Energy Efficiency Financing for Commercial Buildings in Nevada

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Background

The 120 million buildings (single and multi-family residential and commercial) in the United States consume 42 percent of the nation's primary energy, 72 percent of its electricity, and 34 percent of its directly used natural gas.[1] Commercial buildings, in the aggregate, represent 46 percent of total building energy consumption which equates to just under 19 percent of total US energy consumption[2]. In his recent book, *Reinventing Fire*, Amory Lovins asserts that the US can cost-effectively save 38-69 percent of the building sector's projected use of primary energy for a net savings of $1.4 trillion by 2050.[3]

In an October 2012 *Economic Development Benchmarking and Incentive Analysis* report commissioned by the Nevada Governor's Office on Economic Development, Angelou Economics prepared a SWOT analysis that identified a "growing energy efficiency market" as an opportunity for the State of Nevada[4]. The challenge is how to capitalize on this identified opportunity. How can energy efficiency be increasingly deployed in Nevada's stock of commercial buildings?

Upfront costs, or first costs, are often identified as a major barrier to energy efficiency investment. Even when building owners do have capital to invest, that capital is often limited and energy efficiency is not a typical first choice investment. Although Nevada is not unique to this issue, the collapse of Nevada's commercial real estate market compounds the problem. In the summer of 2009, Las Vegas was leading the nation with $9.7 billion worth of commercial properties in distress and another $5.7 billion worth of properties that had been resolved[5]. As recently as the third quarter of 2012, median sales prices for commercial and industrial properties in Washoe County had declined by 7.6 percent compared to sales in the third quarter of 2011.[6]

Getting commercial building owners to invest in energy efficiency improvements can be very challenging at a time when commercial properties have been declining assets for their owners. Building owners are very reluctant to take on any new debt and banks are reluctant to extend credit. Given the circumstances of Nevada's unique place in the Great Recession, innovative financing tools – especially those with alternative loan qualifying criteria – are a key ingredient for tapping into the significant energy efficiency potential in the state both now, as the state economy is just improving, as well as into the foreseeable future. Regardless of general economic conditions, historical evidence has shown that commercial building owners are more likely to invest in energy efficiency when the upfront costs barrier can be mitigated with incentives and innovative financing programs.

Well-designed energy efficiency programs can address the major market barriers which include: energy cost reduction is typically a low priority for many building owners; most

building owners have inadequate time and technical expertise to decide about energy-efficiency investments; building owners have insufficient financial resources to invest in energy efficiency (as noted above); it difficult to reach key decision makers (building owners, property managers, tenants, etc.); and performance concerns.

Energy efficiency programs address these concerns typically by simplifying the process: a) offering financing at rates and terms that allow projects to net cash neutral or cash positive (monthly energy savings match or exceed the monthly loan payments); b) turnkey installation approach using vetted contractors; c) combinations of rebates and zero or low interest financing; d) contractor-led marketing; and e) utility oversight and support.[7] Additionally, financing needs to be easy to access and there needs to be flexibility in lending approval criteria, particularly given the equity position many Nevada building owners find themselves in. Business owners do not want to navigate complex processes to implement energy efficiency and do not want to take on debt.

As noted in a companion policy white paper, *Assessment and Recommendations: Alignment of Nevada Economic Development Policy & Energy Policy*, there is also a jobs benefit to scaling up the retrofitting of commercial buildings in Nevada. Energy efficiency investments can help put Nevada construction workers back to work on building retrofits. Depending on the choice of financing mechanisms, programs can be put into place that provide reliability and stability for the energy efficiency industry. The current utility-based system of rebates creates a "feast or famine" environment that is difficult to develop a business plan around. As Hank Ryan of Small Business California has noted, creative financing programs like on-bill financing can be the basis upon which to build a business because the work can be depended upon from year-to-year. That reliability, Hank notes, does better than just create green jobs; it creates *green careers*.

Financing Energy Efficiency in Commercial Buildings

Private Sector Programs: Energy Services Companies (ESCOs)

Energy service companies (ESCOs) have been operating in Nevada for a long time and there have been examples of significant success; including very recent successes in the City of Reno which reduced overall electricity consumption by 39 percent and gas consumption by 32 percent. Public and private sector building owners can work with an ESCO to identify and evaluate energy-saving opportunities and the ESCO will recommend a package of improvements. If the building owner chooses to go forward, the energy savings are "guaranteed" to cover the project costs and the ESCO will design and manage the installation of the improvements and arrange financing. This is a significant pro in the

pro's and con's ledger. Getting private sector financing into the equation to get jobs completed has been a hallmark of the ESCO model.

Building owners electing to use the services of an ESCO will typically enter into a performance contract, whereby the ESCO guarantees that the energy savings will meet or exceed annual payments to cover project costs. Such performance contracts are typically for a term of seven to ten years – enough time for the ESCO to recover the costs of the energy saving improvements installed.

Sometimes savings have failed to materialize either due to the use of invalid assumptions by the ESCO or due to the building owner making changes that increase energy consumption (for example, increasing operating hours or adding energy-consuming equipment). Both instances can lead to disputes between the building owner and the ESCO. The minimization of such conflicts leads to a concern – in order to guarantee savings, it is sometimes assumed that ESCOs will target the "low-hanging fruit" where savings are easiest to guarantee. While this approach will lead to fewer disputes, it also lessens the possibility of achieving "deep" building retrofits that have the potential to greatly increase long-term energy efficiencies.

While the NSOE can take the lead in establishing a formalized and systematic method for defining methodologies to calculate energy savings and communicating the correct processes to be used by contractors, to regulate and require the use of such methodologies may require licensing requirements that could only be implemented through new statutory authority (especially for energy efficiency improvements in privately owned commercial buildings).

Also, to fully unlock the potential of energy efficiency in commercial buildings all segments of the market will need to be served, particularly the small and medium-sized enterprise segment. In most cases, ESCOs have traditionally been uninterested in providing services to owners of buildings with less than 100,000 square feet. The transaction costs have typically been too high. Given the pervasiveness of small and medium-sized businesses in the Nevada economy and their significant consumption of energy in the aggregate, new approaches beyond the ESCO model are needed.

Government Programs: State Revolving Loan Funds

Revolving Loan Funds (RLF) for energy efficiency retrofits and renewable energy development are common in states across the country. There was a proliferation of such programs recently with the influx of federal funds through the American Recovery and

Reinvestment Act of 2009 (ARRA). The premise of all RLFs is the same – to recycle the funding so new loans can be issued as old ones are repaid and stretch the initial capital pool in support of energy investments.

In Nevada, the NSOE administers an RLF to support "projects that develop or expand renewable energy systems, energy efficiency projects, energy conservation, and manufacturing of components of renewable energy systems in Nevada." Applicants can apply for loans between $100,000 and $1 million at an interest rate of 3 percent with a maximum term of 15 years. The loan program is competitive and applications are reviewed by NSOE staff.

The Nevada RLF was initially capitalized with $8.2 million in ARRA allocations and initially supported only the development of renewable energy projects in Nevada. In early 2012, the purpose of the RLF was expanded to include energy efficiency projects. The interest rate and terms could be attractive for large commercial building energy efficiency retrofits.

In terms of supporting energy efficiency across the spectrum of commercial buildings, however, one obvious limitation of the RLF as currently constituted is the minimum loan amount of $100,000. The occupants of most small and medium-sized commercial properties pay less than this amount in total annual energy bills, so they are effectively excluded. To expand the RLF to include smaller and more numerous energy efficiency projects would increase the administrative workload for NSOE beyond the capacity of existing personnel resources and require the development of new application scoring methodologies. Whether administered internally by NSOE personnel or contracted with a third party; the ultimate question becomes whether the transaction costs are too high for the state to administer an RLF for energy efficiency retrofitting of commercial buildings *of all sizes*.

Another downside to expanding the state RLF is that commercial building owners may not take advantage of the offering. State paperwork, processing times, and bureaucracy concerns – both real and perceived – may prevent building owners from pursuing such loans. And by what measures of creditworthiness would loan applicants be reviewed? By traditional measures of credit scores and debt to income ratios, Nevada building owners may have a difficult time qualifying.

Government Programs: Property Accessed Clean Energy (PACE)

In this scenario, cities and counties can create special improvement districts, or special financing districts, to raise money, typically through bond issues, to fund clean energy

projects (i.e., renewable energy and energy efficiency improvements) for buildings in the district. Such special financing districts for renewable energy and energy efficiency building improvements were pioneered in 2007 by the City of Berkeley, California.

The upside to PACE is that it allows building owners, without using their own limited capital, to obtain the upfront financing required to implement a renewable energy or energy efficiency improvement project. The funding is then repaid over a set number of years through an additional assessment on the property tax bill of the participating building owner. Ideally, with energy efficiency projects, the energy bill savings that result from the improvement project will generate sufficient capital to pay the special assessment each year. The financing is secured through a lien on the property. Like property taxes, the assessment is paid first before other claims against the property in the case of foreclosure. If the property is sold before the end of the repayment period, the new owner inherits the improvements as well as the repayment obligation.[8]

In 2009, Nevada amended its special financing district legislation to include renewable energy and energy efficiency improvement projects[9]. However, due to questions raised by municipal bond counsel over ownership of the improvements during the period of the special assessment levy, PACE financing has yet to get off the ground in Nevada. Legislation was introduced in the 2013 session of the Nevada Legislature to address the concerns, but the legislation failed to pass. For now, PACE is still in a holding pattern. Another complicating issue that has been raised is that commercial mortgages typically have restrictive covenants requiring a building owner to seek consent from the mortgage holder before acquiring any superior tax liens. This could also limit the potential for PACE financing.[10]

The other potentially limiting factor for PACE financing in Nevada relates to typical underwriting requirements and current commercial property values. In most cases, the PACE improvements cannot exceed 20 percent of the value of the property. Moreover, the value of the property must equal or exceed the total debt on the property including any mortgages and equity lines of credit secured by the property *plus* the principal amount of the PACE indebtedness. For commercial properties where the owner is underwater on the mortgage, PACE is therefore not a viable option. Enough positive equity needs to exist to allow for taking on the additional debt related to the energy efficiency improvements.

The challenges in setting up a PACE financing program include: setting the requirements for participating installers and contractors; defining eligible measures; and establishing approval processes. Local governments typically do not have personnel with deep energy expertise, so trying to achieve the "ideal" scenario of matching monthly energy savings to monthly debt service on the tax bill may prove impracticable. Legislation or local

ordinances may also be required to establish licensing requirements for installers and contractors to establish professional qualifications and criteria for evaluating projects.

While most building owners will not want to be delinquent on their tax assessments, there is a risk of nonpayment for the local financing district. Because property taxes are typically billed annually, it becomes incumbent on the building owner to remember to actually "save" the energy savings (i.e., set that money aside and not spend it on other purposes) so that pool of money will be available to make the annual assessment payment when the property tax bill arrives.

Utility Programs

Utility-run programs have significant advantages over total reliance on the private sector or government-run programs. One of the greatest advantages is the ability to tap into the vast expertise a utility has in managing all aspects of energy efficiency programs and the ability to tap into the existing relationship that exists between the utility and its consumers. Utilities have deep experience with evaluation, measurement and verification (EM&V) programs and, as a result, are in the best position to qualify and oversee contractors, establish qualifying energy efficiency measures for any financing program, establish rules for pre and post-installation information collection, and establish billing systems to internalize energy efficiency financing. Customers see credibility in a program linked to a utility's measurement and verification program.

Utility Programs: Off-bill loans with partner financial institutions

Utilities can partner with outside financial institutions to offer financial services for utility customers seeking to make energy efficiency upgrades. Oftentimes, the participating utility can bring down the interest rate charged on the financing by providing a loan loss reserve or interest rate buy-down to the financial institution. While interest rate buy-downs can be effective, they are also expensive and have a one-time use. Establishing a loan loss reserve, on the other hand, can reduce the financial institution's risk (thereby allowing lower interest rates) while only being tapped in the case of a borrower default. If loan payments are structured to be cash positive or cash neutral compared to the savings on the utility bill, the risk of default should theoretically be reduced.

An example of a utility providing a loan loss reserve is Arizona Public Service (APS). APS has established a loan loss reserve with the National Bank of Arizona in order to enable the bank to offer lower interest loans (3.99-5.99 percent) for commercial building energy efficiency retrofits. APS will approve a customer for an energy efficiency retrofit and

typically provide a rebate (often a set amount based on prescriptive energy efficiency measures) then will share with the bank that they have approved the customer (based on good bill payment history). The customer can then apply to the bank for a loan to cover the non-rebated portion of the energy efficiency investment subject to the banks customary credit approval process.

The APS/National Bank of Arizona partnership is too new to fully assess, but loan volume has been fairly low thus far. If the past experiences of Connecticut Power and Light and Pacific Gas and Electric prove demonstrative, off-bill programs add a layer of complexity many consumers are unwilling navigate and going through traditional financial institution underwriting and approvals can result in a higher rate of rejected loan applications. Off-bill financing can also have a higher rate of defaults. While consumers prioritize payment of utility bills (so utilities are not shut off), having the energy efficiency loan be a separate bill, a separate payment, a separate envelope, and a second check to write to a separate institution increases the complications for the consumer and increases the potential for that additional bill not being paid.

Utility Programs: On-bill financing (OBF)

With utility-based on-bill financing (OBF), the utility uses shareholder or ratepayer capital to fund the upfront costs of a commercial building energy efficiency retrofit and, instead of immediately seeing a sharp drop in his or her utility bill due to the reductions in energy consumption, the building owner pays back off the loan by "sharing" the energy savings until the loan is repaid.

The key positive attributes of OBF are its simplicity for the consumer – the building owner deals directly with the utility and the payment is an extra line "on the bill". The customer has one bill payment just as before and that payment is set at historic billing levels so the project can be immediately cash neutral or even slightly cash positive. Origination on the loans is fast; interest rates and terms are set at attractive levels; and approvals are based on more flexible factors such being a utility customer for at least one year and a good payment history (for example, no more than 30 days in arrears in the most recent six months). There is a "democratizing factor" that opens up the potential for energy efficiency improvements to nearly all consumers, including tenants.

Because the repayment is on the utility bill and most utility customers place a higher priority on making utility bill payments to prevent the shut-off of utility services, there has traditionally been a very low default rate (typically less than one percent) for OBF products.

Once capitalized, one of the key features of OBF is that it really is, in essence, a revolving loan fund. As old loans are repaid, new loans can be issued. And that creates an environment that contractors and installers can build business models around – the financing programs make it so energy efficiency project business can be relied upon year-after-year.

United Illuminating (UI) is an excellent example of how OBF becomes a revolving loan fund that supports energy efficiency projects year-after-year. Between 2000 and 2010, the UI on-bill financing program has leveraged approximately $7 million initially available to install 4,412 projects and make a total of $30.7 million in loans. Over the lifetime of the improvements, savings are over 981 million kWh. Remarkably, UI has 16,800 small business commercial and industrial customers – with participation by 4,412 small businesses, United Illuminating has been able to touch 25 percent of its small business customer base through the OBF program. For most utilities, those positive "touches" are invaluable.

Another interesting feature of OBF is that some utilities have used the financing mechanism to enhance their relationships with the customers. A couple of OBF programs, including the Electric Cooperatives of South Carolina and Midwest Energy's Kansas How$mart®, have marketing OBF specifically to consumers will high bill complaints. The utilities are able to offer customers a way to implement energy efficiency improvements that will have immediate positive cash flow benefits and then sharply reduced bills after the loan is repaid.[11]

While there are many potential benefits to both the utility and the ratepayer installing an energy efficiency project using OBF, there are a couple of significant challenges to getting an OBF program running – first, the utility may have significant costs associated with making one-time billing system upgrades to enable OBF, and second, there is the question of how the loan pool will be initially capitalized (especially in the absence of a ratepayer-assessed public benefits fund).

Finally, it is important to note that there are two main ways OBF payments are structured, either as loans or as tariffs. The two important distinctions follow:

On-bill loans

An on-bill loan is an obligation incurred by the current utility customer. Absent other arrangements, the loan will need to be paid off by the customer who took out the loan if that customer decides to sell or otherwise leave the building. In most cases, however, there are provisions for assignment or transfer of the loan to future building owners or tenants.

Presumably, a future owner or tenant would be willing to accept the obligation if they could be shown that the obligation did not raise the utility bill compared to what it was historically prior to the energy efficiency improvement project.

On-bill loans, especially if anything higher than a zero percent interest rate is charged, can potentially be viewed as loans that subject a utility to the same consumer lending laws a financial institution would be subject to. Sometimes a zero percent interest rate will allow the utility to be exempt from consumer lending regulation or sometimes the utility is provided with a statutory exemption for energy efficiency financing. Nonetheless, this is an issue to be investigated in every state.

On-bill tariff

A key feature of an on-bill tariff is that it stays with the meter. An on-bill tariff in large part makes it possible for tenants to move forward with energy efficiency investments. The split incentives issue – the landlord does not invest in energy efficiency because he or she does not pay the energy bill, while the tenant will not invest because he or she does not own the building being upgraded – is overcome with an on-bill tariff because the tenant does not personally assume the repayment obligation; the meter assumes the obligation.

As noted above, some utilities have expressed concerns about becoming financial institutions, subject to consumer lending laws, if offering on-bill loans. To remedy that concern, in some jurisdictions utility OBF programs have been statutorily exempted from lending laws. In other jurisdictions, utilities have avoided the issue by using on-bill tariffs instead of on-bill loans and describing the tariff as an "energy service fee" rather than as a loan.

On-bill tariffs can be slightly more complicated than on-bill loans as they may require the filing of a Uniform Commercial Code (UCC) fixture filing lien on the property with disclosure of the payment obligation required at sale.

Utility Programs: On-bill recovery (OBR)

On-bill recovery (OBR) has many features in common with on-bill financing; the main difference is the source of capital for the financing. As noted above, one of the biggest questions in setting up an OBF program is how to capitalize the loan pool. When utilities capitalize the loan pool, the funds come from the utility shareholders or the ratepayers. In the case of the latter, the funding is typically generated through a surcharge, or public

benefits charge, assessed on all ratepayers. Approximately 25 states have public benefits charges.

On-bill recovery still utilizes the utility billing structure and will typically use the same types of lending approval criteria (i.e., good utility bill payment history), but the loan pool comes from outside the utility. The utility acts as a loan servicer. An OBR pilot will be tested soon in California by order of the California Public Utilities Commission. As a loan servicer, the utility will receive either a fixed fee or a percentage of the loan while the loan itself will be funded by an outside source of private capital (bank or credit union) at a set interest rate and payments will be transferred to the outside lending provider.

The benefit of OBR is that there is simply more private capital available to fund the marketplace than is available through utility shareholders, ratepayer public benefit funds, or strapped state governments. Infusing energy efficiency financing with private sector capital allows a scaling-up not otherwise possible. Theoretically, administrative costs should also go down using OBR because banks and credit unions have the core competency of lending that electricity and natural gas utilities do not possess and would have to build.

The potential negative is that the return, or interest rate, sought by private lending institutions – coupled with utility loan servicing fees – will make it more difficult to create cash neutral and cash positive transactions on the utility bill of the consumer. The devil is in the details. If the interest rate is too high, it will be difficult to match monthly energy savings with monthly loan payments. If that becomes the case, interest in the OBR financing product will be lower than it otherwise could be (especially if structured as OBF).

Recommendations

1. Develop and implement utility on-bill financing for energy efficiency

It is recommended that a pilot program be established to test electric utility on-bill financing in Nevada. An on-bill tariff should be considered, so the obligation can run with the meter if the current owner or tenant moves. The pilot program loan pool could be capitalized with state funds or with utility funds if the utility is allowed to realize a rate of return on its investment or there is a transfer of funds from existing, and approved, incentive programs such as Sure Bet. The state can issue a grant to assist help defray the costs of any billing system upgrades required to implement OBF. Rules and regulations will need to be established to address transferability of the loan in the case of a sale of a property or discontinuation of a lease, the application of funds in the case of partial payments, and the shut-off of utility services for non-payment.

OBF should be tied with existing, and enhanced, commercial building energy efficiency rebate and incentive programs offered by investor-owned utilities. Loan repayment terms can be kept shorter, and the risk of defaults correspondingly decreased, by applying rebates to a project first and requiring OBF only on the balance of the project.

Legislation may be required to allow the Public Utilities Commission of Nevada (PUCN) to authorize Nevada electric utilities to implement a pilot on-bill financing program, or to exempt investor-owned utilities from consumer lending laws. An initial target customer class (such as small commercial) and participation rate should be established and a date should be set by which the program becomes fully operational. The only reason(s) not to expand the OBF pilot should be if significant difficulties and challenges are encountered that have demonstrable and measurable negative impacts on the utility and its ratepayers.

2. Pass legislation to correct deficiencies in the 2009 PACE funding legislation

So cities and counties in Nevada can effectively create special finance districts for renewable energy and energy efficiency improvement projects, legislation is needed to modify the language of the enabling legislation originally passed in 2009. PACE financing has limitations the authors of this report feel are better overcome by utility on-bill financing, but the level to which PACE financing can scale-up energy efficiency retrofits in commercial buildings in Nevada will never be known without allowing it to be tested in the market. That testing cannot occur without recommended legislative changes.

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