



Green Footwear Manufacturing in China for Deckers Outdoor Corporation:

An Internal Business Plan to Reduce the Environmental Impact of Manufacturing Facilities

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Overview



Deckers Outdoor Corporation can realize financial benefits from our proposed initiative to green manufacturing facilities in China. These benefits can arise from reduced risk (due to preempting regulations, increasing the certainty of resource availability, and avoiding negative public perception of Deckers) and positive consumer response (due to consumers who are more likely to recommend, buy, or pay more for Deckers products). For just one of the three categories of reduced risk—avoiding negative public perception—an investment in the initiative will return \$3.46 to \$20 for every \$1 spent.



To help facilitate the implementation of our initiative, we created a Facility Audit and Green Facility Recommendations Handbook. These tools will allow Deckers and the manufacturing companies to determine a baseline of the facilities' current environmental performance and to learn how to green the facilities.



We applied our tools to a case-study facility in Hebei, China, and developed 14 suggestions to improve the environmental performance of the facility.

Motivation

Deckers Outdoor Corporation is interested in improving its environmental performance. Thus far, Deckers has focused its sustainability efforts on its Simple Shoes brand through the use of sustainable materials and take-back programs. By their nature, many of Deckers' footwear lines require the use of materials, such as leather and sheepskin, which will always have some environmental impacts. However, Deckers is committed to ensuring that its products are made as cleanly as possible. To this end, Deckers has implemented Ethical Supply Chain Guidelines to guide its corporate social responsibility efforts.

To help ensure that the expectations of its Ethical Supply Chain Guidelines are met during the manufacturing process in China, some Deckers employees are interested in promoting the greening of the facilities where its products are assembled. To further this interest, our project delivers two products:

Internal Business Plan

To present to Deckers executive management to identify the costs and benefits and calculate the rate of return on an investment in an initiative to reduce the environmental impacts of the footwear manufacturing facilities in China where Deckers products are assembled.

Audit and Handbook

To help Deckers launch an initiative to reduce the environmental impacts of the footwear manufacturing facilities in China where Deckers products are assembled.

Problem

1. U.S. footwear consumption has increased by almost 200% since 1978, and footwear manufacture has moved to China due to decreased regulations, low-cost labor, and expertise. The vast amount of footwear consumed every year and the less stringent environmental regulations in China mean that the impacts incurred during the life cycle of each shoe combine to have significant environmental impacts.



Footwear Manufacturing Facility

2. According to an assessment conducted recently for Deckers, materials production and assembly were responsible for about 90% of all environmental impacts associated with the life cycle of the shoes assessed. Specifically, the facilities where footwear are assembled generate a portion of these environmental impacts, which include water and energy use, waste production, and materials consumption. Depending on the materials used to make the shoes, the impacts of the manufacturing facilities may not be as extensive as those impacts generated through production of the footwear materials (such as leather, plastic, and cotton). However, Deckers is already taking steps to reduce the impacts of the materials used, and reducing the impacts of the manufacturing facilities can further reduce the overall impacts of Deckers footwear.

3. Because of the strong connection between Deckers and its manufacturing companies, the activities that occur at these facilities create the most risk for Deckers if they are perceived negatively by customers. These risks can create problems for Deckers' business, but with these problems come an opportunity for Deckers to avert the risks to its business and possibly stimulate increased brand visibility and sales, both of which can translate to increased profits.

Solution

In order to avert the risks posed by outsourcing manufacturing to China, this project is focused on the following initiative:

The Initiative

Create a division within Deckers to research, facilitate, and monitor the implementation of environmental-sustainability-focused policies, programs, retrofits, and upgrades to the manufacturing facilities in China where Deckers products are assembled.

Financial Analysis

Costs

Though the primary costs to improve the facilities will fall on the manufacturing companies themselves, Deckers will incur some costs to fund the initiative. These costs will include staff salary and overhead, communications, and membership fees, and will total \$440,000 for the first year and increase by 5% every year.

Summary of Benefit Sources

Benefits

The two main sources of benefits to Deckers, as outlined to the right, are risk reduction and positive consumer response.

Negative public perception of Deckers could be caused by either a catastrophic event such as a spill or contaminated products, or simply by poor current environmental practices catching the public's attention. Because this category of risk has the most potential to affect Deckers' bottom line directly, we have quantified its potential to save Deckers money. To do this, we considered how the following two factors would vary with and without the initiative:

1. The percent loss in profit caused by the event
2. The probability of such an event occurring

Without Initiative

Profit Loss: 10%

Justification: Specified by Deckers management and consultants; confirmed by market research into similar events (e.g., due to boycotts from their use of sweatshop labor in the 1990's, Nike saw a decrease in revenue of 15.5% from 1997 – 1998, a time when the overall footwear industry was growing).

Probability: 10% – 40%

Justification: Specified by Deckers management and consultants; based on the lack of a dedicated sustainability department at Deckers and the current success and visibility of the Ugg brand, which invites attention from consumers and watchdog organizations.

With Initiative

Profit Loss: 10%

Justification: While it is likely that with the initiative, Deckers will be better equipped to handle a negative event and lessen the impact on profits, we maintained the assumption of 10%.

Probability: 5%

Justification: While having stronger environmental regulations at the facilities in China will reduce the risk of a negative event, there is always some possibility that a catastrophe will happen or a consumer group will find fault with current practices.

As the initiative develops, it is likely to further decrease the risk of a negative event as the effort will improve over time and gain greater visibility in the consumer market. To account for this trend, we analyzed the potential savings over the course of five years. To do this, we assumed that without the initiative, the probability drops by 0.5% each year.

We used an annual profit of \$270 million, which was assumed to grow by 10% each year, and a discount rate of 5% to account for the future value of money. We also assumed that costs accrue starting in year one and increase by 5% per year, while benefits accrue starting in year two. Depending on the probability of an event occurring without the initiative in place, the investment will return \$3.46 to \$20 for every \$1 spent. This translates to a percent difference between costs and avoided losses of 246% to 1,900%.

Results: Return on Investment

\$3.46 – \$20 for every \$1 spent

246% – 1,900% difference between costs and avoided losses

The cost of taking action to decrease the risk of a negative event is significantly less than the profit losses caused by inaction. Additional benefits from other types of reduced risk (preempting regulations and increasing the certainty of resource availability) and positive consumer response to the initiative can result in even greater ROI.

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Audit & Handbook

To help facilitate implementation of the initiative, we created an initiative toolbox containing the following:

Facility Audit

The audit can be used to determine a baseline of the facilities' current environmental performance. To create the audit, we looked to several international green building certifications, including LEED, GBA, BEPAC, and BREEAM, in order to understand what building characteristics to consider. The audit we created is an Excel-based tool that focuses on Policies and Plans, Water, Energy, Indoor Air Quality, Materials and Resources, and Building Sites. Each section has subsections containing specific questions about the facility, equipment, operating procedures, and maintenance.

Green Facility Recommendations Handbook

The handbook is a beginner's guide to green buildings and covers the following areas: Energy, Water, Materials and Resources, Sustainable Sites, and Employee Health and Productivity. It makes specific recommendations for each of these sections on what can be done to improve the environmental performance of a facility and provides definitions, references, and cost and benefit information where appropriate. An example recommendation from the handbook is shown to the right.

Renderings

The handbook also contains renderings of example ideal green manufacturing facilities. One example is displayed below.

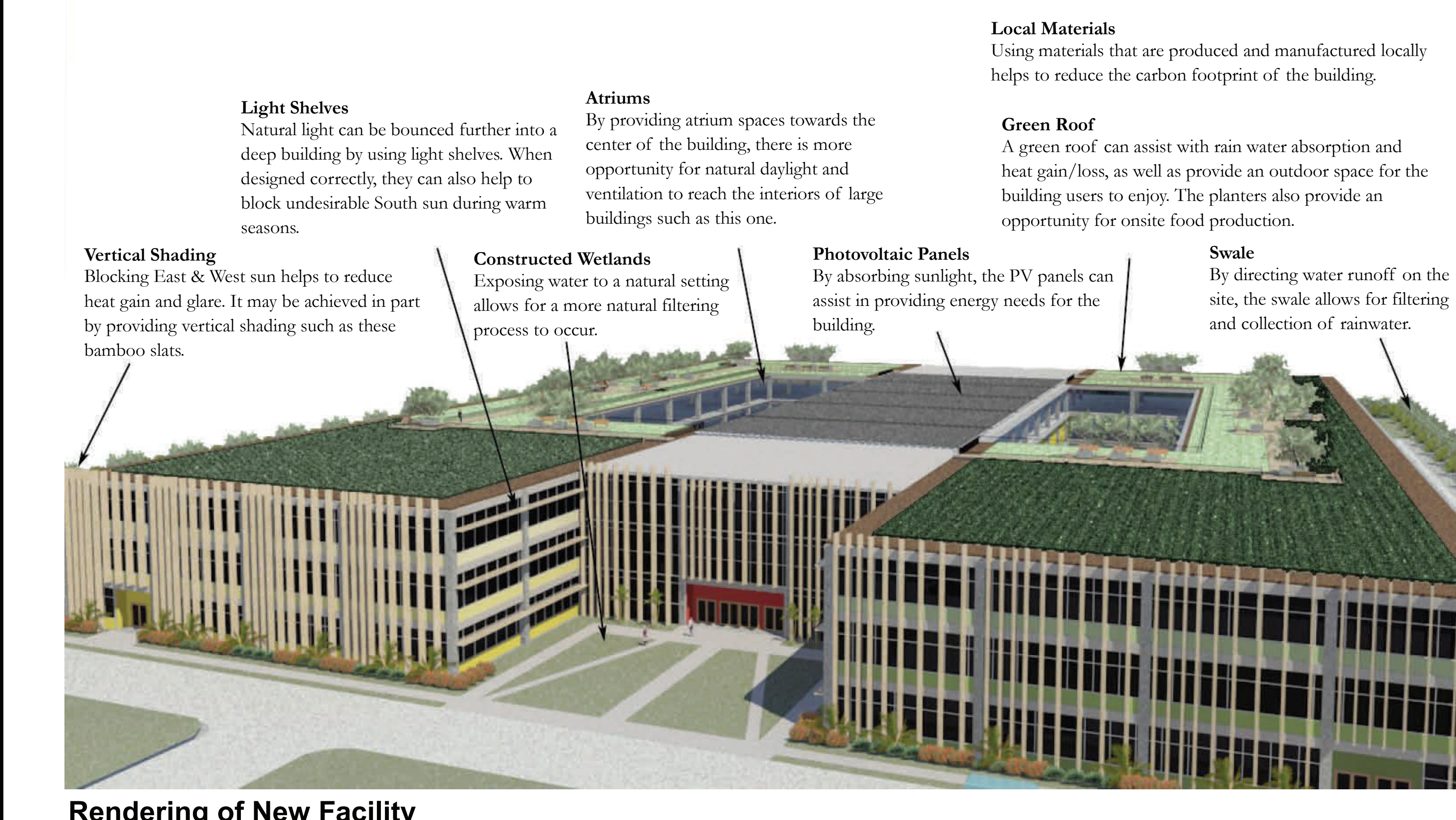
Sustainable Purchasing Policy

Develop and implement a sustainable purchasing policy. The following characteristics should be maximized to the extent possible in purchased products:

- recycled content (post-consumer and post-industrial)
- biodegradability
- use of renewable materials
- use of local materials
- energy efficiency
- water efficiency
- certification by relevant organizations (e.g., Forest Stewardship Council, Energy Star, Green Seal, Carpet and Rug Institute)

The following substances, which purchased products can contain, should be avoided to the maximum extent possible:

- mercury, lead, and other hazardous substances
- volatile organic compounds (VOCs)
- use of ozone depleting substances (ODS) and high-global-warming- potential (GWP) gases



Rendering of New Facility

Case Study

To test our tools and generate a product for Deckers to begin implementation, we conducted a case study on a manufacturing facility in Hebei, China. The manufacturing facility is a multi-building campus that manufactures only Deckers footwear. Based on the results of our audit and using our handbook, we developed priority and secondary suggestions for the case study facility. These suggestions, which are elaborated on in the report, include the following:



Hebei Province, China

Priority Suggestions

- Insulate hot water pipes
- Paint roof white
- Improve lighting efficiency
- Perform water audit
- Harvest rainwater
- Conduct a waste stream audit and create a solid waste management policy
- Test noise and air quality
- Conduct training
- Commission the building

Secondary Suggestions

- Install solar tubes
- Install wind turbines or solar panels
- Purchase environmentally-friendly vehicles
- Grow an organic garden
- Landscape for natural cooling