# Making LEED Work for You: Leveraging Green Building for Energy Savings

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## ABSTRACT

The number of buildings registered and certified with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification program is on the rise. In Oregon alone, over 300 projects are currently registered with the U.S. Green Building Council to pursue LEED certification in New Construction, Commercial Interiors, or Core & Shell. LEED for New Construction's (LEED NC) Energy and Atmosphere prerequisites and Credit 1 require that a project either complete an energy model to estimate energy savings or follow a defined prescriptive path. Energy efficiency program requirements that parallel the USGBC LEED NC certification process can lead to additional expenses that prevent a building owner from leveraging energy efficiency program incentives to maximize energy efficiency applications in a construction project.

To capitalize on the Oregon market's growing interest in LEED certification, the Energy Trust of Oregon's New Buildings program developed an offering designed to simplify the incentive process for LEED-certified buildings. The "LEED Track" allows projects to provide the Green Building Certification Institute (GBCI)-required submittals to estimate energy savings and award program incentives.

This paper will present lessons learned from the implementation of the LEED Track, including benefits and obstacles, with reference to examples from anonymous projects. The paper will focus on the program design, results to-date, implementation challenges, and lessons-learned from reviewing GBCI-approved submittals to estimate energy savings and calculate incentives. The goal of this paper is to provide potential implementers of LEED-focused programs with best practices culled from direct experience. Conclusions will outline solutions to program challenges of implementing a LEED-focused program.

## Introduction

The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification has grown in popularity as building owners and developers seek to demonstrate their commitment to high performance in environmentally sustainable design, construction, and building operation. In 2009, 1,249 buildings nationwide received LEED New Construction or Core & Shell certification. These buildings represented nearly 169 million gross square feet of building space (Nissley, 2010).

In Oregon, a state known for its commitment to sustainable and integrated design, developers, buildings owners, and architects have embraced LEED and its opportunities for national recognition. In 2009, 38 projects totaling over 4 million square feet earned LEED New Construction or Core & Shell certification in Oregon. More than 250 projects in Oregon are registered with Green Building Certification Institute (GBCI). The market movement towards more sustainable building practices has been so strong in Oregon that local entities have

proposed developing green building policies that integrate green building and elements of LEED into local building requirements. The City of Portland has proposed a High Performance Green Building Policy to reward green building practices.

Energy Trust of Oregon (Energy Trust) is a non-profit organization that administers energy efficiency and renewable energy incentive programs in Oregon for electric and gas customers of Pacific Power, Portland General Electric, Northwest Natural Gas, and Cascade Natural Gas. The Energy Trust of Oregon Business Energy Solutions: New Buildings program provides incentives and technical support for new buildings, major renovations, and tenant improvement projects. The New Buildings program provides financial incentives and technical support to builders and developers to achieve efficiency above the requirements of the Oregon Structural Specialty Code, Chapter 13 (Oregon's state energy code). The value of the incentives depends on the quantity of energy savings achieved by a measure.

The New Buildings program has provided incentives and assistance to projects since 2003. The program initially provided incentives through two paths: the Standard track (prescriptive savings and incentives) and the Custom track (modeled or calculated savings and incentives). Through 2007, 22% of all kWh savings and 10% of all therm savings were achieved through the Standard track; 54% percent of all kWh savings and 73% of all therms were achieved through the Custom track; and an additional 23% of kWh savings and 16% of therm savings resulted from a combination of the Standard and Custom tracks (Moersfelder, et al. 2008).

In addition to pursuing energy efficiency, many participants in the New Buildings program seek to achieve high performance in other aspects of green building. To demonstrate this green performance, project owners and developers frequently choose to pursue LEED certification. LEED projects enrolled in the New Buildings program traditionally chose the Custom track to demonstrate savings and earn incentives.

## Overview of LEED Energy & Atmosphere Credits 1, 3, and 5

GBCI awards LEED certification to buildings based on the number of points obtained across six areas: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation & Design Process. Initially developed as LEED for New Construction, the program today includes nine rating systems that address a range of project types. The rating systems are New Construction, Commercial Interiors, Core & Shell, Existing Buildings: Operations and Maintenance, Schools, Retail, Healthcare, Homes, and Neighborhood Development (www.usgbc.org, 2010). Updated versions of the LEED rating systems have been developed over the years. Most recently, LEED-NC 3.0 was launched in 2009.

While LEED requires achievement across the six areas referenced above, the Energy & Atmosphere (EA) credits are the most critical from an energy efficiency perspective. Specifically, three credits, EA credits 1, 3, and 5, affect the as-built and as-operated energy efficiency. EA credit 1, Optimize Energy Performance, rewards projects for achieving whole building cost savings from reduced energy use. Points are awarded based on the percent cost savings achieved relative to an ASHRAE 90.1 baseline. To earn these points, projects may develop an energy model to calculate savings or follow one of two prescriptive paths. The number of points earned at different levels of efficiency improvement has varied throughout the versions of LEED.

Credit 3, Enhanced Commissioning, and Credit 5, Measurement and Verification, provide a level of assurance that the building will function as designed and as modeled. From an energy efficiency program perspective, earning credits 3 and 5 could be seen as verification of achieving EA credit 1. Although other credits may directly or indirectly affect energy efficiency, the resulting savings should all be captured through EA credit 1. Therefore, the Energy Trust New Buildings program chose to focus on credit 1 in developing its LEED offering.

## Energy Trust of Oregon New Buildings Program LEED Track

As LEED grew in popularity, the Energy Trust New Buildings program saw an increasing number of projects pursuing both LEED certification and Energy Trust incentives. These projects initially chose to follow the Custom track to calculate savings and earn incentives. The Custom track allowed the projects to submit an energy model to demonstrate measure-level energy savings. The program would then review that energy model for reasonableness of savings, screen the proposed measures for cost-effectiveness, and often perform a site visit to verify installation of proposed measures.

Although LEED projects throughout the state were already developing an energy model to meet the LEED requirements, participating in the Custom track of the New Buildings program created additional work and expense for these projects due to the differing baseline requirements between LEED and New Buildings program. The LEED requirements for EA Credit 1 call for use of an ASHRAE 90.1 baseline. The version of 90.1 used varies by LEED version; however, all require this baseline. The New Buildings program, on the other hand, measures savings relative to the Oregon energy code, and requires that energy models submitted to the program establish a baseline model defined by code, a higher standard than ASHRAE 90.1. As a result, projects pursuing LEED certification and Energy Trust incentives were required to expend additional resources to complete two energy models for the same building.

In 2005, the New Buildings LEED track was developed using data on regional energy use intensity (EUI) for a range of building types. Projects provided the number of points awarded in the LEED review, and the program calculated an estimated savings figure based on the corresponding percent savings, the regional EUI data, and the building size. This strategy eliminated the need for two energy models. However, the energy savings estimates it produced were based on potentially inaccurate estimates, and it was available only to projects smaller than 100,000 square feet.

In 2007, the program identified an opportunity to further influence energy efficiency in large LEED projects by allowing participants to use a single model for both LEED certification and incentive calculations. Program participants and non-participants had specifically requested the ability to participate without running two energy models. To bridge the gap between the ASHRAE standard and the Oregon energy code, the program defined deration factors based on a report by the Oregon Department of Energy entitled “Comparison of Oregon Energy Code 2005 & ASHRAE Standard 90.1-2004,” (Department of Energy Codes and Standards Special Projects). This research estimated a 5% difference between the ASHRAE 2001 standard and the Oregon energy code. Since the 2007 Oregon energy code is nearly identical to the 2005 version, the program assumed a 5% difference between ASHRAE 90.1-2004 and projects permitted under the 2007 Oregon code. Furthermore, a report by the Pacific Northwest National Laboratory entitled “Analysis of Energy Saving Impacts of ASHRAE 90.1-2004 for the State of

New York" estimated the site energy savings difference between the ASHRAE 90.1-1999 and 90.1- 2001 versions and the ASHRAE 90.1-2004 version to range from 2.6% to 9.7% (Gowri, et al. 2007).

The research linking the ASHRAE baselines to one another and to the 2007 Oregon energy code provided the missing links the program needed to connect energy models developed for LEED certification and for the program requirements. The program established a pilot LEED track that provided projects with an incentive based on an appropriate reduction of savings submitted to GBCI using the following formula:

*Claimed savings = (GBCI-approved savings)*(savings reduction factor)*

The reduction factor was chosen based on the version of ASHRAE 90.1 used by the project. Projects applying 90.1-2004 were reduced 5%, based on the Oregon Department of Energy study. Projects applying 90.1-2001 or -1999 were reduced 15%, based on the sum of the 10% difference between the 1999 and 2001 versions (conservatively rounded up from the results of the Gowri, et al. study) and the 2004 version, and the 5% difference between the 2004 version and the Oregon energy code. The version of the LEED rating system under which the project was certified determines which version of 90.1 is used.

Although this formula was initially used to determine savings and incentive for a number of projects, the program has since updated the methodology to calculate savings. Rather than reducing the savings, the new formula reduces the baseline then calculates savings relative to that reduced baseline. The updated formula is:

*Claimed savings = (ASHRAE baseline*savings reduction factor) – (As-built whole-building energy use)*

In addition to providing incentives for achievement in EA Credit 1, the program developed incentives to recognize the value of achieving Credit 3, Enhanced Commissioning, and Credit 5, Measurement & Verification. The incentive is modeled on the program's existing commissioning incentive and is calculated based on a per kWh and per therm amount for whole building savings.

The program established the following process for projects enrolled in the LEED track:

1) Project enrolls with program prior to registering with USGBC;
2) Project registers with USGBC;
3) Project completes energy modeling for EA Credit 1;
4) Project submits application to program, including estimate of whole building energy savings and anticipates points for EA Credits 3 and 5;
5) Program approves incentive based on estimated savings, reduced based on ASHRAE baseline;
6) Project completes construction;
7) Project submits LEED application (Construction Submittal) to GBCI;
8) Project receives LEED review and certification;
9) Project submits LEED review, additional documentation (described below), and copy of certificate to program;

10) Program pays owner incentive based on energy savings approved for EA Credit 1 and number of points awarded for EA Credits 3 and 5.

A project is therefore not eligible to receive incentives from the program until receiving its certification from GBCI. The program uses the GBCI-required documentation to verify the energy savings achieved by the project. This process has been in place since the 2008 update to the LEED track and was followed by all projects completed in 2009.

**Historical Benefits of the LEED Track**

Beyond just simplifying the calculation methodologies, the LEED track further streamlines the application process by allowing the participant to submit the same documentation required by GBCI as documentation of project completion and energy savings. Namely, the program requires copies of the LEED Rating certificate, the final LEED Review, the Energy Modeling Table of Comparative Assumptions, the narrative for Energy & Atmosphere Credit 1, the Final Submittal Template Table 1.8.2(b) (for LEED-NC Versions 2.1 and 2.2), the LEED Letter Template for EA Credit 1, the USGBC Commissioning Report (if applying for Commissioning incentives), and the USGBC M&V report (if applying for M & V incentives).

Participants also benefited from two other important variations between the LEED track and the traditional program. First, the LEED track assessed savings for the whole building, rather than on an individual measure basis. In the program's Custom track, projects are required to analyze all measures individually for cost-effectiveness based on each individual measure's expected savings and incremental cost. The LEED track allowed projects to submit whole-building energy savings without measure-by-measure cost-effectiveness analysis. Second, projects submitted through the LEED track were not required to undergo the rigorous technical review applied to Custom track projects. The program accepted the GBCI-approved submittals with the understanding that GBCI was conducting a review of the submittals and a second review was unnecessary.

The LEED track offered significant benefits to both the participants and the program administrators. Participants could now develop and pay for a single energy model to serve the needs of GBCI and Energy Trust of Oregon, eliminating the large expense of developing a second baseline model. Additionally, the new track reduced the time required to apply to the Energy Trust program by eliminating the cost effectiveness analysis and allowing participants to simply submit the GBCI-required documentation to the program. Program administrators were able to streamline the review process for LEED projects, eliminating the extensive model review of the Custom track and the accompanying iterations with energy analysts.

## 2009 Results of the LEED Track

The LEED track was an immediate hit with program participants. To date, 160 projects have enrolled in the offering and 42 have completed and received incentives. Table 1 shows the number of LEED projects enrolled in each year. Currently, of the 498 active (not yet complete) projects in the New Buildings program pipeline, 118 (24%) are enrolled in the LEED track. In 2009, 11% of all completed projects completed the LEED track, accounting for 43% of the total program kWh savings and 32% of total program therm savings. Although the savings results from these projects were astounding, the day to day implementation of the LEED track was not

without its challenges. The following sections explore the 2009 results of the LEED track, the lessons learned, and the adjustments the program will make moving forward.

**Table 1: LEED Track Projects Enrolled by Year 2004-2010**

| Year | LEED Projects Enrolled |
|---|---|
| 2005 | 19 |
| 2006 | 22 |
| 2007 | 33 |
| 2008 | 31 |
| 2009 | 51 |
| 2010 (to-date) | 4 |

## 2009 Implementation Challenges

In 2009, the program paid incentives to 23 LEED track projects. Over the course of the year, the program experienced three main challenges in implementing the track: time delays in GBCI project reviews, apparent errors in calculation of energy savings, and absence of claimed measures in project site visits.

**Awaiting final GBCI approval can result in project delays.** LEED certification requirements extend far beyond energy to include aspects of the entire building. Although the Energy Trust New Buildings program is interested mainly in completion of the energy components of the certification, issues or appeals in other LEED credits can delay the final approval of certification for months, even years. Under the original structure, the Energy Trust program awaited final GBCI review and certification prior to issuing incentives and claiming savings. In the case of one project, the final certification has been held up over disputes in non-energy measures for over a year. Although the project owners successfully installed all energy efficiency measures over a year ago, they are unable to receive the benefit of the incentives, and Energy Trust is unable to claim the savings. A second project waited for certification for over a year, during which time the energy analyst moved on from the company that conducted the analysis. Questions that arose on the numbers included in the LEED Letter template remained unanswered, as the knowledge of the modeling strategies had been lost when the analyst left.

**Final energy savings are difficult to evaluate without full review of the energy model and calculations.** The original structure of the LEED track greatly reduced the program review of energy savings because the program accepted the savings as approved by GBCI. In 2009, LEED projects represented a significant portion of program savings. Acknowledging the risk inherent in approving these energy savings without a thorough review of the supporting model and calculations, in 2009 program engineers began to dig deeper into the LEED submittals and assumptions. Of the 23 projects, savings were adjusted due to errors in calculations and models for four projects. Table 2 below shows the resulting adjustments and corresponding energy savings for projects adjusted for changes found in calculation reviews and site visits. In two large projects, savings were adjusted after reviewers identified typographical errors in the LEED Letter Template. In one case, a zero had been omitted at the end of a number, reducing it by a magnitude of 10. In another case, a seven digit number had been incorrectly entered as a 6 digit

number. In both cases, the savings had been underestimated and the projects were able to receive an increased incentive after correcting the error.

**GBCI-approved submittals may include equipment not actually installed in the completed project.** Acknowledging the limited ability of GBCI to site verify all projects applying for LEED certification, the program prioritized site visits of LEED projects in 2009. To prepare for the site visit, the program requested equipment lists and, as appropriate, building plans and drawings. Using these tools and the contents of the LEED documentation, the program conducted site visits on all LEED projects approved for incentives. Measures were found to not be installed or installed in different quantities in six of the 23 projects. Table 2 shows the submitted savings, final savings, and percent variance following calculation adjustments and site visits for the six projects with significant variances. Table 3 provides a case study of the savings adjustments made based on the site visit in one project.

**Table 2: Savings Variance for Selected 2009 LEED Projects**

| Building Type | Square footage | Submitted kWh savings | Submitted therm savings | Approved kWh Savings | Approved therm savings | % variance kWh | % variance therm |
|---|---|---|---|---|---|---|---|
| Mixed-use residential | 330,000 | 905,505 | 27,873 | 810,785 | 27,873 | -10% | 0% |
| Mixed-use residential | 401,000 | 2,996,766 | 25,590 | 2,703,425 | 48,324 | -10% | 89% |
| Mixed-use residential | 277,829 | 1,586,266 | 13,945 | 1,438,835 | 13,303 | -9% | -5% |
| Other | 70,305 | 348,059 | - | 322,889 | - | -7% | |
| Mixed-use residential | 37,000 | 248,460 | - | 239,637 | - | -4% | |
| Mixed-use residential | 293,859 | 105,236 | | 621,907 | | 491% | |

**Table 3: Savings Adjustments Case Study**

| **Case Study: 401,000 SF Mixed-Use Residential Building** | | | **Reason for Change** |
|---|---|---|---|
| Submitted Savings | 2,996,766 kWh | 25,590 therms | Submitted in LEED Letter Template |
| Savings Adjustment | | | Installed insulation values do not match modeled values |
| Savings Adjustment | | | Installed EER value does not match modeled value |
| Savings Adjustment | | | Report submitted with model indicated LPDs of 0.52 and 0.60 in offices and lobbies. Site inspection found LPDs of 0.67 and 1.36. |
| **Approved Savings** | **2,703,425 kWh** | **48,324 therms** | Model rerun with above adjustments. Therm value was adjusted to correct typographical error in LEED Letter Template |

## Lessons Learned

### Allow Incentive Approval before Receipt of Final LEED Certification

As discussed above, time between construction completion and LEED certification has held up incentive approval for a number of projects. In addition, the program's review occurs long after the design and construction of the project, and those who developed the energy models for the projects are often unable to recall details when questions arise. To ensure that project

owners receive incentives in a timely manner and the program is able to claim savings, the program developed an alternate route to incentive approval prior to final GBCI approval. This approach allows a project to submit for incentives following construction completion if the project submitted Energy & Atmosphere Credit 1 at the Design Submittal stage and has not received exceptional comments from GBCI regarding the credit. The project can submit its design review from GBCI, the energy modeling input and output files, and project plans and equipment schedules. The program then conducts the review with the additional documentation. While this approach reduces the administrative benefits of the LEED track, it allows projects to receive financial incentives prior to final LEED certification and provides a more thorough program review of the energy model.

**Visit Project Sites to Verify Installation of Equipment Specified in LEED Submittals**

The LEED track initially relied heavily on GBCI's review and approval of LEED documentation without extensive site verification and plan review. However, recognizing that GBCI is limited in its ability to visit project sites, the program developed a more robust site verification protocol that resulted in improved identification of absent equipment or incorrectly calculated energy savings. As shown in Table 2, in some cases, the savings increased; in some the savings remained unchanged; and in others, energy savings were reduced. The program has now established a policy of performing site visits on all projects receiving incentives through the LEED track.

Increased site verification brings with it the potential pitfall of requiring too much documentation. Program participants enrolled in the LEED track with the goals of reducing the administrative burden on their staff and streamlining the incentive application process to align with the LEED process. Requiring additional documentation has frustrated some participants. To minimize this frustration, the program has identified two sets of documentation: one mandatory for site visits, the other recommended, but not required. The mandatory category includes basic project documentation, including project plans and equipment schedules, to determine what should be seen in the site visit. The recommended documentation is more extensive and time-consuming to compile and includes product cut sheets. To-date, the program has found that participants are able to easily provide the project plans and often have cut sheets available at the site visit itself, but not in advance.

Increasing site visits across all LEED projects has greatly increased program confidence in the savings claimed through the LEED track. In a program in which over 40% of electric savings are achieved through LEED projects, this increased confidence is critical.

**When Possible, Review Full Energy Models to Verify the Accuracy of Savings Calculations and Modeling Methodologies**

LEED track projects have followed a very different program technical review process from the program's Custom track projects. Custom Track reviews require that a project submit copies of the baseline and proposed energy model, an energy analysis report, and supporting documents (e.g. mechanical drawings). The program then performs a high-level check for reasonableness of savings, confirms that the proper baseline was used and that proposed model inputs are appropriate, screens measures for cost-effectiveness, and validates that the modeling approach is sound.

In contrast, the GBCI review requires that project teams submit summary input and output reports from the modeling software, a completed EA Credit 1 LEED Letter Template, and supporting documentation (e.g. mechanical and lighting schedules). The GBCI review focuses on validating the documentation submitted and ensuring the correct process was followed in developing the savings estimates. GBCI reviews often rely on the design team's ability to accurately enter data into the LEED Letter Template and do not collect the documentation needed to cross-check numbers against model inputs and design features. This process serves well in verifying that the project has followed all required steps in developing the energy model and has submitted the requested documentation, but it does not always catch discrepancies in savings.

The program encounters challenges in verifying energy savings estimates when reviewing LEED projects using only the GBCI-required submittals. Although the EA Credit 1 LEED Letter Template breaks out energy savings by end-use, it does not break out savings by measure. Currently, when savings seem unusually high or low, the program reviewers must guess at the source of the issue, rather than being able to quickly reference the measure-level savings and assess the reasonableness of those savings.

Conducting a full model review for a LEED project enables the reviewer to check system level inputs and performance, thus greatly improving the ability to accurately troubleshoot modeling issues and provide useful feedback to the project. In addition, the model review provides the program with insight into the key design features of the building and those design features with the greatest impact on the building's energy savings. This knowledge informs the requirements for site verification.

**Minimize Overlap and Opportunities for "Incentive Gaming" through the LEED Track**

As discussed above, the LEED track offers projects an opportunity to pursue incentives equal to those earned in the Custom track through a much-simplified route. Although it was designed to minimize the burden on participants and program administration, the track's overlap with other program offerings has led to instances of incentive gaming and some participant frustration.

Specifically, some participants are frustrated by the absence of cost-effectiveness screening in the LEED track. In contrast, the Custom track requires that all measures must pass strict cost-effectiveness tests. Participants in the Custom track invest significant time and resources evaluating measures for cost-effectiveness. If measures do not pass cost-effectiveness tests, some Custom track participants have made efforts to game the system and shift to the LEED track to increase the incentives received. On the flipside, Custom track projects are

eligible for up to $25,000 to offset the expense of energy modeling and measure screening. LEED track projects are not eligible for this incentive.

Overall, the less potential overlap exists between program offerings and the less discrepancy in treatment of projects, the more satisfied the participants. An effort to simplify program enrollment in one area can appear as inequity program-wide to a frustrated participant.

## Continued Growth of the LEED Track

The LEED track of the New Buildings program has experienced significant growth in the past four years, developing from a small pilot program to a significant source of energy savings, including nearly half of all electric energy savings in 2009. While the LEED track has had its challenges, it has been largely successful. In 2009 alone, 23 projects were completed without the need to develop a second baseline model for the program, saving participants' money and reducing the administrative burden on participants. The program saved many hours of time in reduced engineering reviews for the projects. Most importantly, the LEED track has provided a tool to leverage the demand for LEED certification into significant improvements in energy efficiency.

The New Buildings program is currently identifying its next steps with regards to the LEED track, with the goals of further improving the accuracy of energy calculations and continuing to serve the market through the existing LEED certification process. With a large number of projects still in the pipeline and scheduled to complete the LEED track in the coming years, the program is seeking the best approach to meet participant needs and increase confidence in claimed energy savings. The program is taking the following steps to further improve the LEED track.

### Understand the GBCI Review Process More Fully

New Buildings program has recently begun conversations with GBCI reviewers to more fully understand the GBCI review process for Energy & Atmosphere Credit 1. The ultimate goal of understanding the process is to develop a program review process that complements the GBCI review and helps to better prepare projects for the GBCI review.

### Review Project Energy Models In-Depth Early in Design and Construction

In closing LEED projects in 2009, the program often encountered issues in the review due to the long delay between the development of the energy model and the program review. By the time the project was reviewed, energy modelers and design engineers had transitioned to new firms or could not recall the decisions made in the project. Furthermore, by only reviewing the model after design and construction were complete, the program missed opportunities to further influence energy efficiency decisions prior to construction. A number of changes may be made to the program review process to address these timing issues. The changes may include enhanced program technical assistance for LEED projects, a more complete review of energy models, and a review of energy models earlier in the design and construction process.

### Develop Monitoring and Reporting Requirements for LEED Projects

An earlier study found that measured post-occupancy energy performance in LEED projects often does not match modeled performance in individual buildings (Turner & Frankel 2008). Currently, the New Buildings program LEED track addresses this issue by awarding additional incentives for projects earning EA Credit 5: Monitoring & Verification. In the future, the LEED track may be further strengthened by developing recommendations and requirements for monitoring and reporting after building occupancy. Strategies may include required post-occupancy reporting, enhanced incentives for achieving energy savings goals, and training for building operators.

## Conclusion

Energy Trust of Oregon Business Energy Solutions New Buildings program's LEED track has been a success but also has room for future improvements. In 2009, the track provided over 40% of program kWh savings. Currently, almost 25% of all projects enrolled in the program are pursuing the LEED track. The program has leveraged the LEED track to successfully streamline program participation. Both the program and participants are benefiting from the track's alignment with existing LEED requirements, simplified documentation, and reduced project review time.

However, the program has learned that further quality control and alignment with the GBCI process are needed to ensure energy savings estimates are accurate and that LEED projects are actually built to achieve those savings. The program has adjusted its processes to include mandatory site visits for all LEED projects and to create alternate review paths that allow for incentive payments prior to receipt of LEED certification. Going forward, New Buildings program will identify the steps needed to further enhance confidence in LEED project savings while continuing to offer a streamlined approach for project participants that complements the GBCI review process.

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