



vegawatt
ON-SITE WASTE
VEGETABLE OIL GENERATORS

Vegawatt Cogeneration Systems

Case Study: Finz Seafood & Grill, Dedham, Massachusetts

Background

Finz Seafood & Grill, located outside of Boston, serves a wide variety and quantity of fresh fried seafood, other proteins and appetizer menu items, and of course, french fries, in their upscale, 200+ seat full-service restaurant.

The Problem

Increasing utility costs, combined with rising food and labor costs, (the primary controllable expenses in the restaurant and food service industry), had owner George Carey searching for additional solutions that would positively affect his bottom-line profits. Until recently there were not many opportunities to make a grand impact on utility costs and usages. Walk-in freezers and refrigerators, ice machines, lighting, hood systems, HVAC, computers and cooking equipment all had to be operating as long as the business was serving food to its customers. Most of these pieces of equipment were still in operation when the restaurant was closed for the night. While some adjustments could be made depending upon the level of business at certain times of the day or week, the opportunities for substantial savings were limited.

Behind his restaurant, as is the case in most food service operations, sat a smelly, dirty, pest-attracting waste vegetable oil (WVO) dumpster that was used to collect and dispose the waste fryer oil from *Finz*. The kitchen of this medium-sized restaurant produced 3600 gallons of WVO each year, or 60 to 80 gallons per week (GPW). Coincidentally, this eyesore of a dumpster, which due to inconsistent service was often not emptied by the rendering company even when it was full, contained an opportunity to save money, clean up the delivery area and Green his business brand.

The Solution

George Carey graciously hosted the first prototype Vegawatt cogeneration system. Upon availability, George also elected to receive the first commercially available Vegawatt System.

Restaurant and foodservice operations now have a new solution; utilize their valuable WVO as a fuel to generate clean and free on-site energy that lowers their utility bills.

The Product

The Vegawatt 6 kW system, such as the one used at *Finz*, is a micro-bio CHP (Combined Heat and Power or cogeneration) system that utilizes waste vegetable oil to provide electricity and hot water for use by the restaurant. The system automatically filters and dewateres even the dirtiest of waste vegetable oils, harnessing the cleaned oil to power a high efficiency generator. It is a straight vegetable oil process, avoiding



At A Glance

Basic Energy Rates

Electricity: c16 /kWh
Natural Gas: \$1.46 /therm
WVO usage: 70 GPW

Vegawatt Savings

Electricity: \$702 /month
Natural Gas: \$229 /month

Total: \$11,169 /yr

Financial Outcome

Payback: 1.6 years
WVO value: \$3.14 /gallon


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biodiesel and its associated harsh chemicals and waste streams. A Vegawatt's seamless operation melds into the existing workflow with no disruption to the daily operations of the restaurant. Conveniently it takes up a little less space than the previously existing dumpster.

The Results

George Carey's system consumed approximately 60 to 80 gallons of waste fryer oil per week and gave him free energy from the waste he was paying someone to take away. He calculates that he was saving about \$1,000 per month in utility costs (in 2009) and as such the Vegawatt provided him with a value of \$3.30 per gallon for his waste vegetable oil.

Carey was able to reduce the carbon footprint of his restaurant, not only by generating his own power (directly offsetting 10 tons of CO₂ per year), but because he eliminated the need for large and inefficient (low-mpg) diesel trucks that were driving many miles to and from his restaurant to remove his WVO. Additionally he was able to eliminate expenses and hassles associated with rendering companies. Such successes include removing the dirty and smell waste oil dumpster, ending the hassle of chasing the rendering company to come and empty his container, removing the costs associated with hauling away his WVO, and freeing up additional space behind his building. Because of the green energy nature of the Vegawatt, George gained the opportunity to gather free publicity and to Green-market his restaurant to his customers.

The Testimonials

"As a restaurant operator I am constantly looking for more efficient methods, and especially for costs-saving measures," said George Carey, owner of *Finz Seafood & Grill* in Dedham, Massachusetts, the first establishment to install the Vegawatt™ system. "My largest line-item expense is runaway utility costs. The Vegawatt™ system enables me to significantly reduce my energy costs, generate clean energy on-site, and very importantly, reduce the heavy energy footprint of my restaurant."

"The Vegawatt™ is quite impressive," stated Peter Christie, President of the Massachusetts Restaurant Association. "It is a breakthrough in technology that will allow for a better environment while making use of oil that would normally be thrown out."

"It's with great pleasure that we endorse this product - groundbreaking truly is the word to describe it," says Michael Oshman, CEO of the Green Restaurant Association. "The product's environmental merits are outstanding. By supporting renewable fuel, the Vegawatt™ reduces the amount of traditional, petroleum-based, nuclear, coal, and large hydropower fuel typically associated with energy production."

The Conclusion

Waste Vegetable Oil is a valuable resource, now one that does not need to be wasted. If you would like to learn more about Vegawatt systems and how one could benefit your facility, please call us today at (508) 636-4645.