THE GREENING OF A WINERY

SONOMA WINE COMPANY'S PATH TOWARD RESOURCE REDUCTION

THE GREEN WINE SUMMIT

DECEMBER 1 & 2, 2008
HYATT VINEYARD CREEK
SANTA ROSA, CA

WHAT INSPIRED THIS DIRECTION?

- Desire to grow the business
- Need to accommodate growth in existing business and facility
- Old facility
- Regulatory and community barriers
- Ownerships commitment to create a green and sustainable winery operation

THE STEPS...

- ENERGY EFFICIENCY UPGRADES
- TRACK ENERGY USE, kW AND NATURAL GAS
- MEASURE WATER IN, WASTE WATER OUT
- CONTRACTED WITH SAVINGS BY DESIGN- Received $187,300 in PGE Rebates
- INVENTORY OF GHG – Established baseline and reduction goals

ENERGY EFFICIENCY UPGRADES 2004-2006

- Insulated stainless steel wine tanks
- High efficiency water heaters
- Insulate hot water and glycol storage tanks
- High efficiency lighting
- Variable Speed Drives on Motors
- Cool Roof
- Solar Tubes
- Air Compressor, reduces refrigeration load
- Tom Beard automated barrel processing system

WHAT WERE THE RESULTS?
2005 -2008 Water, Energy & GHG

- Decreased wastewater generation per case from 3.81 to 3.02 gallons or 26 %
- Decreased natural gas use per case from .025 therms to .014 therms or 48%
- Decreased electricity use per case from .75 kWh to .58 kWh or 29%
- GHG reduction equivalent to 436 metric tons of CO2 removal
  - the equivalent of removing 72 vehicles from the road.
- Payback with incentives, between 6 months-five years

DURING THE SAME PERIOD…

- Increased bottling from 1.78m/year to a projected 2.6m/year by end of 2008
  - 46% increase
- Increased SS tank storage from 1.19m gallons to 1.36m gallons
  - 14% increase
- Increased barrels stored from 30,500 to 46,500
  - 50 % increase

SAVINGS BY DESIGN PROCESS

- Integrated design approach to new design or remodel, to gain maximum energy efficiency
- Incorporated water and process wastewater reductions, additional energy reductions
- Establish baseline year, 2005
- Process analysis to define energy use and target energy efficient design

WINERY IMPROVEMENTS 2007,2008 and 2009

- WFRD installation
  - Will allow us to reuse 2,200 gallons of industrial water per day
- 24k sf. canopy over tank farm
  - Divert 1m gal/year storm water from pond = 250,000cs
- Building shell insulation, evaporative cooling tower, day lighting, reflective paint
- Bottling line steam sterilization
  - Saves 1,700 gallons of HOT water per day (Slight kWh increase off peak)
- Complete SS tank insulation

CONTINUOUS IMPROVEMENT; Integration of Best Practices

- Employee engagement – Sustainable Winegrowing Assessment comparison, 2005 to 2008
- Water reduction task force
- Green team – Solid waste/recycle reduction
- Green board
- Community outreach
- TQM, Total Quality Management System

PROPOSAL FOR ZERO CARBON ENERGY; ZERO WATER DISCHARGE

- INTEGRATED ENERGY EFFICIENCY AND SOLAR EVAULATION TO REPLACE CARBON BASED ENERGY
  - ENERGY PRICE INCREASES
  - ENERGY INTERUPTION
  - CARBON FOOTPRINT

- WATER EFFICIENCY AND STRATEGY FOR ZERO DISCHARGE
  - ELIMINATE WASTE WATER POND

- BETTER MANAGE THE COST OF DOING BUSINESS

VALUE TO OUR CONTRACT CUSTOMERS
VALUE TO OUR BRANDS

- HEARING FROM THE MARKETPLACE:
  "WHAT ARE YOUR SUSTAINABLE PRACTICES"
- CARBON FOOTPRINT OF A CLIENTS' WINE
- METRICS PER CASE: WATER, WASTEWATER, ENERGY= REDUCED GHG EMISSIONS