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Ratepayers and Taxpayers Pay for Seattle's Solar Agenda

by Todd Myers

Claim

"Nickels was unapologetic about the benefit of demonstrating how solar panels can work here in Seattle. 'There are real needs out there, and for our country to take this opportunity ... to create something of lasting impact.' "
Seattle Mayor Greg Nickels talking about placing solar panels on Qwest Exhibition Hall, Seattle Times, December 20, 2008, http://seattletimes.nwsource.com/html/localnews/2008542047_qwestmoney20m.html (Accessed April 29, 2009)

"I think the 'threat' of Vulcan working a deal with PSE is real. And in my opnion, would be a big slap in the face for us. We could study this to death and for attempting to be perfect, we end up politically embarrassed."
Internal Seattle City Light E-mail discussing ways to offer additional subsidies for the Qwest Exhibition Hall solar project, November 12, 2008

Facts

Last December, a request for $7 million from the federal stimulus package to put solar panels on Qwest Exhibition Hall appeared on the US Conference of Mayors list of "shovel ready" projects. Its appearance caused controversy and when the manager of the Exhibition Hall, Vulcan Inc., made it clear that they had not asked for the funding, the City reluctantly withdrew the request.

The process of how that project ended up on the list and how the city fudged the numbers on that and other projects says a great deal about the city's willingness to play fast and loose not only with financial projections but with taxpayer money. Looking at those projects, it becomes clear that they have more to do with building political capital than creating jobs or invest in the future.

Stimulating Seattle's Solar Agenda
After President Obama was elected last fall, the US Conference of Mayors asked its members to submit a list of "shovel ready" projects that could use federal funding to create jobs. The philosophy was that by receiving federal money for these projects, jobs could immediately be created on infrastructure projects.

The list submitted by the City of Seattle contained a number of projects, including some that promoted the use of solar energy to demonstrate its value on city projects. Receiving federal funding for these projects seemed like a great opportunity because solar panels are extremely expensive and the cost per unit of energy is many times that for hydro, nuclear or even wind power. That cost made these projects unaffordable for the City. The promise, however, of cash from the federal government made these projects more attractive.

Two projects on the list stand out. First, the City asked for $7 million for solar panels on Qwest Exhibition Hall. Second, they also requested $1.2 million for the "Magnuson Park Renewable

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Energy Demonstration - Install up to 25kw of renewable energy on three comfort stations and rest rooms."[1]

A close look at these projects demonstrates how poor the economics of these projects actually are and that both violate the promise that such projects are "shovel ready."

$1.2 Million to Light Two Bathrooms

The obtusely-named "Magnuson Park Renewable Energy Demonstration Project" is actually something more simple. The project would install solar panels and a "shade structure" at two "comfort stations" in Magnuson Park in Seattle. The stations are far from electrical access and placing solar panels on the stations would, the City estimated, be "competitive."[2] The electricity in the stations would be used to power the lights, fans and small electrical equipment. The City also listed the total job creation at eight, although it did not say how long those jobs would exist.

Given the extremely modest use for this project, the $1.2 million price tag seems exorbitant. In reality, the City admitted, the project didn't cost that much. Seattle City Light employee Robert Balzar admitted in an e-mail that the actual cost of the project is $150,000. Why did they ask for $1.2 million? He explains:

> "At this time Seattle City Light is only proposing a $150,000 project at the two lakeside comfort stations and a new shade structure. The $1.2M project is simply a 'scaled up' version that was 'back of the envelope' estimated to provide a 'what if' we were to capture some federal stimulus funds."[3]

The request made to the US Conference of Mayors was based on a "back of the envelope" estimate in case the federal stimulus funds actually materialized. This not only violates the promise that projects submitted are "shovel ready," but is based not on actual projections but simply on a rough estimate of costs.

Even at $150,000, installing solar panels to generate 10 kilowatts is a remarkable expense. Presumably, the "demonstration project" is also designed to show the feasibility of solar energy. The project, however, will never come close to paying for itself. Assuming that the solar panels run every day of the year at typical average output (about 20 percent of installed capacity) the city could replace the energy produced by the solar panels for about $3,066 a year. The timeline for return on investment, therefore, is nearly 50 years, more than the typical lifespan of solar panels. That number comes down if you include the cost of installing standard electricity to the stations to the cost of the electricity. At that point, however, the question becomes whether this is a good investment in any circumstance.

This pattern is repeated with the Qwest Exhibition Hall solar project.

Funding Solar Panels to Prevent Political Embarrassment

Qwest Exhibition Hall is a publicly funded project, managed by a special facilities district. The building itself, however, is managed by Vulcan, Inc. and they are responsible for maintenance and expenses. So, when the City of Seattle wanted to add solar panels to the roof of the Hall, they went to Vulcan to float the idea. They worked hard to offer the best deal possible with the hope they could claim the project as a political victory.

[1] A complete list of the projects requested by mayors can be found at http://sites.google.com/a/pheared.net/mayors-money/Home/stimuluswatch_data.xls?attredirects=0 (Accessed April 29, 2009)

[2] E-mail to author from member of Magnuson Park planning group, January 15, 2009

[3] E-mail from Robert Balzar, "Re: bathroom lights at Magnuson," January 15, 2009

In an e-mail exchange among City Light employees, one employee lamented that if the deal did not get done, the City could end up "politically embarrassed." One reason that politics, not economics, played such an important role in the decision is that the project simply does not pencil out when it comes to the costs and benefits of the program.

Seattle City Light developed a spreadsheet examining the costs and potential sources of government subsidies to make the project work.[4] Even with millions in subsidies and funding that benefits from government regulation, the project does not break even until the 40th year, the expected lifetime of the project.

Even those timelines are reliant on significant amounts of government subsidy. The total estimated cost of the project is $9,330,400. The exemption from sales tax reduces the cost by $556,400. They would also receive a production tax credit of $2.568 million from the federal government. The project would also benefit from $2,000 a year in subsidies for selling some energy back to City Light which they would purchase at 54 cents per kWh. By way of comparison, the average cost of a kWh in Washington is 6.4 cents per kWh. They also include an average of $80,000 a year in savings for electricity they would not have to pay for. Finally, the project sells twenty-year renewable energy credit contracts (RECs) for $970,000 twice during the 40-year timeline. Renewable energy credits are certificates that can be purchased by utilities that need to meet renewable portfolio standards. Utilities that need to produce 15 percent of their energy from renewable sources can either generate that energy themselves or purchase credits from others who are producing that energy. These credits would not exist without government mandates creating a market.

Recognizing that the return-on-investment was poor even after those subsidies and benefits of regulation, the City began looking for other sources of funding to sweeten the package. The stimulus package provided that opportunity. The City, without telling Vulcan, put the project on their stimulus package list. When reporters began asking questions, the City initially stood by the project. It became clear, however, that the project did not have the support of the building mangers and was still hypothetical, and not "shovel ready."

The City finally relented, removing it from the list of projects requested by the US Conference of Mayors.

Costs

The story of these two projects demonstrates how little attention is paid to the actual costs and benefits of environmental projects and how politics plays the primary role in decisionmaking.

First, neither of the projects come close to penciling out in a reasonable time period. The Qwest solar panels would recover depreciated costs only after 40 years. The panels on the "comfort stations" at Magnuson park would take about 50 years without taking into account some of the government subsidies. To make up that gap, the City simply looks for tax subsidies to make up the difference.

These dollars, however, are not free money. Assuming that this money would not be returned to taxpayers to create productive, private-sector jobs, using this money on projects of questionable utility wastes funding that might be available for other projects that create jobs or environmental benefit. Since these projects are not subjected to any sort of cost-benefit assessment, the funding

[4] Seattle City Light, "Vulcan Solar PV Project at Qwest Field Using PGE Model," Excel Spreadsheet. This was provided as part of a disclosure request and no additional identifying information was provided.

is not tied to any real result. The City simply added $1.05 million to their request for Magnuson Park because they knew that no analysis would be required and a "back of the envelope" estimate would be good enough.

In defending the Qwest Field project, Mayor Greg Nickels told *The Seattle Times* that "Conservation in and of itself is a public good, and we're going to be investing heavily in that."[5] The projects chosen, however, are not particularly effective at improving conservation. Both Seattle City Light and Puget Sound Energy have numerous examples of energy efficiency projects with payback timelines of four years.[6] Spending money on projects that never achieve a positive return on investment wastes opportunities to do real good.

As a result, the City could spend millions on projects but find that they had done very little to help the environment.

Second, without a sense of the actual benefit of these projects, politics took the lead. Projects are chosen because they are visible and have positive political benefit. As a result, City Light planners are willing to offer significant taxpayer subsidies to avoid being "politically embarrassed." When politicians see money as free, they spend it on what is important to them: political capital. Both of these projects fail any reasonable cost-benefit analysis. They were advocated, however, because they provided opportunities for politicians to claim credit for reducing greenhouse gases.

Until the City and others who advocate such projects take a more serious look at their costs and benefits, they cannot claim to be friends of the environment and certainly cannot claim to be spending taxes wisely.

[5] Emily Heffter, "On Nickels' wish list: solar panels atop Qwest Field hall," *The Seattle Times*, December 20, 2008, http://seattletimes.nwsource.com/html/localnews/2008542047_qwestmoney20m.html (Accessed April 29, 2009)
[6] See both http://www.ci.seattle.wa.us/light/conserve/business/customerachievements/ and http://www.pse.com/solutions/forbusiness/pages/efficiencyTools.aspx?tab=2&chapter=1 (Accessed April 29, 2009)