



The Road to LEED Platinum Certification at naked Stables

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Summary

Opened in 2011, naked Stables Private Reserve is a luxury resort in Moganshan, China that strives to bring its guests as close to nature as possible while relaxing in comfort. naked Stables Private Reserve has just received LEED Platinum certification, becoming the first certified resort of their size in Asia. The resort was designed, built and is operated with sustainability as a key value. naked achieves this goal by preserving the environment around the resort, using local materials for construction and operation, and employing locals and involving the surrounding community in its daily operations. naked stables is part of a growing trend in China that places value in sustainability, and in green building as a whole. Of the 1,000 total building projects registered in the LEED Database for Hong Kong and China, 50 are hotel and resort projects.¹ LEED has become an important standard for corporations to communicate their desire to use sustainable building practices. This case study will examine the importance of this trend to the hotel industry as a whole through the lens of naked Stables Private Reserve and what it means for the Eco-conscious resort developer in China.

What is LEED Certification?



The Leadership in Energy and Environmental Design (LEED) certification is a voluntary rating system designed by the U.S. Green Building Council (USGBC) to encourage builders to achieve high standards in areas of human and environmental health. Ratings are given in five areas: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. In the 2009 version

¹ LEED project database downloaded at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=97>

of LEED to be awarded platinum certification, the highest rating, a building must attain the highest marks in all five categories (at least 80 out of 100 points).² The Green Building Institute certifies all commercial and institutional projects registered under any LEED rating system, providing a third-party inspection of all projects applying to receive LEED certification on their structure.³

Why is LEED Certification Important?

LEED-certified buildings are designed to:

- Lower operating costs and increase asset value
- Reduce waste sent to landfills
- Conserve energy and water
- Be healthier and safer for occupants
- Reduce harmful greenhouse gas emissions
- Qualify for tax rebates, zoning allowances and other incentives in hundreds of cities⁴

Together, these goals constitute a well-rounded strategy for creating new structures that are more harmonious with the needs of the local community through protecting its people, resources and environment. As the economic needs for a growing population continue to increase, our need for new buildings will likewise continue. Therefore, making these structures long-lasting and with the smallest harmful impact as possible is of great importance.

LEED Certification at naked Stables

naked Stables used LEED version 2.2⁵ for new construction in their quest to become China's first LEED Platinum certified resort. For the resort, LEED is a natural extension of their sustainability values which gives them a recognized certification and technical guidelines to take their standards of low impact hospitality to the next level.

² LEED Rating Systems. Available from: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1989>

³ How to certify a building project. Available at: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1991>

⁴ What is LEED? Available at: <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1990>

⁵ This means that naked needs to achieve 52 points on a 69 point scale, instead of 80 out of 100.

naked Stables achieved their goal and received LEED platinum certification in March of 2013.

High standards of human and environmental health are central to naked Stables' core values in creating a property focused on wellness and a return to nature. The resort brings guests closer to natural surroundings, rather than diminishing the natural environment by adding supplemental buildings.⁶ This however, has presented some challenges in achieving some LEED credits in the area of Sustainable Sites.⁷ For example, credit SSc2 requires site selection in urban areas with existing infrastructure.⁸ Because of naked Stables' location in a secluded valley near Moganshan, it is impossible for them to achieve this credit. A remote location also made it unfeasible to gain credits for access to public transportation and other alternative transportation sources. On the other hand, points for maximizing open space were easily incorporated into naked's back-to-nature concept.⁹

From the conceptualization stages of the project, naked developed the site in a sustainable manner; keeping forest disturbance to a minimum by designing treetop villas that rest on stilts, constructed with pre-fabricated panels to reduce on-site construction and waste.¹⁰ The resort planners paid particular attention to placement of the different villas and huts, building only where trees had already fallen or there was other site disturbance or even around trees in two cases.¹¹ This enabled the achievement of LEED points in habitat protection and design innovation.¹²

⁶ *Naked Stables Private Reserve: Story*. Available at: <http://www.nakedretreats.cn/naked-stables-private-reserve/the-reserve/story/>

⁷ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012..

⁸ *LEED For New Constructions and Major Renovations, Version 2.2*, USGBC, October 2005. Available from <http://www.usgbc.org/ShowFile.aspx?DocumentID=1095>.

⁹ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

¹⁰ *Naked Stables Private Reserve: Sustainability*. Available from: <http://www.nakedretreats.cn/naked-stables-private-reserve/the-reserve/sustainability/>

¹¹ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

¹² *LEED For New Constructions and Major Renovations, Version 2.2*, USGBC, October 2005. Available from <http://www.usgbc.org/ShowFile.aspx?DocumentID=1095>.

naked surpassed LEED's local materials requirement, by not only using locally grown bamboo and limiting the source of 90% of total building materials to within an 800 km radius, but also by incorporating traditional building techniques, such as rammed earth walls, which provide excellent insulation, stonework, and buildings made entirely from bamboo into their design. The choice to use local building techniques has the added benefit of engaging the local community and instilling a sense of pride in craftsmen whose art is dying out.¹³ The way the buildings were designed overall, including use of rammed earth walls, temperature distribution, ventilation, and low-e glass make them very minimal energy consumers, a key component of LEED. Solar water heaters also are used at naked, helping them earn renewable energy credits as well.¹⁴



A particular achievement for naked Stables is the closed loop system for their water cycle which incorporates rain collection in the pond at the center of the property. A pump underneath the pond moves some water into the fire suppression system, and some into the waste water system to be used for toilets in all of the buildings. The used black water, water containing human or biological waste, is sent to an on-site treatment plant, where it is treated and the sludge is separated and sent to local farms for use in fertilization and the

¹³ *Naked Stables Private Reserve: Sustainability*. Available from: <http://www.nakedretreats.cn/naked-stables-private-reserve/the-reserve/sustainability/>

¹⁴ *Bisagni, Alessandro*. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

remaining clean water is pumped back into the pond. Additionally, naked uses an on-site well to source drinking and shower water. The waste from this grey water, bathroom runoff that does not contain human byproducts, is integrated into the system and purified and reused. Water pumped back into the pond also evaporates and becomes rain water again, creating an almost zero-waste water system.¹⁵

naked Stables has also taken a radical step in the hotel industry by involving guests directly in their goal of energy conservation by installing electricity sub meters on each guest residence and giving incentives for below average power usage.¹⁶ Not only does this meet LEED requirements for measurement and verification of energy use,¹⁷ but it also visually educates the public about their energy consumption. Studies show that projects with easily viewed and quantified energy consumption consume less than those that do not publicize energy use.¹⁸

LEED Hotels in China

Currently, 17 projects have achieved LEED platinum certification in China.¹⁹ The Parkview Green Beijing, and its subsidiary, Hotel Eclat Beijing, received its core and structure platinum pre-certification in 2009 and are currently seeking certification.²⁰ The Hotel Eclat resides in one of the most innovative new developments in China and has a unique microclimate, enabled by the triple-layered glass

¹⁵ *ibid*

¹⁶ *Naked Stables Private Reserve: Sustainability*. Available from: <http://www.nakedretreats.cn/naked-stables-private-reserve/the-reserve/sustainability/>

¹⁷ *LEED For New Constructions and Major Renovations, Version 2.2*, USGBC, October 2005. Available from <http://www.usgbc.org/ShowFile.aspx?DocumentID=1095>.

¹⁸ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

¹⁹ LEED project database downloaded at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=97>

²⁰ *Eco-friendly development sees more private push*. Available from: <http://www.parkviewgreen.com/news/media-coverage/eco-friendly-development-sees-more-private-push.html>

walling and ETFE membrane roofing “environmental shield.”²¹ The Parkview Green Beijing focuses on using high technology in an urban environment, whereas naked Stables focuses on merging their structures with nature.

In total, there are 8 hotels in Hong Kong and China that have received any level of LEED certification.²² The Holiday Inn Express in Hong Kong's Soho was the first hotel in the world to receive double platinum certification, having been awarded LEED platinum in March 2012,²³ and BEAM Plus by the Hong Kong Green Building Council.²⁴ With 42 other hotels or resorts registered to complete LEED certification in Hong Kong and China,²⁵ the importance of the rating system is apparent and will quickly gain influence.

Chinese Green Hotel Standard

In 2003 China's State Economic and Trade Commission set up a five level standard for rating green hotels. Although it is a voluntary system, it encompasses three important areas: safety, health and environmental protection. The criteria is further broken down into eight fields including green management, water conservation, energy management, environmental protection, waste management, green room, green food, and social and economic benefits.²⁶ In 2009, China pledged to build 10,000 new green hotels over the next 4 years,²⁷ clearly showing a rising emphasis on responsible hotel development.

²¹ Parkview Green Winner of 2011 futurArc Green Leadership Award. Available from: <http://www.parkviewgreen.com/news/media-coverage/parkview-green-winner-of-2011-futurArc-green-leadership-award.html>

²² LEED project database downloaded at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=97>

²³ *ibid*

²⁴ Hong Kong Soho. Available from: <http://www.hiexpress.com/hotels/us/en/hong-kong/hkgsh/hoteldetail>

²⁵ LEED project database downloaded at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=97>

²⁶ EAAERE 2012, *Going Green: Developing a Conceptual Framework for the Green Hotel Rating System*. Available from: <http://www.eaaere2012.org/FP/0105%20-%20Shieh,%20Hu,%20Sheu.pdf>, pg 14.

²⁷ Greenbiz, *China Plans to Build 10,000 Green Hotels*. Available from: <http://www.greenbiz.com/blog/2009/06/10/china-plans-build-10000-green-hotels>

Challenges for Creating a Sustainable Resort in China

naked Stables is currently still anticipating LEED certification. According to the New York Times, they made a misstep in selecting pool lights that cost a point because of smart innovation and light pollution.²⁸ Later, naked went back through their design plans again to reassess areas like lighting, glazing and other aspects of energy use to make sure they achieved the maximum points possible.²⁹

Additionally, there is often a big gap between Chinese building regulations and the base American standards used to create LEED criteria. This is particularly apparent in terms of indoor air quality standards and ventilation standards because in China indoor smoking is still commonly practiced.³⁰ naked, contrary to most hotels, has taken the step to ban indoor smoking completely,³¹ rather than banning smoking in just a few rooms. In some other areas, however, local Chinese building regulations are actually more strict than LEED. naked found that local standards were more rigorous for glazing than ASHREA, the US set of standards on which LEED is based for that particular competency.³²

Technologies that make implementing LEED standards simple are not always readily available in China, which sometimes causes current government incentives to go against the principles of LEED. In addition, cost is usually the main focus of developers in China, therefore, using LEED as a guideline for new buildings in China is often seen as too expensive.³³

²⁸ *New York Times, Moganshan China: A Lofty Retreat from Sweltering Shanghai.* Available from: http://travel.nytimes.com/2012/04/15/travel/moganshan-china-a-lofty-retreat-from-sweltering-shanghai.html?pagewanted=2&_r=moc.semityn.levart&adxnnl=1&adxnnlx=1346061834-QBygk/68BDTRaAaA4gHTg

²⁹ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

³⁰ EMSI, *Bringing LEED to China.* Available from: http://emsi-green.com/content/pdfs/BringingLEED_Final_Paper1.pdf

³¹ *Naked Stables Private Reserve: Sustainability.* Available from: <http://www.nakedretreats.cn/naked-stables-private-reserve/the-reserve/sustainability/>

³² Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

³³ EMSI, *Bringing LEED to China.* Available from: http://emsi-green.com/content/pdfs/BringingLEED_Final_Paper1.pdf

In naked Stable's case, the most difficulty was faced in choosing to use local contractors (from as close to the site as feasible) who had no experience working with LEED. This meant not only teaching the different building teams what LEED is, but also getting them to comply with requirements for reporting expenses and providing documentation for materials used in the construction of the project.³⁴

Green Hotel Standards Abound

The sheer number of green hotel standards often makes it difficult for developers to decide which to follow when “greening” their property.³⁵ Green Globe International, one of the most prominent 'green-hotel' standards, is currently used by some hotels in China and works with a third-party auditor to focus on behavioral, facility and product issues.³⁶ Green Globe, however, is implemented during the operational stage, rather than the building stage of hotel development, making it a complement to LEED, rather than a competitor.

Currently, the Sustainable Travel Educational Program (STEP) also certifies properties in China using benchmarks from the Global Sustainable Tourism Council.³⁷ STEP encourages members to evaluate both environmental and socio-economic impacts of their operations through a self-assessment system, which may then be subjected to a third-party follow-up audit if they aspire for a higher level of certification.³⁸ STEP, like Green Globe, augments LEED rather than competing with it. naked Stables, like many others in the Asian hospitality industry, has chosen to use LEED because hotels are essentially buildings and with so many competing 'green hotel standards,' it is difficult to choose one certification with wide consumer recognition.³⁹

³⁴ Bisagni, Alessandro. [Founder of BEE inc., LEED consultant for naked Stables.] Telephone interview (audio recorded). 25 October 2012.

³⁵ Sustainable Travel, Green Hotel Certification Programs Snowball, Sparks Confusion. Available from: http://blog.sustainabletravel.com/green_hotel_certification_prog_1.html

³⁶ *ibid*

³⁷ *ibid*

³⁸ Sustainable Tourism Education Program. Available from: http://sustainabletravelinternational.org/documents/sustainabletourismcertification_ratings.html

³⁹ Sustainable Hotels Without Reservations by Sustainability Asia Pacific. Available from: http://asia.cbre.com.hk/Documents/sustainability_issue4.pdf

Conclusion

LEED is a viable option for hotel developers wanting to show their commitment to green building standards, but as naked Stables shows, it is only a starting point for becoming a truly eco-conscious property. Integrating a green operation standard such as Green Globe or STEP insures that a hotel continues its commitment to sustainability. Beyond that, engaging and protecting the community where a resort sits is most important, and takes innovation above any standard used to certify the 'greenness' of a property. Slowly, the consumer consciousness for these issues will be shaped by resorts like naked Stables Private Reserve, who redefine luxury as harmony with nature.

Thinking Points

- LEED is an excellent starting point for hotel developers building new properties. Water conservation, energy use reduction and decreased waste output all bring down costs both in terms of local impact and on a fiscal level.
- naked Stables Private Reserve not only reduces its impact on the local environment, they also involve and preserve the local community by offering jobs, using local craftsmen and by locally sourcing food and other materials needed for daily operations. How can you positively impact the local community with your next building project?
- As China continues to grow, it recognizes their resources are very limited and conservation will be at the forefront of innovative regulations that encourage building designers to use less energy, water and materials. The impact LEED and other green regulations from abroad have on forming China's ever-evolving internal standards will be great.

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