

Solar as a Revenue Generator for Local Governments

As more municipalities and counties open up their jurisdictions to solar development, many find that these projects deliver significant economic benefits in addition to the clean, renewable power these energy systems produce. With as many as 95% of local governments experiencing budget shortfalls,ⁱ the revenue generation potential of solar energy development provides a unique opportunity for some local governments to alleviate, or in rare cases completely eliminate, their budget deficits. This brief discusses some of the revenue generation mechanisms associated with solar development and provides examples of how local governments have leveraged them to their fiscal benefit.

Lease Payments

With state and local policies such as Renewable Portfolio Standards (mandating that renewable energy represent a certain percentage of a utility's electricity sales) and Feed-In Tariffs (in which utilities pay a fixed price under a long term contract for the electricity produced by solar energy systems of a certain size) driving demand for larger scale solar projects, idle municipal or county property is increasingly becoming of interest to solar developers. Hosting a solar energy system on local government land or facilities provides local governments with an easily accessible and potentially lucrative revenue stream. Under a solar site lease, project developers assume responsibility for all aspects of financing and constructing a solar energy system, compensating the local government for the use of the property. Lease payments are typically made annually on a per unit of area (e.g., acre or square feet) basis over the lifetime of the agreement.

Lease Revenue: Boulder City, Nevada

Earlier this year, the town of Boulder City, Nevada announced that it has been able to increase its revenue by half due to the lease payments it receives from the several solar projects sited on its land. Payments on contracts with terms between 20 and 50 years will provide the town with \$480 million (about \$12 million annually) in revenue over the life of these agreements. These payments provide the potential for the town to eliminate its debt and to provide it with a significant source of revenue for the foreseeable future.ⁱⁱ



Copper Mountain Solar Project near Boulder City, Nevada
Photo courtesy of First Solar

Lease Revenue: Westport, Massachusetts

The town of Westport, Massachusetts is currently in the process of finalizing a lease agreement allowing for solar development on 13 acres of a capped municipal landfill. If approved, the agreement would allow a solar developer to construct, manage, and own a project on the site in exchange for lease payments of as much as \$250,000 annually for 20 years.ⁱⁱⁱ

Property and Sales Taxes

Property and sales taxes can provide another source of solar-derived local government revenue. Though these tax revenues can be significant (as illustrated in the examples on the following page), local government officials should be mindful of a few potential issues surrounding these taxes that may prevent them from being the panacea to revenue woes some localities need or desire.

The most salient issue regarding sales and property tax treatment of solar is the inherent trade-off between using taxes as an incentive to spur investment in solar and leveraging them as another source of local government revenue. Realizing the full benefits of local solar development requires striking the proper balance between providing incentives and generating revenue. For property taxes, incentives are generally offered in the form of exemptions, abatements, or special assessments for residential, commercial, industrial, or utility-scale solar installations. The majority of the 31 states that offer such incentives exempt the full value of solar energy systems from property taxes. While the trend seems to be towards treating property tax as a means of incentivizing investment in solar over generating revenue, states can structure these incentives so that local governments still have some access to these potential sources of revenue. By targeting only certain project types for exemptions (as in the case of the five states that exempt only residential projects, leaving commercial, industrial, and utility-scale projects fair game for taxation), by limiting the number of years these exemptions can be taken, or by leaving solar property tax decisions wholly up to local governments (known as a “local option”), states have been able to strike a balance between solar incentives and local government revenue.^{iv}

As with property taxes, state and local governments must address the incentive/revenue trade-off in considering how to apply sales taxes to purchases of solar energy equipment. Currently, 36 states allow local governments to levy sales taxes, but only Colorado and New York authorize counties and municipalities to exempt solar energy system purchases from local sales taxes.^{v, vi} In authorizing such exemptions, these two states seem to prioritize incentives over revenue when it comes to sales taxes; however, the way these local option provisions are structured suggest these states recognize the need to balance the desire to encourage socially beneficial behavior with the need to generate sufficient local revenue. For example, though the local option for New York requires local governments to exempt 100% of the system price from local sales taxes, this exemption applies only to residential systems.^{vii} Colorado takes the opposite approach. Once approved in a county or municipality, sales tax exemptions apply to systems across all sectors (e.g., residential, commercial, industrial), with the amount of the exemption set by local authorities.^{viii}

As may be apparent from the discussion above, the fact that these policies are set at the state level poses another limitation to the revenue generation potential of property and sales taxes on solar energy systems and equipment. Even if a county or municipal government recognizes the importance of maintaining a balance between incentivizing solar and retaining access to these key sources of local revenue, it may be powerless to alter its policies accordingly unless granted the local option to do so. However, in the proper policy environment, property and sales taxes can deliver significant environmental and economic benefits while helping ensure local governments can continue to provide adequate public services.

Property Tax Revenue: Nye County, Nevada

In September 2011, construction began on the 110 MW Crescent Dunes Solar Energy Project in Nye County, Nevada. In addition to creating 450 direct construction jobs and 50 permanent operations and maintenance jobs, the project is expected to invest a substantial amount of its annual \$5 million operating budget locally, generating sales and property tax revenues of \$40 million over the life of the project.^{ix}

Nevada's property tax policy for utility-scale projects such as Crescent Dunes serves as a shining example of how a state can properly confront the trade-off between raising local revenue and incentivizing socially desirable behavior. While exempting from property taxes 100% of the value added to residential, industrial, or commercial buildings by solar installations, Nevada offers only a 55% abatement for 20 years for utility scale solar projects.^x Of the non-abated amount, 55% is paid to local governments, giving them approximately a 25% share of the pre-abatement tax bill.^{xi} Though

reaping a quarter share of property tax revenue may not seem as desirable as getting the full share, it is important to note that in the absence of the tax incentive, the project may have been built elsewhere or not at all.



Crescent Dunes Solar Energy Project in Nye County, Nevada
Photo courtesy of SolarReserve

Sales Tax Revenue: San Luis Obispo County, California

The Topaz Solar Farm, a massive 550 MW photovoltaic project currently under construction in San Luis Obispo County, California, is expected to deliver a wealth of economic benefits to the county. In addition to employing as many as 400 workers during construction, the project will produce as much as \$14 million in county sales tax revenue over a three-year period.^{xii}

Avoided Energy Costs

Despite a 40% decline in costs over the past decade, solar energy systems still often entail a significant up-front investment. However, the free and essentially limitless nature of its fuel source, when weighed against forecasted increases in the cost of electricity derived from fossil fuels, allows a solar energy system to deliver a significant return on investment over its lifetime.



Rooftop Solar in New York
Photo courtesy of Aeon Solar

Avoided Energy Costs: The State of New York

In March 2008, the Office of the Comptroller of the State of New York issued a report on municipal solar energy investment. The study focused on six municipalities that pursued municipal solar upgrades over a four year period. The authors found that, when considered against the increasing cost of electricity from conventional sources over time, the solar energy systems will pay for themselves in between nine and 33 years, and will save these municipalities nearly \$1 million in electricity costs after 50 years.^{xiii}

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ⁱ Reilly, T. and Reed, M.B. 2011. Budget Shortfalls, Employee Compensation, and Collective Bargaining in Local Governments. *State and Local Government Review* 55(3), 215-223. doi: 10.1177/0160323X11428621

ⁱⁱ McMurdo, D. (February 6, 2012). Solar project take home of Hoover Dam back to future. *Las Vegas Review-Journal*. Available at <http://www.lvrj.com/news/solar-projects-take-home-of-hoover-dam-back-to-future-138767184.html>

ⁱⁱⁱ Welker, G. (February 8, 2012). Westport adds several questions to Town Meeting warrant. *The Herald News*. Available at <http://www.heraldnews.com/news/x392619596/Westport-adds-several-questions-to-Town-Meeting-warrant>

^{iv} DSIRE Solar. www.dsireusa.org/solar/

^v The Tax Foundation. <http://taxfoundation.org/news/show/27023.html>

^{vi} DSIRE. State Sales Tax Incentives for Solar Projects. Available at http://www.dsireusa.org/documents/summarymaps/Solar_Sales_Tax_Map.ppt

^{vii} DSIRE. New York: Local Option - Residential Solar Sales Tax Exemption. Available at http://www.dsireusa.org/solar/incentives/incentive.cfm?Incentive_Code=NY100F&re=1&ee=1

^{viii} DSIRE. Colorado: Local Option - Sales and Use Tax Exemption for Renewable Energy Systems. Available at http://www.dsireusa.org/solar/incentives/incentive.cfm?Incentive_Code=CO50F&re=1&ee=1

^{ix} Bureau of Land Management. "Crescent Dunes Solar Energy Project to Begin Construction". Available at http://www.blm.gov/nv/st/en/fo/battle_mountain_field/blm_information/newsroom/2011/july/crescent_dunes_solar.html

^x DSIRE. Large Scale Renewable Energy Property Tax Abatement (Nevada State Energy Office). Available at http://www.dsireusa.org/solar/incentives/incentive.cfm?Incentive_Code=NV01F&re=1&ee=1

^{xi} State of Nevada. Budget Division: Energy Related Tax Incentive Fiscal Note as required by NRS 701A.375-1(a). Available at http://energy.nv.gov/documents/TaxAbatementProjects/FotowatioFiscalNote_EBO_revised.pdf

^{xii} Topaz Solar Farm – Frequently Asked Questions. Available at <http://www.topazsolar.com/Resources/FAQ>

^{xiii} Office of the New York State Comptroller. 2008. *Usage of Solar Panels in Municipalities*. Available at <http://www.osc.state.ny.us/localgov/audits/swr/08solarpanel/solarpanels.pdf>