



Going Green: Casino Food and Beverage Operations

by Craig Pendleton

Historically Native Americans have been the protectors of the earth. What better reason could there be for tribal casinos to be the leaders in practicing green – earth friendly practices? There are two major reasons for practicing and converting your casino to a greener property – it is the right thing to do and in the long term it can save money in operating costs.

The principal areas of going green involve both construction and operations. The concepts of green are simple:

- Use less – materials, fuel and energy
- Produce less unconsumed products – operate efficiently, use everything you purchase
- Send less away from your operation - in the form of waste and packaging

If efforts are effective in green practices the result of the process is friendlier to the environment and has the potential to be more cost effective in the process.

Construction

Many groups, certifications and guidelines exist for green construction and practices. One of the most stringent is LEED certification (Leadership in Energy and Environmental Design). There are four different levels of ratings and a point system of scoring for qualification. Typically this certification is easier to achieve in an office building environment versus hospitality where food and beverage operations involve production (manufacturing) of food and beverage products for service, the creation of waste in the process including packaging and containers for take-away and chemicals for cleaning.

Some of the major areas of green construction practices involve local sourcing of products, minimizing and recycling of demolition materials, using recycled building materials and a variety of design practices directed towards saving energy, such as using existing ambient lighting, recovery of heat from equipment, water saving devices and fixtures, energy saving appliances and onsite energy production.

Operations

A larger immediate opportunity exists for casino outlets in the form of revised practices in food and beverage operations. The following are some of the best practices that can produce immediate and long term benefits.

Use Less

Purchasing local products to reduce emissions created in the transportation and delivery of raw materials

Installation of water saving devices and appliances

- Pre-rinse spray hoses for dishwashing areas come in water saving models with built in flow restrictors.
- There is remarkable new technology for the amount of water that can be saved using new dishwashing and glass washing machines.
- Replacing water cooled compressors (typically ice machines) with air cooled models

Installation of energy saving devices and appliances, control operating times

- Many new appliances have energy star ratings that require them to qualify under low operation cost guidelines.
- An example of innovative new technology are the new deep fryers that recycle their exhaust heat to heat the oil and don't send it out the kitchen hood in the form of lost energy.
- Kitchen exhaust systems typically account for over 20% of utility costs. When hood fan motors need replacing, consider replacing the fan motors with variable speed units and controllers. Exhaust hoods must operate at all times when cooking appliances are turned on to meet the requirements of fire suppression. During slow times when very little cooking is occurring, variable speed systems allow the motors to operate at a slower speed greatly decreasing the energy costs of both the exhaust and make-up (replacement) fan systems from 30-50%.
- Rebalance Hoods - most systems are not well balanced and also draw in the climatized room air into the exhaust. Air-conditioned/heated air from the dining room and kitchen production areas goes right up the exhaust hood to the outside.
- Monitor operating times of all equipment. Turn off equipment when not in use and do not turn on prior to immediate need. Load and activity controllers are available for many types of equipment to guarantee that this practice is automatically followed.

Perform routine scheduled maintenance of equipment

This is especially important for keeping condensers and filters clean on refrigeration and HVAC equipment, as well as maintaining gaskets and seals.

Update lighting fixtures and convert to low energy bulbs

There are many new alternatives to conventional incandescent and florescent light bulbs and fixtures. LED technology is available to replace many applications.

Upgrade water heating and water treatment systems

- Heating water for kitchens is very costly. Often it is more cost effective to use a dedicated hot water loop for food and beverage operations.
- In remote location restrooms it is often more effective to only deliver cold water and use on-demand under-counter water heaters for creating hot water as needed.

Produce Less Unconsumed Products

Convert to cleaning chemicals that are biodegradable or PH neutral, concentrated, involve minimal packaging and revise cleaning practices.

PH neutral dishwashing detergents

Some food service chemical suppliers now offer machine detergents that are non-caustic, pH neutral and have less packaging. This greatly improves wastewater and the costs of treatment.

Limiting or eliminating the use of bleach

Operators should replace bleach with safer and more effective alternatives such as ozone sanitizers/ionized water sanitizers. If bleach is not eliminated its use should be greatly reduced. Bleach can kill the enzymes used in drain maintenance programs.

Elimination of free pouring chemicals by installing dilution control systems

Restaurant operators can cut their chemical usage significantly by installing automatic dispensing systems. These systems control the amount and timing of chemical dispensing leading to a large and immediate reduction in use, disposal, and toxic exposure to staff.

Converting to higher concentrated products and consolidate items

Tell your supplier you want to use fewer overall products and that you prefer super concentrates whenever possible.

Convert to earth-friendly oven cleaning products and degreasers

Some of the most toxic chemicals in any restaurant kitchen

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are found in commercial oven cleaners and de-greasers. Replace your standard chemicals with greener ones. You can clean ovens with products as natural as baking soda, borax, water and a little elbow grease.

Create a simple wastewater treatment program

Install automatic meter pumps that can dose bacteria/enzyme-based drain treatments for grease traps. Use similar microbial floor mopping solutions that DIGEST grease, waste, and odors naturally, while augmenting your wastewater treatment with every mop.

Use microfiber rags instead of paper towels

Highly reusable microfiber rags can hold much more water and do many cleaning jobs using fewer chemicals. You will see reductions in chemical costs and paper towel supplies. These can also replace many cloth towel applications saving additional laundry and replacement costs. Cloth towels are also a large source of cross-contamination.

Removal of garbage disposals and installing catch receptacles as well as recirculating rinse systems that reuse water

A trough collector is a solution for medium to large size food service establishments that are unable to use a food waste disposer. A disposer with a pre-rinse hose system can use in excess of 10 gallons per minute depending on how much the pre-rinse is used. Trough type collectors use only 2 gpm of fresh water by allowing operators to scrap into a trough of recirculating water.

New water treatment systems

The ground water in most communities continues to degrade. Water is harder and contains more TDS (total dissolved solids, i.e., minerals). This necessitates additional chemical usage, de-liming and scaling (preventative maintenance costs) and reduces the life of water heaters. Pre-softening water prior to it entering the water heater is the preferred method of water treatment. Standard water softening systems use salt for the regeneration process and emit large amounts of salt into the drain water. There are revised methods of water softening available that reduce the salt needed for the regeneration process as well as alternatives to reverse osmosis systems that use large amounts of water to generate the final amount of treated water for beverages and ice.

Ask for free training and preventive maintenance from suppliers

Overuse or improper use of cleaning compounds can lead to loss of savings. Ask your chemical supplier to spend time with your staff on a regular basis to make sure employees are using the proper cleaners the correct way. Also, request they stop by regularly to check the equipment before problems arise. These visits will improve practices, reduce expenses, and aid the environment.

Send Less Away From Your Operation

Revise take away containers. These are rated in different categories:

Compostable products have the highest green threshold to reach. Compostable products break down naturally into carbon dioxide, water, and biomass at the same rate as cellulose or paper in an industrial or municipal composting facility. Compostable materials do not leave a toxic residue and cannot be distinguished from the rest of the compost after full degradation.

Biodegradable products break down over time into smaller and smaller chunks as a result of the action of agent enzymes produced by bacteria or fungi. This process can leave behind toxic chemicals and still be designated as biodegradable. No single standard exists for the amount of time a product takes to biodegrade.

Recyclable – just about anything can be recycled. Check with your recycler to verify which types of plastics and metals they accept. Training staff and getting customers to recycle the right products can be a challenge. The simpler it is for your staff and the guests to sort items, the more compliant you can operate. The main ingredient to success is creating a clear set of guidelines, communicating those guidelines to your staff and customers and having simple separately labeled receptacles located side by side in disposal station locations.

New Technologies and Practices

There are two newer technologies that can have a major impact on casino food and beverage green practices:

Internal composting of food and paper waste

Some properties have started the process of internal composting. In the past composting has involved an offsite process and been labor intensive. The new systems are available in both wet and dry systems. Food and paper products are separated and placed into units that are located next to dishwashing stations or hauled to units in the back dock area. The composters break down and liquefy the products into grey waste water within 24 hours. Placing the unit inside the kitchen minimizes the trips to the back dock dumpsters, eliminates the heavy lifting of trashcans and even more importantly can effectively cut the amount of trash pickups in half. This can reduce the cost of trash service to the casino by one half and reduces the carbon footprint of the fuel burned hauling trash to the landfill.

Bulk CO2 and bulk cooking oil systems

Many casinos have been using bulk CO2 systems for years. This reduces the labor involved in hauling the CO2 tanks and reduces deliveries and costs. Some operators are now converting to bulk cooking oil systems that fill a new clean oil tank

and pump out a dirty oil tank. This reduces the amount of packaging, containers involved in purchasing oil in jug type containers, lifting and hauling of new and old grease and eliminates the need for a used grease container typically located on the back dock. Any system that can be converted to bulk purchasing can see reduction in deliveries, packaging and labor.

Benefits of Green Practices

In addition to operating in an improved green earth friendly process, there are additional benefits to the conversion.

- Cost savings including potential local, city, county, state and federal government rebates.
- Great press worthy opportunities.
- Protecting your employees, customers, tribal members and reservation lands.
- Free or low cost trial and example discounts from suppliers. Some suppliers will allow casinos to try out new technologies and equipment at little or no cost while determining if it is right for the casino. Some will also continue this discount if the casino allows other potential customers to contact and sometimes visit the property to observe the item as it is in use.
- Many tribes in rural areas now have the responsibility of operating their own wastewater treatment facilities. As a rule, the less waste water and the cleaner the waste water entering the treatment plant the less cost is required to treat the water to an acceptable level for return to the environment. Reduction of extremely volatile chemicals and reduction of grease and food solids greatly help reduce the costs for the tribe.

Process to Change

Change is not always easy. It is important to calculate the cost of the change, benefits, return of investment, and the impact on the staff of implementing the change. The ROI calculation of each alternative should include a valuation of the process of change (including staff resistance) both for the short and long term. Some items have a long term ROI to receive payback. Casinos need to remember that the cost of utilities, supplies and labor will always continue to increase over time. When calculating costs factor in future expenses of items reduced or saved.

Get a free assessment

Many government organizations, restaurant associations, equipment suppliers and cleaning suppliers offer free programs to analyze current use, identify problem areas, and suggest green alternatives. It may also make sense to engage a third party to perform a property assessment and assist in organizing a formalized action plan for the conversion to

green process. These are the typical types of assessments:

- **Habit Assessment** – This type of assessment looks for the daily practices that can be changed to save money and resources.
- **Energy Assessment** – A representative from the local utility company can help you identify where you are needlessly wasting energy.
- **Water Assessment** – Leaky plumbing fixtures are only sending your money down the drain. A water assessment will determine where the most money can be saved.
- **Waste Assessment** – Performing a waste assessment will help you determine the types and quantities of materials being thrown out. Once you know what is being wasted, you can determine how you can reduce, reuse and recycle. ♣

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