patrick Dowdall in December of 2012, believes that solar power projects can be counted as real property if they meet both of the following qualifications:

- The solar power array is affixed to a building.
- The power generated by the building mounted solar array is used on site.[14]

While there are compelling arguments as to why solar assets are real property, no ruling has affirmed this by the IRS. However, there are three business models that will still work under existing REIT regulations, without a need for legal interpretation.

Ownership Structure 1: Minority Portfolio Ownership

Much hyped in the world of solar investment was the PLR (PLR 201323016) that infrastructure REIT Hannon Armstrong requested in 2012. Hannon Armstrong operates as a mortgage REIT and finances sustainable infrastructure projects. These projects are considered real estate assets because they pass the asset test by being fixed to the property and integral to its operation. These projects are capital intensive energy efficiency projects such as HVAC improvements in buildings. Substantively, the ruling did not address solar power directly, but the overall business of the REIT. While the ultimate impact of the ruling

[12] http://www.troutmansanders.com/recent-favorable-reit-private-letter-ruling-06-20-2013/

[13] http://www.irs.gov/Tax-Exempt-Bonds/TEB-Private-Letter-Ruling:-Some-Basic-Concept

[14] Using REITs for Renewable Energy Projects, Tax Notes, Patrick Dowdall

as it pertains to solar power is officially unclear, it may broaden the types of financing transactions REITs will be able to engage in.[15]

The structural improvements financed by Hannon Armstrong are intended solely for the use of the building or facility and it is not the purpose of the structural improvements to operate a business. In addition, the structural improvements are located on the building or facility owner's real property, are necessary for the building or facility to function, and would be included in the collateral or assets sold if the real property was financed or sold. According to analysis by the law firm Troutman Sanders, although not mentioned in the redacted ruling made public by the IRS, it is believed that the "structural improvement" to which this ruling relates is a photovoltaic array located on the roof of or adjacent to the building. The IRS concluded that the REIT's collateral interest in the structural improvements, and the real property on to which it is installed, constitute interests in loans secured by the real property for purposes of U.S. Code Section 856(c)(5)(B). Code Section 856(c)(5)(B) provides that "real estate assets" means, in part, real property (including interests in real property and interests in mortgages on real property) and shares (or transferable certificates of beneficial interest) in other real estate investment trusts that meet certain requirements.

In its analysis, the IRS relied in part on Revenue Ruling 73-425 which distinguished between a mortgage lien secured solely by a building in a total energy system (not an interest in real property) and one secured by the total energy system and the building itself (treated as an interest in real property).[15] Another seemingly important requirement in the new ruling is that the structural improvements, i.e., solar equipment, be used solely to produce energy for the use of the building or facility and not to operate a business. Thus, it appears that this ruling will not support the classification of a solar farm constructed for the purposes of selling electricity to a utility or to an end user as a real estate asset for REIT purposes.

Ultimately, based upon comments from the Hannon Armstrong CEO, it is believed that the company's plan is to own solar assets in the minority of its fund, in order to maintain its structure as a legal REIT. Pursuant to U.S. Code Section 856(c)(4) provides the "asset test" requirement for an eligible entity to be taxed as a REIT, which includes the requirement that, at the close of each quarter of the taxable year, at least 75% of the value of its total assets be represented by real estate assets, cash and cash items (including receivables), and Government securities.[15] Hannon Armstrong is able to develop solar (and other renewable energy projects) with scale due to a having a $1.6 billion portfolio. The CEO of the REIT, Jeff Eckel, was quoted as saying, "With a large base of 'good' REIT assets, you can do 'bad' REIT assets like solar or wind."[16]

Ownership Structure 2: Roof and Ground Leases

A REIT may own land, and thus the land on which a project sits, and obtain qualifying REIT income by establishing a ground lease on the property to a solar power developer. Additionally, REITs already widely lease out their rooftops for various reasons, such as cellular telephone antennas. In this model, which does not rely on the substance of the private letter rulings, the REIT owns only the ground or utilizes a rooftop on a building it owns, and creates a lease between the REIT and a solar project developer that is coterminous with the power purchase agreement that the developer has signed with its customer, typically a utility company. Currently, Prologis, a large industrial REIT, and Power REIT, an infrastructure REIT, are in the market utilizing this strategy.

Prologis has been in the solar power space as a landlord since at least 2010. As one of the world's largest owners of rooftops through its portfolio of industrial properties, Prologis has been able to leverage its real estate portfolio for hosting solar energy systems.

[15] IRS PLR 201323016 (PDF)

[16] http://www.greentechmedia.com/articles/read/How-Hannon-Armstrong-Got-the-IRS-to-Approve-its-Renewable-REIT

Prologis Renewable Energy partners with utilities or investors seeking to provide renewable energy to their customers, often utility companies. By leasing roof space and allowing these developers to host solar panels on Prologis owned facilities, they are able to increase the value of their portfolio through an increase in income. According to the company, this approach is preferable to them due to the lengthy payback required for solar and due to having typically short term tenant leases which prevents the REIT from partnering with the customers inside its facilities. Instead, they partner with developers who are able to aggregate several facilities to secure PPA's with utilities, allowing Prologis to host larger systems and enter into long-term agreements with utilities and investors. An additional benefit to hosting solar systems on rooftops is it can avoid permitting and land management hurdles that could potentially stall projects for years, as can be the case with ground mounted projects.[17]

Power REIT, a publicly traded infrastructure REIT, operates in a similar manner to Prologis, except rather than mounting the solar projects on a roof, it owns land. Based on publically available information, as of April 16, 2014, their holdings amounted to 450 acre parcel, ground leased to a photovoltaic development constructing a 60 MW photovoltaic project at an annual rent of $735,000, plus 1% yearly increases, acquired for $9.2MM less transaction and closing costs near Fresno in Kern County, California. The lease and PPA are for 20 year terms, plus extension periods. The lease is fully NNN, indicating an 8% cap rate for the transaction.[18] Additionally, they own a 54 acre parcel in Massachusetts which was ground leased to a development company with a fully operational 5.7 MW solar project, and 100 acres near Fresno, CA, leased to a development company with a fully operational 20 MW solar project. The Fresno project has a 25 year ground lease providing an annual rent of $157,500.[19] The acquisition price for the land in this transaction was $1.55MM, and with Power REIT paying only for property taxes, this indicates an unlevered cap rate of over 8% for this transaction.[20] The power is being sold to either Southern California Edison or Pacific Gas & Electric. The value that this model provides to the market is two-fold. First, project developers rely on modified accelerated cost recovery system accounting (MACRS)[21] to enhance returns. Under this system they are able to depreciate their asset at a much faster pace, which reduces the project owner's taxable income. Because land is not a depreciable asset, owning the land actually can decrease the return to the developer. By selling the land to Power REIT and signing a long term lease, they are able to extract the land from their capital investment, creating a higher return. Additionally, the implied cap rate for the rents achieved by the solar projects are higher than the returns from holding utility bonds, even though the rent the developer pays is essentially a pass through from the utility company.

Ownership Structure 3: Employ Taxable REIT Subsidiaries to Sell Power

Another structure is to own roof mounted solar arrays, or to own the roof mounted solar arrays only, where the power being produced is utilized on site in tenant spaces and/or in common areas. These assets may be owned by the REIT as long as they do not trip the 75% real estate assets covenant. However, in this instance, the IRS has ruled that the sale of electricity from these projects does not qualify as good REIT income, however, any lease the project owner pays to the building owner, does (as is the case with Prologis). Because of that, KIMCO, a prominent shopping center REIT, has setup its solar development program by holding their solar projects in the form of Taxable REIT Subsidiaries (TRS). These subsidiaries

[17] http://www.cleanenergyauthority.com/solar-energy-news/prologis-enters-solar-field-with-innovative-concept-020312/

[18] Power REIT 8-K filed 2014-04-16

[19] Power REIT 2013 3rd Quarter 10-Q report

[20] http://www.sec.gov/Archives/edgar/data/1532619/000135448814001630/pw_10k.htm

[21] http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US06F

are operating companies which own the project and sell the power to tenants. The income from the sale of electricity generates a profit. Another notable difference in KIMCO's plan over many other solar developers is their willingness to sell the power produced to tenants in short term power purchase agreements of 2-5 years. Although the power must most likely be utilized on site in this method per what we know from various private letter rulings, this is not a difficult proposition, as the solar power array is not likely to account for the entire share of the electricity required by the tenant. In a retail setting KIMCO estimates that its projects produce between 60-80% of the tenant's electricity needs.[22]

Conclusion and Recommendations

It is undeniable that solar power projects share a close if not entirely direct link to the real estate world, and their understanding is of importance to any serious real estate professional. In the end, although the financial community has pushed for solar power projects to be categorized as 'good' REIT assets, for now, REITS may only own these assets as a minority of their portfolio, profit from them as landlords, or hold them in taxable REIT subsidiaries without the benefit of a pass through tax regime. Currently, it is not expected that any drastic changes will be made by the IRS on this matter and that paper.[23] Ultimately, through lobbying or other political pressure, the IRS may change its stance, or create a new tax advantaged trust to specifically address renewable energy projects, which is at this point pure speculation. In the author's opinion, as an owner of real estate, the most straightforward and painless way to take advantage of the solar power boom is to follow the model of Prologis and Power REIT, and aggregate roof space or raw land for utility scale development projects, and collect rents from the developers.

[22] http://www.solardaily.com/reports/Rooftop_Solar_Array_At_New_Jersey_Shopping_Center_999.html

[23] http://www.akingump.com/en/experience/practices/global-project-finance/tax-equity-telegraph/solar-reit-qualification-a-long-putt-1.html

Sound Off #1 (Industry Professional Response)

Author

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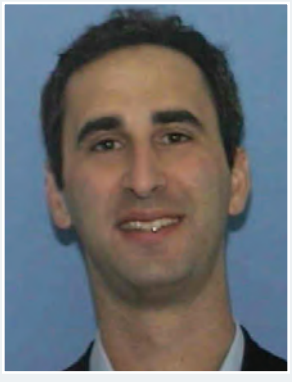
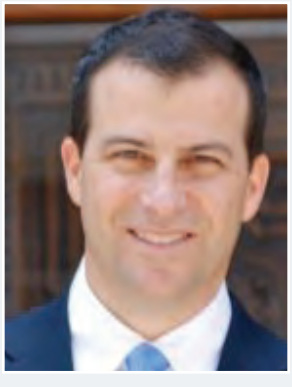


The U.S. solar industry has been able to dramatically decrease system costs over the past 5 years through the mobilization of global manufacturing and a more mature deployment workforce. Despite these successes, U.S. prices are still higher than they are in many parts of the developed world. Some of this gap will be narrowed in the coming years through public and private sector initiatives to lower customer acquisition costs, and relieve permitting and interconnection issues. However, one of the largest levers the industry aims to use is gaining access to public capital markets. If the solar industry can lower the cost of capital and gain access to a much larger pool of investors, it will dramatically impact its competitive position within the energy sector; particularly as solar asset's costs are so frontloaded compared to other energy generation technologies. One of the avenues that the industry is pursuing is being able to raise capital through REITs, which offer access to the public markets at relatively low yields. Although a true solar REIT is not yet possible, investors can still benefit from having solar power based income in their REIT.

Sound Off #2 (Industry Professional Response)

Author

David Lesser CEO, Power REIT (also Cornell '88 BS and MBA)



As Chairman and Chief Executive Officer of Power REIT, I bring with me 25 years of experience in real estate investment and finance. Prior to Power REIT I held leadership roles with several public real-estate investment trusts (REITs). My experience in the REIT sector and previous investment experience with renewable energy projects allowed me to understand how renewable energy and real estate intersect, and how REIT ownership would be a powerful structure for investing in and reducing the cost of capital for renewable energy projects. Power REIT is seeking to become the leading infrastructure real estate investment trust, building upon the legacy of its wholly-owned subsidiary, Pittsburgh & West Virginia Railroad ("P&WV") through investment in land that hosts renewable energy projects. P&WV was previously listed on AMEX and was the first listed infrastructure REIT, having received a revenue ruling from the IRS in the late 1960s qualifying its railroad property as a REIT qualifying real estate asset. Power REIT believes infrastructure is an attractive sub-sector of the real estate market for several reasons. Location, permitting and right of ways are critical for the functioning of most infrastructure and operators often benefit from long-term contracts and predictable cash-flows, often with minimal technology or obsolescence risk. Power REIT has a special focus on real estate underlying renewable energy generating projects. We believe that real estate underlying renewable energy is attractive for all the reasons that infrastructure is attractive and is also critical for the sustainability and growth of the U.S. economy. We are focused on all areas of renewable energy real estate, including wind, solar, hydro power, transmission, etc. In the coming years, I expect to see more infrastructure assets access the capital markets through the REIT structure which is ideal for such long-life assets.