Capturing Unclaimed Energy Rebate Revenue with Analytics

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leidos

Executive Summary

Energy costs are among the greatest operating expenses for many companies. The more locations a company has, the greater the energy consumption and the greater potential for energy savings. Utilities across the country are encouraging companies to adapt new technologies and innovations in lighting, HVAC, renewables, and building management systems by leveraging their incentive programs designed to reduce energy consumption. The challenge for companies is to navigate the utility incentive process across multiple business locations, utilities and programs while maximizing their return.

Reducing energy consumption is good for business, good for the environment, and good for utility companies. However, managing the process of applying for energy efficiency incentives has become sufficiently complex that a new industry has emerged to help both utilities and energy customers manage energy rebates. Traditionally, program implementers help utilities manage their incentive programs, including creating rebate metrics, calculating savings, measuring incentive levels, and issuing payments. New to the industry are rebate administration firms that aid corporate customers with rebate program applications and payments, helping them navigate terms, measure energy consumption, manage all the necessary paperwork, and yield greater savings from energy rebates.

There are more than 3,300 separate electricity providers in the United States, each with its own energy efficiency incentive programs. It's virtually impossible and incredibly time-consuming for companies to manually manage their own energy rebates across multiple locations and utility territories. However, by engaging the right rebate administration firm, applying the latest in big data analysis, and having a comprehensive database of energy rebate programs and products, companies can simplify the application process and maximize energy rebate returns.

This white paper will examine the challenges companies face, developing system retrofit and new construction strategies to reduce energy consumption, leverage utility incentives, and maximize returns. It also will discuss how platforms such as Leidos AMPLIFY™ can help companies more effectively manage energy rebate programs.

Introduction: Energy Rebates Are Overlooked as a Source of Revenue

Companies across the country are under pressure to adopt “greener” business practices to reduce emissions, making them better corporate citizens and winning the admiration of customers and stockholders. Reducing energy waste is one of the easiest ways to promote greener business practices, and a strategy that can yield substantial returns in the form of energy incentives. Not only do companies save on energy costs, they can garner substantial revenue from energy efficiency programs. In fact, energy incentives are a largely overlooked source of potential corporate revenue.

Companies are looking to cut their energy consumption, reduce their carbon footprint, and recoup costs by lowering electric bills in a variety of ways. For example, the green building sector is booming as more organizations invest in green construction to cut energy costs and increase property value. According to the U.S. Green Building Council (USGBC)[1], buildings account for 40 percent of CO2 emissions, more than the industrial and transportation centers. LEED (Leadership in Energy and Environmental Design) certified buildings have 34 percent lower CO2 emissions, use 25 percent less energy, and use 11 percent less water. LEED construction also has diverted 80 million tons of waste away from landfills. Clearly LEED certification is good for business as well as the planet. The *Digitalist Magazine* reports[2] that by the close of 2016, more than 13.8 billion square feet of building space were LEED certified.

In addition to new construction, green building retrofits are on the rise. The World Green Building Trends Study[3] says that 43 percent of companies surveyed plan green retrofit projects over the next three years. The USGBC estimates that green building increases property value by 4 percent, and thanks to reduced maintenance and energy costs, green retrofit projects will pay for themselves within seven years. What’s more, green building retrofit projects decrease operating expenses by as much as 10 percent in one year.

Reducing emissions also means substantial savings for business. *The Washington Post*[4] reports that air pollution from energy production caused damages valued at $131 billion in 2011, which is an improvement from 2002 when damages were estimated at $175 billion.

Greening operations yields other business benefits in addition to lowering operating expenses. It demonstrates good corporate citizenship and responsibility to the community. Initiating changes to preserve the environment looks good to the board of directors and makes stockholders feel good about their investment, especially if you can show

the ROI that goes with greener operations. One concrete way to demonstrate ROI by reducing energy consumption is by showing payments from energy efficiency incentives from utilities. Estimates are that more than $1.2 billion is allocated to rebates and incentives for lighting alone.

There are certain types of companies that are likely to yield more returns from energy rebates than others. Typically, larger organizations with multiple locations spanning different utility markets (multiple states or regions) have a greater opportunity for larger returns from energy rebates. Larger operations tend to have more potential areas where they can save energy, such as lighting, data center operations, HVAC, and building management and automation. For example, an organization with 7,512 locations could be eligible for $10.6 million in energy incentives, and could save $38.8 million in energy costs annually.[5]

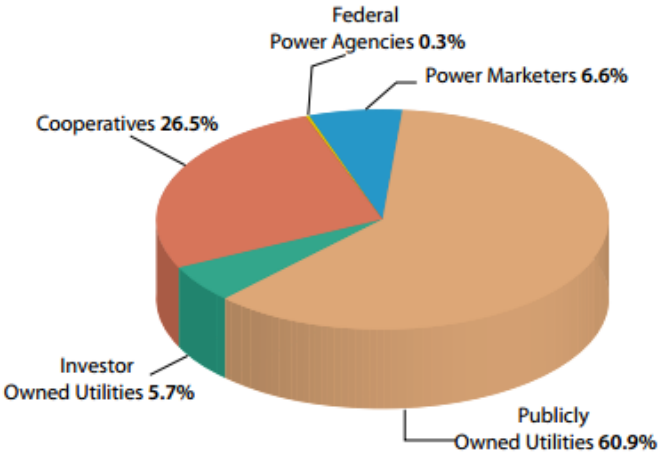
The question is where will you get the greatest returns? What region and department is the best place to start? How do you prioritize which projects will result in the shortest payback period or greatest ROI?

U.S. Electric Utility Industry Statistics

Number of Electricity Providers

Source: American Public Power Association

		% of TOTAL
Publicly Owned Utilities	2,013	60.9%
Investor-Owned Utilities	189	5.7%
Cooperatives	877	26.5%
Federal Power Agencies	9	0.3%
Power Marketers	218	6.6%
TOTAL	**3,306**	**100.0%**



The task of administering energy rebates, especially for larger organizations, is too much for one person, or even one department. While a family-owned business with one location can simply call its utility

to ask what rebates are available, an organization with hundreds of facilities in multiple locations faces too many variables. There are federal, city, and state regulations, in addition to program terms and conditions imposed by the utilities. The more locations a company operates, the more potential for returns but the more there is to track. With more than 3,300 electrical utilities[6], it's impossible to try to track all the variables, let alone dealing with the paperwork. In fact, most organizations don't consider revenue from energy rebates as all that important. Energy management is usually part of building management, which has neither the time nor resources to initiate an energy rebate program. As a result, companies are abandoning millions of dollars in unclaimed energy incentives.

Energy Rebate Programs Are Growing

Utilities offer companies large cash rebates each year as incentives to install more efficient equipment and lighting and find new ways to reduce energy consumption.

Lighting, for example, consumes between 40 and 50 percent of energy produced by utilities and is by far the biggest rebate category, and where most contractors and larger installations see as their primary opportunity for ROI from energy rebates. HVAC and cooling systems are another equipment category that consumes a lot of energy, and companies that maintain large facilities and data centers can benefit from improving the efficiency of heating and cooling.

Energy producers have a number of compelling reasons to reduce demand for power, and rewarding customers to conserve offers a payoff for the utility and the company. Here are some of the biggest motivators that compel utilities to promote energy conservation:

1. **Regulatory mandates** – Utilities are falling under increased government scrutiny to reduce emission rates and demonstrate environmental responsibility. Public Utility Commissions regulate large, investor-owned utilities as monopolies and watch energy rates carefully to protect utility customers. If the utility has to raise rates, rebates are one way to help their customers reduce energy costs and soften the impact of a rate increase.
2. **Reduce peak demand** – To ensure customers' energy needs are met during periods of peak demand, utilities need to produce more energy when demand exceeds capacity in order to prevent brownouts. Utilities can raise rates to pay for more generation or conserve energy. Conservation is more cost-effective, and more popular with customers and regulatory agencies.

3. **Public perception** – Every company wants to be perceived as green, including utilities. Promoting energy efficiency and conservation improves the corporate image for power companies.
4. **Give customers their own money as an incentive** – One of the great things about offering rebates is it doesn't cost the utilities any real money. Promoting efficiency programs using rebates gives customers a chance to earn their own money back while promoting energy conservation.

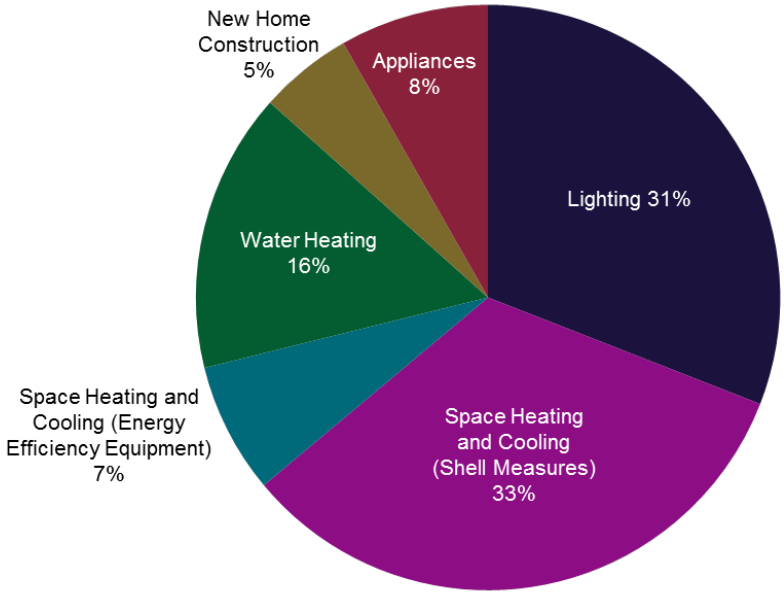
There are different types of rebate programs, each geared to meet the needs of different types of customers and equipment. Rebate programs generally fall into two basic categories:

1. **Prescriptive rebates** – Prescriptive incentives are calculated in advance and allocate a standardized rebate for replacing specific types of lighting or equipment. For example, replacing a 60W halogen light with an energy-saving 60W LED might yield a preset rebate amount of $25. Applying for prescriptive rebates requires matching an inventory of all energy-saving upgrades to a preset rate sheet, which can be a very difficult task at scale.
2. **Custom rebates** – Custom rebates are calculated for the specific amount of energy saved by an individual corporate customer. A baseline for equipment usage is established and compared to power consumption for new, energy-saving equipment. The difference is calculated and the rebates are issued based on a rate for each kilowatt hour saved. For example, replacing 400 200W high bay light fixtures with energy-saving LED lighting would yield an energy savings of, say, 217,000 kW. If you calculate the rebate based on 12 hours of operation, 365 days per year, at $0.02 per kilowatt hour, the incentive would be $42,000.

More rebate programs are becoming available as energy rates rise, regulators are scrutinizing utilities more closely, and more energy providers are adopting more custom rebate programs than prescriptive programs. This makes calculating rebate returns more complex.

Depending on how the energy incentive is structured, participating companies have to track each energy-saving device or product installed, and either match it to a prescriptive rate or establish a baseline for custom rebates. Of course, terms and tiers will differ with each utility provider, or even for different regions serviced by the same utility company. Companies also have to understand the ROI from the rebates to determine cost-effectiveness for the operation, which means calculating equipment and lighting replacement costs, maintenance avoidance, installation costs, target payback period, and other factors.

How Utilities Allocate Energy Incentives



Managing energy rebates is more than a full-time job for some organizations, and most companies only have one or two people responsible for managing the company's electric bill. Energy rebates are an afterthought, but they can be incredibly lucrative if they are managed properly.

Energy Rebate Managers Simplify Rebates

Energy incentive administration and rebate management companies can simplify claiming and collection of utility rebates. These "rebate harvesters" are part of an emerging service industry that helps corporate customers maximize returns from utility energy conservation incentive programs. As utility incentive programs become increasingly complex, and more lucrative, rebate managers can yield substantive returns from these energy rebate programs, particularly for larger companies with multiple locations.

Clearly utility rebates are too diversified and complex to manage without computer technology. Manual administration processes are time consuming and prone to errors in applications where there is no room for error. As a result, rebate managers maintain databases of the latest incentive program rates and terms from multiple energy providers. They also use intricate algorithms to calculate returns and facilitate rebate paperwork.

While these rebate aggregators can find sufficient returns to pay for their services, many of them still only capture a fraction of available rebate

revenue. And most rebate harvesters set a minimum threshold for their services and insist on payment in advance, so application accuracy tends to suffer. In short, many rebate harvesters tend to be expensive and inaccurate because they lack the resources to execute properly.

As a result, much of the money allocated by the utilities for incentives are left unclaimed and are given away at the end of a program cycle to meet their goals.

Automating Nationalized Rebate Programs

There is a better way. By applying the latest database technology, harnessing big data techniques, and maintaining accurate tracking of utility rebates, it's possible to calculate rebate revenues in advance, before even filling out the applications. Automating the utility rebate process using a comprehensive data set and automation eliminates human error, reduces time to completion, and increases rebate returns.

To provide effective rebate management services companies need to have a number of elements:

1. A comprehensive database tracking rebate programs. As noted above, there are more than 3,300 energy producers in the United States, each with its own changing list of rebate initiatives. To prioritize energy efficiency projects strategically and recoup as many energy incentives as possible, companies have to start with an up-to-date list of nationwide programs, including terms and tiers, to identify those incentives that meet business requirements.
2. A comprehensive list of certified, energy-saving products that qualify for rebates, including energy consumer specifications. This means cataloging different lighting options, fans, heaters, computer hardware, HVAC systems and other devices, all of which qualify for incentives either as prescriptive rebates or part of a custom energy rebate program. For example, there are thousands of products certified by Energy Star or DesignLights Consortium, each with its own energy rating and energy savings. There also are thousands of different lightbulbs alone, each of which has a different energy rating. The lists of certified products change each month, so maintaining an up-to-date catalog is critical.
3. The ability to match specific products with various rebate programs in order to calculate energy savings and potential energy rebate returns . When operations span multiple products and utility markets, the calculation becomes geometrically more complex.

4. The ability to add in other factors such as procurement costs, maintenance overhead, expected product lifespan, etc., in order to calculate total ROI. All of those factors can be calculated as part of big data analytics, creating a more accurate forecast of energy savings, potential rebate revenue, and time to ROI.

Consider, for example, one of Leidos' customers, a company that has 263 different locations across the country. To manually calculate rebates for all these locations required 60 man-days and found $235,000 in rebates. Using a completely automated approach, Leidos' AMPLIFY™ solution identified more than $350,000 in incentives in less than two hours – 50 percent more rebate returns were uncovered in a fraction of the time as manual processes.

Big data analytics not only help identify potential savings, but provide a predictive engine that can drill down to identify those areas that will yield the greatest returns. To gain a reasonable ROI from energy rebates is a matter of balancing factors such as initial cost for equipment and installation versus time to returns. Big data analytics can help prioritize energy rebate program claims, revealing where the immediate returns lie as opposed to longer term revenue gains.

Using a real-time analytical tool such as AMPLIFY™ makes it possible to perform "what if" scenarios using different variables to assess possible rebate returns. Lighting, for example, is where many organizations start. However, even calculating returns from something as simple as swapping fluorescent tubes for energy-saving LEDs can be difficult. Depending on the company, it may have to calculate for multiple types of bulbs, different bulb specifications, different rebates incentives, variables in labor costs, etc. After analysis, it may be found that replacing lighting in one location will yield significantly more returns than another, and in a shorter period of time.

AMPLIFY™ Energy Incentive Capture Management

Leidos created AMPLIFY™ to simplify energy efficiency application process and help maximize returns from utility incentive programs. AMPLIFY™ is designed to improve the accuracy of reporting for energy efficiency incentive programs and simplify incentive program submissions. The software platform provides all the necessary information for completing program applications, reducing a process that used to take hours or days to minutes.

AMPLIFY™ gives commercial energy customers easy access to their share of the billions of dollars available in annual energy rebates.

AMPLIFY™ quickly reveals the returns from program rebates that more than offset the higher costs of green technologies.

AMPLIFY™ includes all the elements you need for successful incentive capture management:

- A CRM/utility account to monitor potential projects and provide rebate eligibility data;
- A tracking and reporting system that monitors every step of the rebate application process;
- An automated application submission process with preapproval process management that streamlines rebate applications and maximizes incentive capture; and
- A comprehensive database of equipment specifications and components that helps automate the application process for projects anywhere in North America.

In fact, Leidos' AMPLIFY™ database includes more than 800 lighting manufacturers, 17,000 lamps and fixtures, and incentive rules for every investor-owned, cooperative, and municipal utility in the United States and Canada. And since AMPLIFY™ is a hosted service, application data and the rebate calculation tool are available at any time, including instant pre-approvals.

Some call AMPLIFY™ the "TurboTax of the commercial lighting industry." AMPLIFY™ uses an online application procedure that walks users through a step-by-step process to make it easy to define and prioritize projects. The interface includes dropdown menus and search functions, and even non-experts can create a customized energy-efficiency project and determine precise savings estimates, including receipt of near instant pre-approval. And the system is incredibly accurate; independent program evaluators in different regions agreed that rate return estimates were near perfect.

Using AMPLIFY™, Leidos has validated more than 12,000 commercial equipment applications, verified more than 750,000 megawatt hours of annual energy savings, and approved more than $120 million in energy incentives. Leidos' AMPLIFY™ is being used by companies of all sizes in all markets, including 50 FORTUNE 500 companies that have adopted AMPLIFY™ as part of their facilities investment strategy.

About Leidos

Leidos is a global science and technology solutions and services leader working to solve the world's toughest challenges in the defense, intelligence, homeland security, civil, and health markets. The company's 32,000 employees support vital missions for government and commercial customers. Headquartered in Reston, Virginia, Leidos reported annual revenues of approximately $7.04 billion for the fiscal year ended December 30, 2016.

Author Bio

Eric Fontaine has more than two decades of management consulting, reporting, and information systems experience. His expertise includes managing energy efficiency call centers and associated processing and technical assessment teams. He provides oversight of the AMPLIFY™ application management platform design. He earned both his MBA and bachelor's in business from the University of Rochester.

References:

1. http://www.usgbc.org/articles/green-building-facts
2. http://www.digitalistmag.com/digital-supply-networks/2016/09/01/demand-for-green-construction-smart-buildings-explodes-04431763
3. https://www.construction.com/news/study-finds-global-green-building-expected-to-double-2018-feb-2016
4. https://www.washingtonpost.com/news/energy-environment/wp/2016/01/29/the-staggering-economic-cost-of-air-pollution/?utm_term=.f2a21b87f346
5. http://www.graybar.com/events/2014/energy-rebates-made-simple-for-you-and-your-customer
6. http://www.publicpower.org/files/pdfs/uselectricutilityindustrystatistics.pdf

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