The Business Case for LEED in Latin America

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**Study Methodology**

The study looked at data compiled from 20 LEED certified projects in Colombia and Mexico, all certified within the last 5 years, with at least one year of operational data and certified under the LEED BD+C rating system v2009 and v4. With support from SUMe in Mexico, the CCCS team conducted in-depth interviews with three key stakeholders for each project: The owner or developer; the current owner or operator and the sustainability consultant. The projects were 45% offices, 35% commercial spaces, 10% residential buildings and 10% educational facilities (not schools). Of these, 60% were LEED BD+C Core & Shell, 20% were LEED BD+C New Construction and 20% were LEED BD+C Retail. Finally, 80% of projects were certified under LEED v2009 and 20% under LEED v4.

**Motives for Certification**

More than 70% of those interviewed agreed that LEED reflects their corporate values and policies for corporate social responsibility. A certified building also lowers operating costs, creates perceived benefits for the health and wellbeing of occupants and benefits the environment. Additionally, 30% of projects reported that LEED certification benefits the commercial leasing and sales process as LEED is a recognized brand and a critical factor in differentiating an asset in the real estate market. Market leadership was also an important factor for 15% of these projects, who were the first to certify and able to achieve a higher status as an iconic project for the market.

**Strategies for Success**

More than 90% of the projects interviewed made the decision to certify the LEED project from the early planning phase, which impacted on how the project made decisions regarding the sustainability strategies to be implemented.

**Lighting**

- 90% of the projects have lighting with LED technology with presence or occupancy sensors in their spaces.
- 70% of the projects have access to natural light through translucent elements in the envelope such as windows and skylights, complemented with natural light sensors and dimming in electric lighting.
Ventilation
- 78% of the projects have a mechanical ventilation system.
- More than 40% of the projects interviewed use natural ventilation strategies as the main method to guarantee a minimum or complementary indoor air quality.
- 56% of the projects monitor indoor air through CO2 sensors or flow meters.

Water Use
- 100% of the projects implement saving sanitary devices, within the wide range offered by the market, such as urinals or urinals without water or with ultra-low consumption, low-flush toilets and low-consumption taps, some with timers.
- More than 50% of the projects have rainwater collection for non-potable reuse, such as discharge of sanitary devices, irrigation, cleaning or for process water (in a cooling tower).

Landscaping
- More than 90% of the projects implement native or adapted vegetation, a strategy that in most cases leads to no irrigation requirements after their implementation.
- 80% of the projects that require some type of irrigation have a treated water system to meet the irrigation needs of the landscaping, and drip or micro-drip irrigation.

Commissioning
- 70% of the projects have implemented advanced commissioning, and the rest implement fundamental commissioning, according to the prerequisite.

The Business Model
An understanding of the business model is key to understanding how costs and return on investment are calculated by developers. Of the group of projects that participated in the study, 43.8% are projects for sale, 25% are projects are for owner occupiers, 18.8% are projects for rent with their own building management and 12.5% are projects for rent with third party management.

The sources of financing of the projects are 46% own resources in their entirety or a portion, 30% have contributions from private investors, 30% of the projects have loans with financial entities and 20% have resources from own sales of the property.

Additional investments to certify to LEED
- On average, the additional investment in projects to achieve LEED certification is 1.42% with a standard deviation of 0.026.
- 69% of the projects indicated having an imperceptible additional investment or less than 1%
- 15% of the projects stated that they had an additional investment between 1% and 3%
- Those who made the decision to certify the project at a very advanced stage of design or construction, incurred higher cost overruns, of between 5% and 10%, in addition to having significant rework.
Relationship between additional investments and the level of certification achieved

- According to the results of the study, there is no correlation between the level of certification achieved by the project and the additional investments or cost overruns incurred by the project.
- The highest levels of certification were achieved due to the capacity and opportunities of the project in being able to achieve higher levels of sustainability using appropriately the conditions of the environment and the local market.

Return on Investment

- 42% of the projects indicated a return period of less than 1 year
- No project indicated having a return on investment greater than 6 years

It is important to highlight that among the projects that indicated having a return period of less than 1 year included projects that indicated they did not have additional costs or investments to achieve LEED certification. In fact, some of these projects reported savings in initial costs thanks to the design strategies selected to achieve certification. At the end of the design and build process, these projects managed to come in below the initial budget.

Benefits of Certification

Below are the perceived benefits of LEED certification among the projects participating in the study.

The main benefit identified is lower costs in the operation of the building, reflected in the utility bills. The second perceived benefit is to achieve better health and well-being of the occupants of the project, which is reflected in fewer complaints from users, lower absenteeism rates and greater satisfaction with the space.

<table>
<thead>
<tr>
<th>Benefits</th>
<th>% of Projects</th>
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</thead>
<tbody>
<tr>
<td>Lower operating costs</td>
<td>86%</td>
</tr>
<tr>
<td>Better health and well-being for occupants</td>
<td>71%</td>
</tr>
<tr>
<td>Higher profitability</td>
<td>71%</td>
</tr>
<tr>
<td>Higher appreciation</td>
<td>57%</td>
</tr>
<tr>
<td>Ease of operation</td>
<td>57%</td>
</tr>
<tr>
<td>Reach special customers</td>
<td>54%</td>
</tr>
<tr>
<td>Faster time to market</td>
<td>46%</td>
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</tbody>
</table>

Projected savings

The projected savings for building operations vary according to the building type and the percentage of control that the owner has over decisions for the interior of the building. Large retail commercial projects that are owner-operated (shopping malls) saw the greatest savings in water and energy.
On average, all projects expect savings of 28% in energy consumption and 52% in drinking water consumption.

LEED BD + C Retail certified projects present an average of 34% savings in energy and 71% savings in drinking water consumption.

Commitment to certification for future projects

- 100% of developers said they plan to certify LEED projects in the future.
- Projects certified as LEED BD + C Retail said they plan to seek recertification for these as existing buildings under LEED O + M.
- More than 50% of the owners have a goal for all their new projects to be LEED certified by 2025.

Factors for Financial Success

The interviews revealed that the following are key factors contributing to the successful outcome of a LEED project:

- **Clear goals and roles are better for the bottom line.** All efforts to align the team to set clear goals and terms of reference for designers and construction contractors are worthwhile and greatly help to eliminate or avoid cost overruns for the project.

- **Commitment and communication for better commercialization.** The commitment of the project team to sustainability translated to not only a better design and build process, but extended to successful communications to future customers and tenants and a more successful commercial process.

- **Integrative design is fundamental for better decision-making.** The project teams interviewed felt that an integrative design process for the engineering, design, and building specialist teams was fundamental for improved decision making.

- **Communicating the business case widely internally.** The interviews revealed that despite the project team having clear evidence of the benefits and low associated costs of pursuing LEED, actors within the company continued to believe that sustainability would come as an extra cost that could not be recovered in the short or medium term, while others were unaware of the benefits of creating a sustainable building.

What’s Next?

This study has made our next steps extremely clear:

1. Focus on sharing the results of this study with a broad audience of stakeholders to counter the perception in the market that LEED adds significant cost to a project and to encourage more developers to pursue LEED.

2. Encourage projects to activate in the Arc platform to clearly recognize the financial savings as well as the soft benefits of occupant satisfaction.

3. Expand knowledge of how government incentives (tax, finance, regulatory) can benefit LEED projects. In the study only three in Colombia had taken advantage of benefits that provided them with incentives for renewable energy and preferential interest rates.
4. Share the study with private banks and financial institutions, many of whom have programs to support green building but need further resources to convince developers to pursue LEED certification.

5. Expand the study to include projects in more countries in the region, and the interviews to include feedback from occupants.

The first 15 years of Latin America saw the certification of over 2,100 projects in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam, Uruguay, and Venezuela – 19 of the 21 nations of Latin America. We hope in the next five years to see a dramatic increase in the number of new and existing LEED projects. Afterall, we all want buildings that are designed to save money and promote human health, that are built on time and on budget, that generate less waste and pollution, and that serve to protect the long-term health of people both in the building and the larger community.