



SHOWCASE PROJECT: CITY OF LOS ANGELES: ADVANCE PAPER BOX COMPANY

SOLUTION OVERVIEW

Advance Paper Box Company is currently undertaking a complete renovation of its plant buildings in South Los Angeles. The energy efficiency upgrades highlighted here will be the first phase of those renovations. Capital upgrades, including HVAC, new ductwork, a cool roof, and lighting are all a part of this phase. The long-term plan includes solar arrays, at least one new air compressor, employee energy and water saving campaigns, and visits from schools and other companies to demonstrate community progress in energy efficiency and sustainable business practices.

As a participant in the Los Angeles Commercial Building Performance Partnership (LACBPP), Advance Paper Box underwent an ASHRAE Level 2 Audit to help identify projects and management practices with potential for energy savings. Advance Paper Box contracted with Willdan to identify cost effective opportunities for energy savings. The Level 2 Audit helped building managers and the owners of the building recognize the degree to which the outdated HVAC system was costing them. The LACBPP helped them to find utility rebates to help offset the cost, which allowed Advance Paper Box to do a complete overhaul of the system.

With the addition of a Sustainability Coordinator, Advance Paper Box is streamlining their approach to building and equipment management, and developing a feedback system to identify inefficiencies on an on-going basis for continuous improvement. Advance Paper Box has secured a rebate from the Los Angeles Department of Water and Power under their Solar Incentive Program for a 97.4 kW solar array to help power their largest plant. Construction on this project is set to begin in 2013 and will generate approximately 152,786 kWh annually. The solar power generated will be used on-site and will not be sold back to the grid.

SECTOR TYPE

Local Government

LOCATION

Los Angeles, California

PROJECT SIZE

65,000 Square Feet

FINANCIAL OVERVIEW

Project Cost \$748,000

SOLUTIONS

The overhaul of the 30 year old HVAC system required careful consideration. Because the building space contains both manufacturing and office space, and the processing equipment creates a lot of heat, the facilities team took considerable time deliberating the best options for each of the spaces. In order to maximize the energy savings, the facilities team recommended more fans to evacuate process heat, which lowered the amount of conditioning needed for the plant space.

Advance Paper Box's installed cool roof material, FiberTite, is one of the first roofing membranes certified under the ENERGY STAR roofing products program. ENERGY STAR qualified roof products can help reduce the amount of air conditioning needed in buildings and can reduce peak cooling demand by 10-15 percent.

Advanced Paper Box will continue to pursue continuous energy management best practices to optimize the performance of its high efficiency equipment upgrades. Estimated energy impacts from the completed and planned capital investment projects are:

- 2012 HVAC upgrade: 149,695 kWh/year
- 2012 Cool Roof installation: 38,736 kWh/year
- 2012 Lighting retrofits: 44,920 kWh/year
- 2013 solar PV array: 152,786 kWh will be generated per year and used on-site to offset grid-purchased electricity consumption

OTHER BENEFITS

The projects and efficiency measures are a part of Advance Paper Box's commitment to the Los Angeles Department of Water and Power's (LADWP) Sustainability Demonstration Project Agreement. Under this agreement, Advance Paper Box will engage with LADWP in a multi-year plan to identify energy and water savings opportunities, and implement projects through the use of sustainable design, installation of efficient equipment, deployment of solar generation, and by practicing conservation measures to achieve emissions reductions and water conservation.

Advance Paper Box was awarded a plaque from the Los Angeles Department of Water and Power for their commitment to environmental sustainability under LADWP's Sustainability Partnership. The plaque recognized the facility's annual energy savings of approximately 20%. The Sustainability Partnership is a joint effort to reduce energy consumption by at least 10% each year through a variety of energy efficiency measures. As part of the demonstration component of this Partnership, Advance Paper Box will allow access to its facilities for LADWP customers, government officials, students, and other stakeholders.

Annual Energy Use

(Source EUI)

Baseline(2011)
373 kBtu/sq. ft.

Expected(2014)
314 kBtu/sq. ft.

Actual()
Coming soon

Energy Savings

16%

Annual Energy Cost

Baseline(2011)
\$491,000

Expected(2014)
\$412,000

Actual()
Coming soon

Cost Savings

\$79,000



Advance Paper Box's headquarters



High efficiency lighting technology