

Business Plan for NMHU Recycling Program

The green movement has gained a foothold not just in education, but in society at large, and the prevailing attitude seems to have shifted. Can schools afford to go green? As budgets are repeatedly slashed, administrators must place a premium on sustainability. Dollars saved through efficiencies can help maintain critical education programs that otherwise would fall victim to dwindling financial support. Even as schools and universities eliminate jobs, increase class sizes, and scramble for other ways to reduce expenditures, many of these same institutions are maintaining or extending their commitment to energy-efficient and environmental friendly construction and operational practices that provide safe, healthy, and cost-effective learning and work environments. In January 2011, 676 IHEs signed the American College and University Presidents' Climate Commitment, which calls for HE administrators to combat global warming, and take steps to reduce their institution's carbon footprint to eventually create climate-neutral campuses.

Today, everyone has heard how important it is to recycle, but what exactly is recycling and how beneficial is it really to NMHU and the environment? Recycling is the process of turning a discarded product into a new product, which is done to conserve resources, energy, and space used in landfills. Approximately, 60% of all trash can be recycled. The most common products found in recycling centers are paper products, cardboard, plastic, glass, and aluminum, which are similarly accepted at NMHU's recycling program.

NMHU's Facilities Services Department was tasked in 2010 to set up a recycling program at NMHU as part of its greater leadership role in implementing green initiatives campus-wide. These initiatives include the university obtaining a certified rating through the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED). The recycling program is helping to achieve this goal with recycling receptacles located at LEED certified buildings and by taking cardboard and other recyclable materials from construction sites to be recycled. NMHU's recent focus on environmental stewardship is shared by other universities and schools. Such universities as Colorado State University are installing a 5.3 megawatt solar plant at the foothills of its campus, and UC Santa Barbara campus just earned LEED certification in the existing building category by reducing energy use by 44%. The Texas Independent School District has also become involved by using construction materials with recycled content, installing low-flow plumbing fixtures, drought resistant plants, solar panels, reflective site paving, and installing roofs that minimize heat absorption. The list goes on.

Sources: www.environment-green.com

American School & University – February 2011

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II. Executive Summary

In a time that the United States and several European countries are leading the world in excess waste and consumption despite the education and awareness of global warming and the need to conserve Earth's precious resources, New Mexico Highlands University is seeking to provide a critical environmental service to its community through its recycling program. With concern over the effects of global warming and the protection of the environment, individuals and businesses are finding ways to be more environmentally consciences, and it is predicted that businesses that show their customers that they are sensitive to conserving natural resources, protecting the environment, and reducing waste will be those businesses that succeed and prosper in upcoming years.

Through recycling efforts, NMHU is bringing environmental education to its campus. The University is involving students with hands-on activities that aid in the understanding of the environment and reasons to protect it. As part of the educational process, students are volunteering from local colleges and schools to participate in the

University's recycling project, which is reinforcing global environmental concepts taught by teachers and other school professionals.

Currently, the recycling program costs the University anywhere from \$60K to \$70K annually to operate. These costs can be offset by a savings of approx. \$77,000 in current sanitation costs by simply reducing the number of dumpsters the university currently has within its property. Facilities Services has designed a plan that will incorporate its recycling program to create a more efficient means by which trash is removed from the campus (See Table 2, page 10).

There are other ways that the recycling program's savings is quantifiable. By recycling one plastic bottle, the university is preventing it from being thrown in a landfill where it will remain 100 to 1,000 years. It is also saving the environment from emissions associated with producing new bottles. Oil is used to produce each bottle, and for every one ton of plastic that is recycled, the university can save the equivalent energy used by two people in one year, the amount of water used by one person in two months, and nearly a ton of oil. When we do not recycle glass or aluminum, the planet takes up the cost in power usage, water & oil usage, and landfill usage. Glass takes up to 4,000 years to decompose in a landfill; yet, it can be recycled indefinitely. By bringing recycling to the greater Las Vegas community, the University is also saving the community in immeasurable ways for generations to come through education, environmental awareness, and sustainability.

III. Goals and Objectives

NMHU Recycling Program's Goals are aimed at invoking a wide-spread awareness on the benefits of recycling within 70% of the University's community and 30% of the greater Las Vegas community. Its objective is to recycle 50% of the waste produced by the campus by 2012 and 60% by 2013.

IV. Marketing Plan

Facilities Services has placed several articles in local new papers informing the community of its recycling hours and educating its users on how to organize recyclables at its facility. Facilities Services wants to insure that the program is viable and being used properly by the university community before it opens the recycling center to the greater Las Vegas community.

Mr. Ira Harge has been hired as a student employee to assist in soliciting donations from the local private sector for the program. Facilities Services plans on sending out periodic global emails to announce special events and future hours of operation, as well as instructions on how to donate to the program.

NMHU will lead the community in educating other individuals and companies who begin to show an interest in recycling.

NMHU's recycling center has a large growth potential, since San Miguel County currently does not have another recycling center to service its population of 14,000.

V. Service, Users, and Competition

The University provides a recycling center to its campus community that is located at the Northwest end of the Wilson Complex parking lot. The location is easy to access, convenient, and well maintained. The University also offers recycling receptacles throughout the campus, which makes recycling possible, easy, and convenient not only for students, faculty, pedestrians, and visitors, but also for departmental personnel, who are the largest consumers of paper products on the campus.

Currently, NMHU's recycling program has no competitors within a forty mile radius. Future competitors may be San Miguel county and the City of Las Vegas. However, NMHU still has the upper hand in providing a clean and efficient recycling program.

If the City of Las Vegas and San Miguel County were to both enter into the recycling business, the following scenarios are possible.

Table 1: Competitive Analysis

FACTOR	NMHU	City of LV	San Miguel County
Services	Mon-Friday	Mon-Sat.	Mon-Friday
Price	N/A	Reasonable	reasonable
Quality	Excellent	Fair	Fair
Reliability	Good	Good	Good
Stability	Based on available funding	Good	Good
Expertise	Comparable	Comparable	Comparable
Company Reputation			
Location	Best	Fair	Fair
Image	Best	Fair	Fair

NMHU's advantages would consist of price, quality, location, and image. Its disadvantage would be stability pending budget availability. However, if the city or county were to open their recycling centers, the University could evaluate whether keeping its recycling center open is viable and necessary at that point in time.

VI. Location, Personnel, and Inventory

Location

NMHU has recycling receptacles conveniently located throughout the campus. Its recycling center, located at the Northwest end of the Wilson Complex parking lot, has sufficient space for parking. Bins are easily accessed and are clearly identified, and instructions for what is accepted at the drop-off site and business hours are clearly marked.

Personnel

- One full-time Recycling & Solid Waste Technician
- Two part-time work studies
- Job descriptions have been drafted.

Inventory

- large trash liners
- gloves and aprons
- receptacle disinfectant cleaners

VII. Management and Responsibilities

Key employee: Recycling & Solid Waste Technician at 1 FTE will manage the day-to-day operations of the recycling program. Little to no experience is required. A week-long training will be provided by the Facilities Services managerial staff.

DUTIES AND RESPONSIBILITIES:

1. Collects and directs the number of frequency in pickups daily for recyclable and solid waste materials from designated areas throughout the campus according to established procedures and the New Mexico Solid Waste Act.
2. Transports recyclable and solid waste materials throughout campus to disposable site.
3. Works with and supervises work studies.
4. Insures recyclable bins are cleaned out regularly and are in good condition.
5. Operates a variety of recycling and solid waste equipment and vehicles such as baling machines, lifts, and trucks.
6. Ensures confidentiality of recycled and solid waste materials from pick-up point through the end of recycling process.
7. Answers questions and promotes the recycling program to employees and community, and instructs employees and the community on appropriate materials to place in containers.
8. Watches flow of recycled and solid waste materials and makes recommendations as to the number of bins needed.
9. Ensures care in the disposal of chemicals and/or medical materials that are improperly placed in recycle bins.
10. Prepares materials for recycling and solid waste management.
11. Coordinates routine schedules to have contractors pick up materials from the main recyclable and solid waste centers on campus.
12. Ensures care in the proper handling and use of equipment and supplies.
13. Performs other related duties as assigned.

VIII. Operational Costs

Recycling Program's Estimated Costs		
		<u>FY12</u>
6141	Recycling & Solid Waste Technician	\$25,000.00
6220	Fringe Benefits @ 35%	\$8,735.00
6151	Departmental Students - Work Studies	\$15,000.00
7151	Supplies (liners, cleaning agents, gloves)	\$5,000.00
7115	Recycling Transport Services	\$10,000.00
7524	NM Gross Receipts Tax	\$850.00
	Total	\$64,585.00

Projected Cash Flow

Estimated monthly costs = Not to exceed \$5,400 per month

The recycling program does not have the typical barriers of other programs, such as high capital and marketing costs. Most of the start-up capital costs have been paid for through a \$10,000 ARRA grant received by NMHU through the NM Energy, Minerals, and Natural Resources Department. However, there are recurring costs that involve one FTE plus fringe benefits, two work studies, supplies and recycling transport costs that total anywhere from \$60K to \$70K annually.

At least \$10,000 of the transport costs can be allocated to the university's utilities budget, since garbage costs are being offset by the program. The remaining \$55,000 in costs can be offset with Facilities Services using the recycling program to reduce the number of dumpsters being used campus-wide (See table 2 below).

When received, small donations and reimbursements for scrap metal and aluminum are deposited into the recycling budget to help offset any one of these costs.

Table 2: Proposed Savings

(a) Current Garbage Services	(b) CLV's New Rate (estimated)	(c) Proposed Savings
NMHU currently pays: \$643/dumpster/month x 13 dumpsters (includes 2 for ABL and 18? for HU) x 12 months = <u>\$100,308</u>	CLV's proposed new rate: \$435/dumpster/month x <u>15</u> dumpsters (includes 2 for ABL and 13 for HU) x 12 months = <u>\$78,300</u>	\$435/dumpster/month x 8 dumpsters (4 at recycling center and 4 campus-wide) x 12 months = <u>\$41,760</u>
		\$177 / contractor-size dumpster from county to be located at the recycling center x 2 days x 52 weeks = <u>\$18,408</u>
Plus <u>\$40,608</u> (includes the President's house, golf course, Facilities, new dorm and sheriff's house)	Plus <u>\$4,200</u> (President's house, golf course, and sheriff's house)	Plus <u>\$4,200</u> (President's house, golf course, and sheriff's house)
Costs: <u>\$141,000</u>	<u>\$82,500</u>	<u>\$64,000</u>
Minimum annual overcharge by CLV (column a):	<u>\$58,500</u>	
Proposed annual savings to offset the costs of the recycling program:	<u>\$77,000</u>	