

Baxter Healthcare of PR – Aibonito

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Baxter Aibonito Plant Characteristics

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- Started Operations: August 1976
- Work Force of 944 FTE
- 210,000 Square Feet Facility
- Vertically Integrated Facility
- 7 day, 24 hr Operation
- 169 Finished Product Codes
- Automated Sets Assembly Capabilities
- Full Machine Shop Capabilities
- Largest Gamma Sterilizer in the Caribbean



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Environmental and Energy Working Group

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Environmental Program Objectives

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- Minimize any adverse Environmental effect or risk that our activities could have over the environment.
- Our focus will be on pollution prevention, resource conservation, and accident avoidance.
- Comply with Environmental regulations and policy requirements through established mechanisms and systems.
- Identify and implement the necessary changes to achieve the established goals.

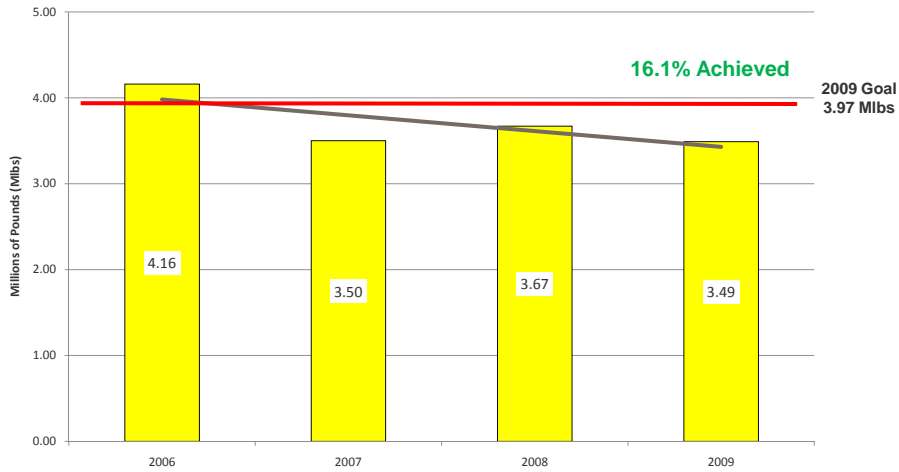
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Former Performance Track Commitment



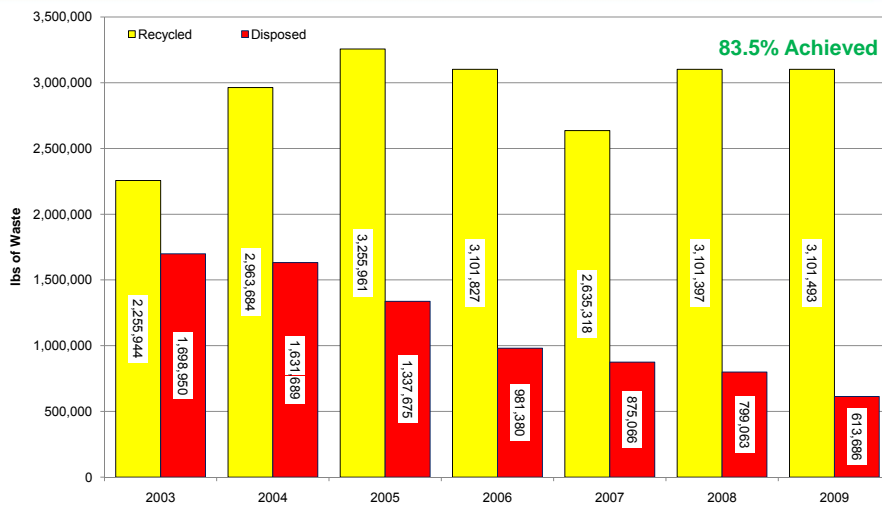
Non-hazardous solid waste generation

Former PTRACK Goal – 4.5% reduction by 2009 from 2006 baseline



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Waste Recycled vs. Disposed



Total 2009 Recycled = 83.5% vs. Goal of 85%
Last 4 months of 2009 > 85%

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Reusable Packaging – Reduction at the Source

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Before



After



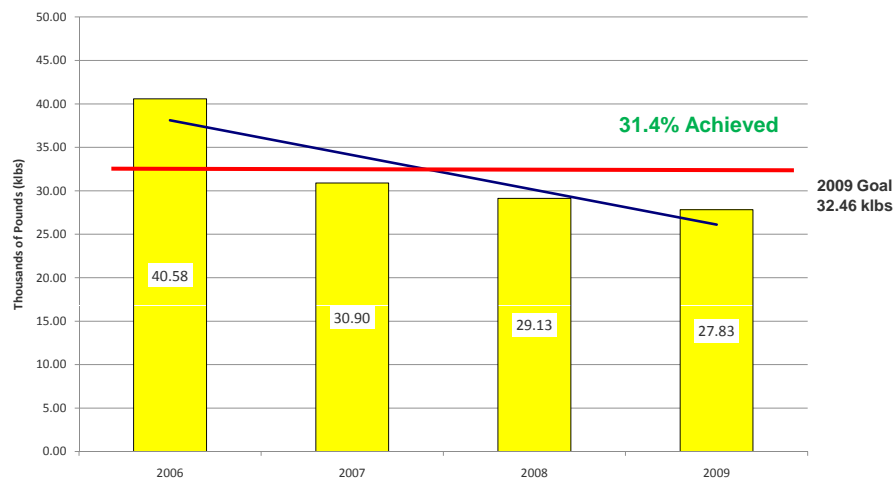
- Replaced
 - 518 Full Gaylords
 - 790 Half Gaylords
 - 1308 Covers
 - 1308 Pallets
- 57.8% reduction in cardboard gaylords sets purchased in 2009 vs. 2008
- 93.6% reduction in pallets purchased in 2009 vs 2008
- 705,288 lbs of waste not generated
- \$290,194 total saving in 1 yr with a total investment \$224,133.00

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VOC Air Emissions Reduction

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Former PTRACK Goal – 20% reduction in VOC emissions by 2009 from 2006 baseline
Cyclo, IPA, EA, 3M Fluid, and Loctite Adhesives



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VOC Air Emissions Reduction



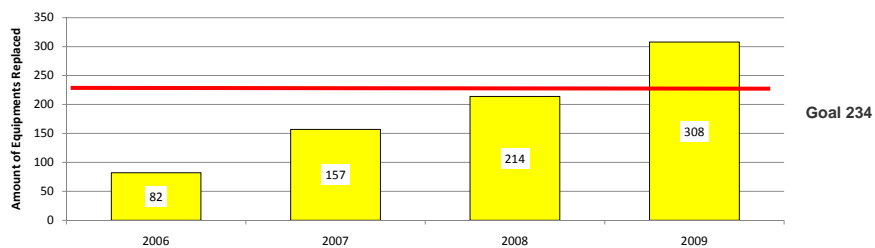
- Implemented the use of 70/30 Isopropyl Alcohol (IPA) pre-saturated wipes for equipment sanitization throughout the facility thus reducing IPA air emissions
- Replaced the use of IPA for parts washing in Keifel with a non-hazardous substance
- Replaced the use of thinner for ink plates cleaning with a non-hazardous substance developed under the EPA Design for the Environment Program
- Improved solvent management by providing training to Solvent Utilities personnel and establishing a log book for solvent usage per manufacturing department
- Minimized the use of Ethyl Acetate for parts washing

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Electronic Equipment Replacement to EPEAT



Former PTRACK Goal – 234 Electronic Equipment Replaced - Meeting the Electronic Product Environmental Assessment Tool (EPEAT) Criteria



Electronic Equipment Environmental Adverse Impact:

1. Are very resource intensive to manufacture.
2. Contain significant amounts of toxic and environmentally sensitive materials.
3. Use electricity inefficiently.
4. Have a relatively short useable lifespan.
5. Are inefficiently and/or ineffectively recovered and recycled.

EPEAT Equipment Benefits:

1. Savings in energy use.
2. Savings in virgin material use (increase in recycled materials).
3. Savings in CO2/Greenhouse gas emissions.
4. Savings in air emissions.
5. Savings in water emissions.
6. Savings in toxic materials.
7. Savings in municipal solid waste generation.
8. Savings in hazardous waste generation.

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Environmental 2009 Accomplishments

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- Re-certified under ISO 14001 and OHSAS 18001 with exceeding rating.
- External audits – EQB, EPA, and PRASA without any findings.
- Three (3) consecutive years without NOVs.
- All regulatory requirements successfully fulfilled.
- Non-hazardous waste generation of reduction of 16% from 2006 vs. a goal of 4.5%.
- Recycling increased from 57% in 2003 to 83.5% in 2009
- VOC emission reduction of 31.4% from 2006 vs. a goal of 20%
- 308 EPEAT certified electronic equipments replaced vs. a goal of 234

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EHS Community Outreach

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Earth Week Activities – April 2009
7 Environmental talks given at Community Schools



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EHS Employee Involvement

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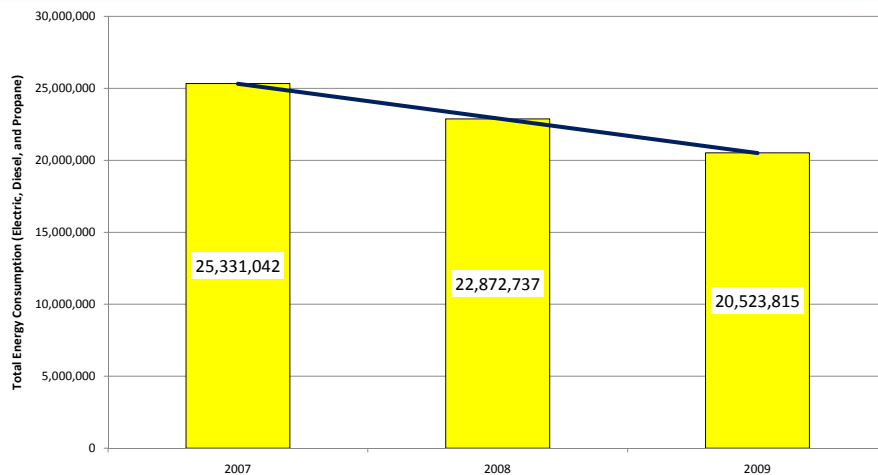


- Activities:
 - Alternative Energy Exhibits
 - Municipality Recycling Office- Recycling Campaign
 - Seminar "El Huerto en tu Casa"
 - Extension Service Talks on "Vermicomposta" and "Sistema de Riegos"
 - Recycling "Artesanos"
 - Trees from DRNA for adoption
 - Environmental Exhibits

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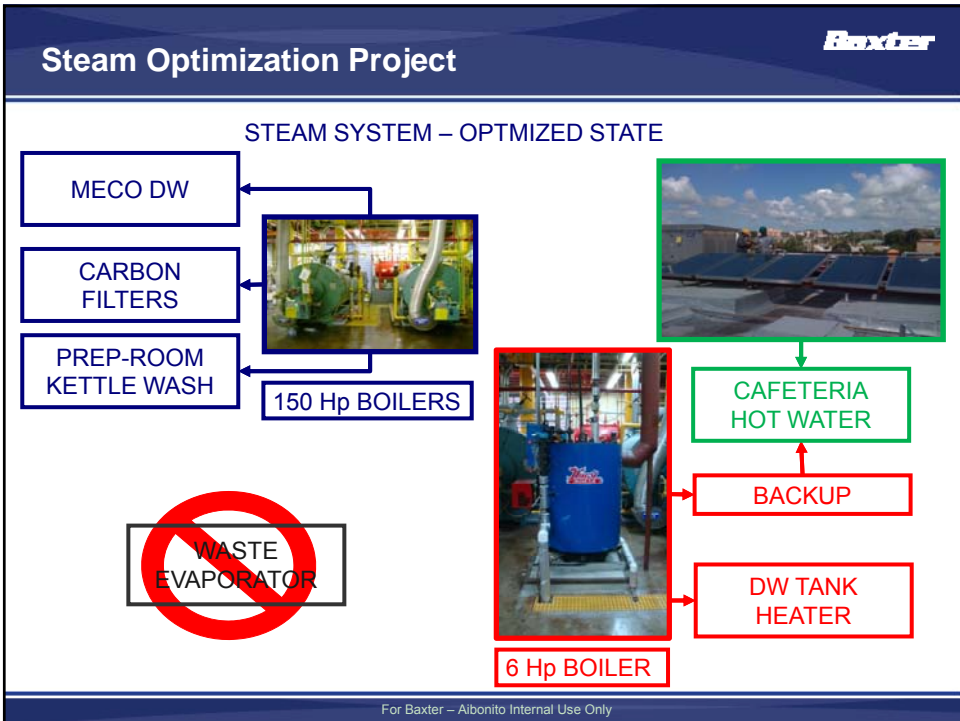
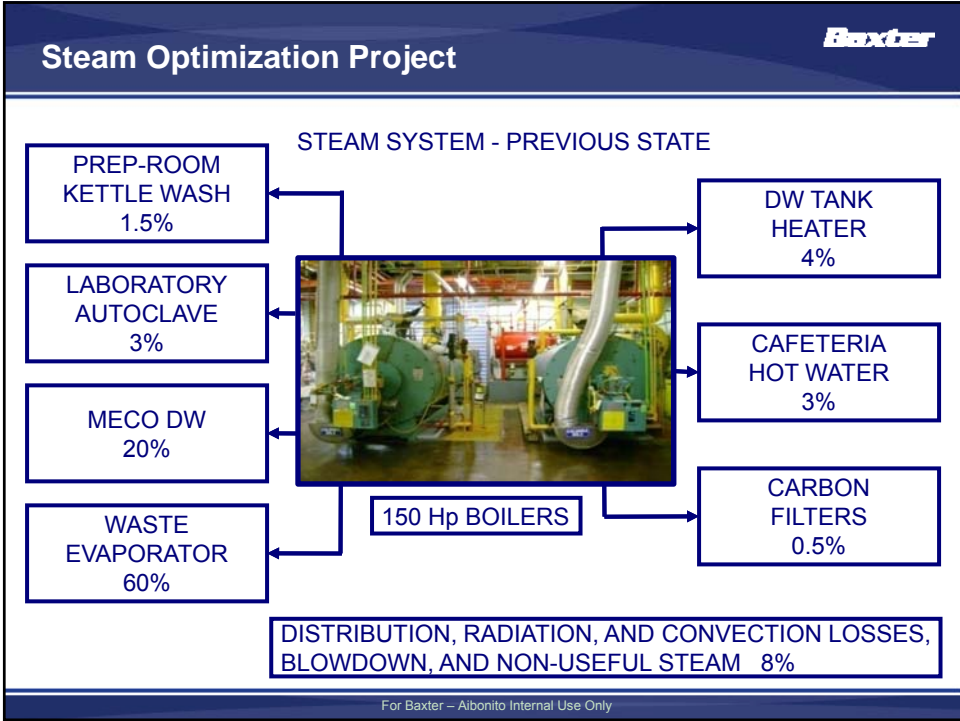
Energy Consumption Trend

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- 12.8% electric power reduction (2,662,466 kWh) vs. 2007
- 48% reduction (54,000 gallons) in diesel consumption vs. 2007
- 19% total kWh reduction (4,807,227 kWh) vs. 2007

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Steam Optimization Project

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- Project Scope:
 - Optimize plant steam production according to demand
 - Only value adding activities should be steam consumers
 - Evaluate alternate energy sources

- Project Results:
 - Reduced operation of a 150 Hp boiler from 24 hours / 7 days a week to less than 8 hours / 3 days a week
 - Minimized use for water distillation only
 - Runtime reduction from 8400 hours to 2000 hours per year
 - 6 Hp boiler installed for plant's minimal constant steam load only
 - Distilled water tank heater
 - Diesel consumption of 2 gallons/hour vs. 9 gallons/hr of the 150 Hp boiler

- Steam pressure header reduction from 100 psi to 70 psi

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Steam Optimization Project

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- Project Results:
 - Elimination of highest steam consumer
 - wastewater evaporator
 - Sludge generation elimination
 - 60% (48,000 gallons) reduction in yearly diesel consumption
 - 31,000 vs. 79,000 gallons.
 - Reduction 35,337 lbs of combustion gases and 1,110,000 lbs of greenhouse gases
 - 2010 Year to date diesel reduction vs. 2009 – 50%
 - Incorporated green energy, water reuse, and rain harvesting into the plant's infrastructure.
 - Total Project Yearly Saving: \$145k with an investment of \$220k
 - IRR = 58%
 - Reduction of 9% total plant's energy consumption (1,800,000 kWh)



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Green Energy Integration

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- Rain harvesting system
 - 10,000 gallons capacity
- Solar Heater for cafeteria hot water
- Photovoltaic cells – pilot area
 - 9 kW system
- SolaTubes
 - Outside light use for interior lighting
 - Warehouse, Stock Room, and Conference Room



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Solar Power in Baxter – Aibonito

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Photovoltaic Panels

Solar Water Heaters



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Water Reuse

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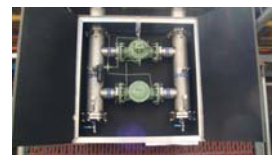
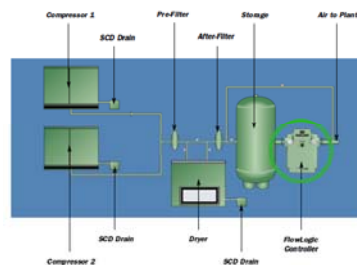
- Wastewater evaporator shutdown as part of the steam optimization project.
 - Prep-room wastewater is being reused as cooling tower makeup
 - Diluted 4:1 with fresh water from other sources
 - Around 450,000 gallons per year reused
 - Soap elimination of 60% of total washed volume
- HVAC condensate water collection
 - Over 1 million gallons per year @ 50 °F
 - Used for cooling tower make-up
- Process chlorinated water weekly reject
 - Around 100,000 gallons per year
 - Used for cooling tower make-up
- Re-use of MECO still reject water for boiler feedwater
 - 30,000 gallons per year reused

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Compressed Air System Upgrade Project

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- Project Scope:
 - Reduce air compressor's cycling and load
 - Reduce supply header pressure
 - Provide constant header pressure and flow
- Project Results:
 - Accumulation tank and demand control valve installed to respond according to plant's demand.
 - Supply header pressure reduction from 115 psi to 90 psi.
 - 15% reduction in air compressor power usage
 - 609,000 kWh per year
 - Total Project Yearly Saving: \$109k with an investment of \$110k
 - IRR = 92%

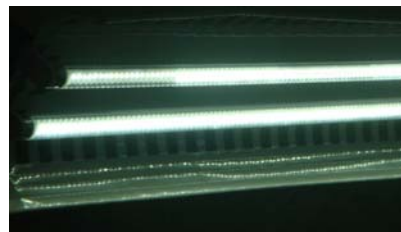


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Lighting Retrofit Projects

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- Project Scope:
 - Reduce power consumed by lighting fixtures
 - Include new energy efficient technology
- Project Results:
 - Interior, exterior, and spot lighting retrofitted with high efficiency/low consumption fixtures – LED Technology
 - Occupancy Sensors installed
 - 162,000 kWh per year reduction
 - Total Project Yearly Saving: \$28k with an investment of \$58k
 - IRR = 48%



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