



# Twin Ports Testing

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Our Vision Statement: *Providing the expertise for innovative solutions that lead to a sustainable tomorrow*



Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed it is the only thing that ever has. -Margaret Mead



## WHAT IS OUR BUSINESS?

- Non-Destructive Testing
  - A group of analysis techniques used in industry to evaluate the properties of a material, component or system without causing damage
- Geotechnical Engineering/Construction Materials Testing
  - Soil Borings
  - Site Evaluation
  - Foundation Design
  - Soil / Aggregate / Concrete Testing
- Environmental Services
  - Phase I & Phase II Investigations
  - Soil & Groundwater Investigations
  - Environmental Remediations
- Industrial Hygiene
  - Indoor Air Quality Services
  - Mold Investigations
  - Asbestos Inspections
  - Lead Paint Inspections
- Chemistry Lab Services
  - Solid & Liquid Fuel Analysis
  - Pellet Fuel & Feedstock Analysis
  - Coal Analysis

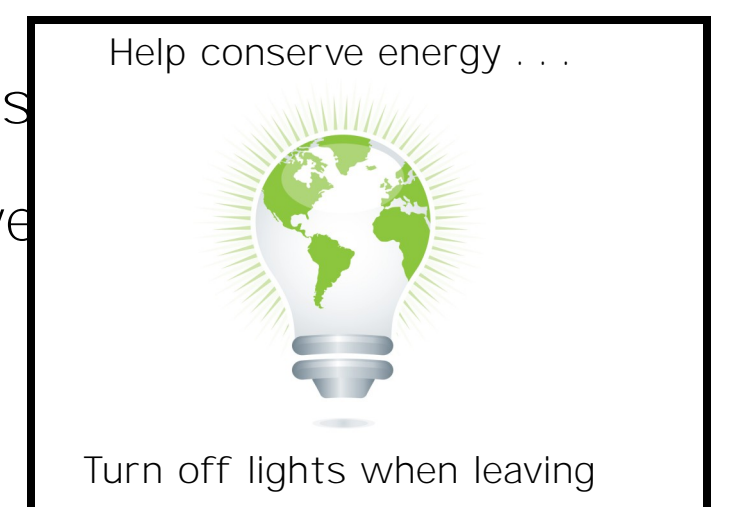
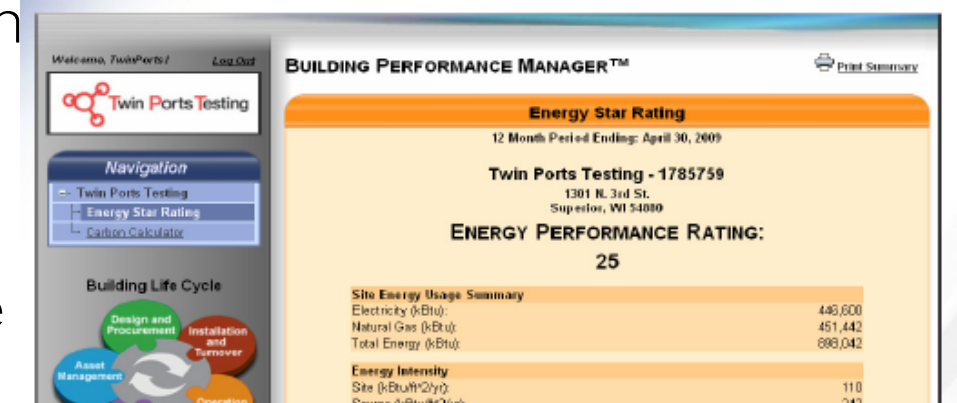


## OUR CURRENT REALITY

- Dependent on fossil fuels for heat and fuel
- Paper dependent due to industry demands for reporting and office needs
- High chemical use
- Inconsistent recycling
- High vehicle fuel use due to industry demands for on-site work
- High energy use for testing equipment
- Current economic status

## ACTIONS TOWARD SUSTAINABILITY

- Energy Star Rating for tracking our progress as changes to our facility are made
- Adding a compost system for food waste
- Supporting a consistent recycling program
- Implementing a synthetic fuel program for all vehicles
- Monitoring vehicle fuel use and maintenance
- Converting to electronic forms / reports to reduce paper dependency
- Controlling energy thru programmable thermostats
- Switching lights off / power
- Educating employees and customers on sustainable practices



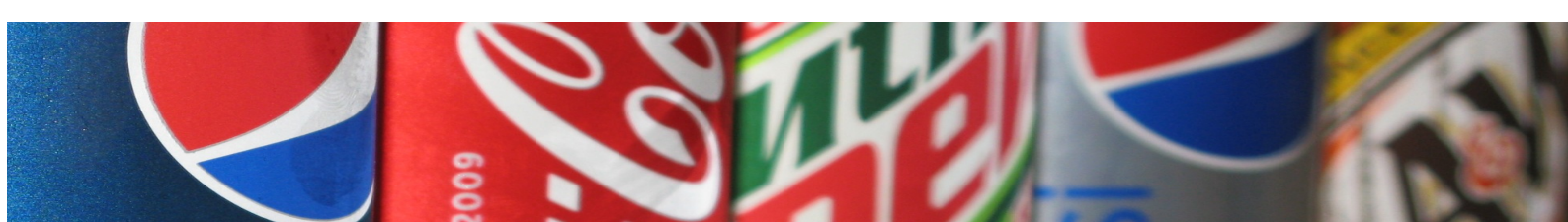
## OUR JUICK WIN

*How much electricity does it take to run a pop machine?*

During our energy audit, we discovered that we were spending between \$800-900 a year for electricity to run our current pop machine. Plus, only a handful of employees regularly bought pop from the machine.

*Our Solution* remove the machine, and provide pop (stored in an existing refrigerator in the break room) for employees to purchase at a reduced rate. TPT purchases the pop, and resell to employees at 50¢ per can. The difference between what TPT pays for the pop, and the price employees buy it for will be given back to employees.

Bottom line: \$800-900 yearly savings in electricity, and reduced cost for employees to purchase a can of pop



# EARLY ADOPTER VISION FOR SUSTAINABILITY

	ENERGY	WASTE	PURCHASING	SERVICES	PROPERTY/FACILITIES	EMPLOYEES
VISION	Use maximum amount of renewable resources and become more energy efficient	Biomass waste is used as resource, solid waste is minimal due to recycling programs	Use products with the maximum post consumer content, use bio-neutral chemicals when possible	Use renewable resources whenever possible, along with efficient use of non-renewable fuel	Use sustainable practices for maintaining facilities and property, and when upgrades are needed	Provide a healthy working environment for all employees
ACTION ITEM EXAMPLES	Install biomass burner to replace or piggyback with existing HVAC system	Use biomass sample waste as an energy resource	Company policy on purchasing sustainable products	Implement a maintenance and dispatch program for vehicles	Lighting retrofit for our main building and replacement of Exit signs with LED Exit signs	Use nontoxic chemicals for cleaning and building maintenance
OUTCOME	Reduction of our carbon footprint, production of our own electricity and heat	Reduction of fuel and waste disposal costs	Reduction of toxic chemicals used means less emissions, closing loop by reducing demand of virgin materials	Less fuel used means reduced carbon and greenhouse gas emissions; maintenance results in increased vehicle longevity	Reduced energy use, less maintenance, overall energy savings	More productivity from healthy employees, reduced health care costs
BOTTOM LINE	Eliminating the expense of paying for electricity and natural gas	Less waste goes to landfills, less costs to dispose of waste	Consistent purchasing helps to control supply costs	Money saved by buying less fuel and vehicles	40% Energy Reduction	Long term employee retention

## BIOMASS BURNER

- Micro combined heat and power plant
- Stirling engine (vs combustion engine) results in overall efficiency of nearly 100%
- Burns wood pellets, which are carbon neutral
- Input 15kWh (energy of the pellets)
- Output 13.5 kWh (energy used for hot water, heat and electricity)
- 10.5 kWh = 35,827 BTU of heat

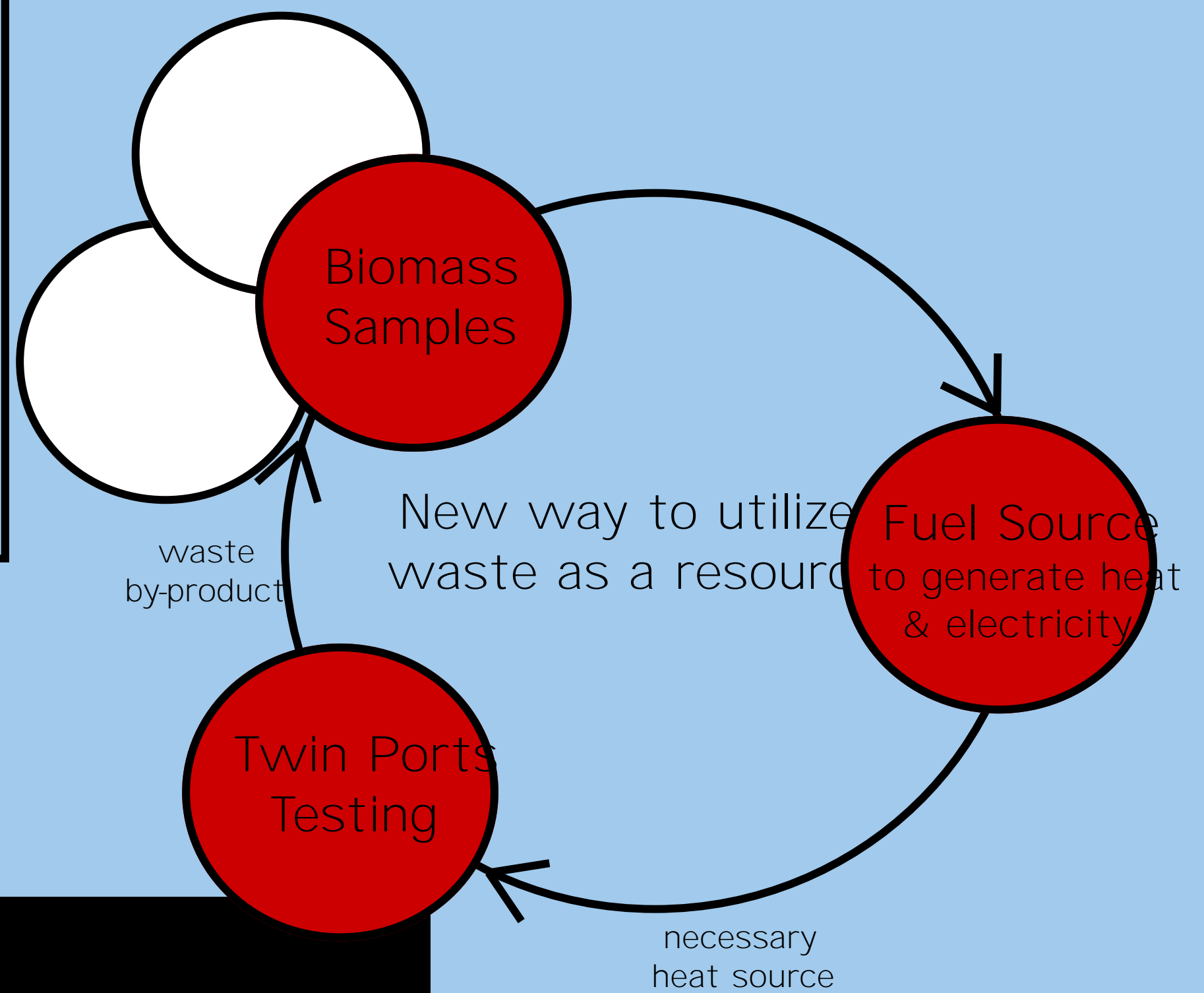
What does this mean for Twin Ports Testing?

A Biomass Burner would generate:

- 100% of our heat with no or minimal fuel costs
- 100% of our Electricity

## LIGHTING RETROFIT

- Replace existing Exit signs with LED Exit signs = \$56/yr in energy savings
- LED Exit signs = 40% energy reduction



## THE BOTTOM LINE

Energy usage:

Current kWh usage per year: 128,342

New usage after lighting retrofit: 77,006

Energy produced by Biomass Burner per year: 118,260 (based on running 24/7)

Cost of Biomass Burner: \$25,000 (\$15,000\*)

Cost of Lighting Retrofit: \$ 9,500 (\$ 8,000\*)

Energy (Natural Gas & Electricity) Savings per Year: \$14,000

Cost for lighting retrofit plus Cost of biomass burner minus incentives from WI Focus On Energy equals ROI - 20 months

\*Actual cost based on WI Focus on Energy Incentives

