

YOKOHAMA TIRES PHILIPPINES, INC.

Implemented Measures:

- Synchronization of Generator Load & transferring of loads to NPC power
- Conversion of PCI Blower from Compressed air to Blower
- Installation of ducting for Compressor, 4 sets
- Replacement of 400W MH hi bay lamps to 4x36W fluorescent lamps
- Replacement of 36W Philips daylight to National Cool Daylight 32W (1 set)
- Conversion of perimeter lights with low wattage bulb (metal halide 400w to metal halide 250w)
- Monitoring of worn out steam piping insulator and improving insulation
- Installation of waterless urinals (22 units)
- Use of micro fibre towels
- Better waste management system/disposal
- Re-use of scrap tires for other uses (plant boxes, sandals, door mats)
- Tree-planting/forest activities

Planned Measures:

- To use Solar Tube for better lighting system
- To use rain water collector system

Results:

Implemented:

- Reduction of electricity consumption by 166,400 kWh, annual savings of PHP 1,154,000
- Reduction of fuel consumption by 1,846,300 liters, annual savings of PHP 70,030,000
- Reduction of water consumption by 1,800 m³, annual savings of PHP 66,600

Total annual savings: ~ PHP 71,250,400

Total Investments: ~ PHP 3,551,800

Payback: 0.6 months

Planned:

- Reduction of electricity consumption by 21,600 kWh, annual savings of PHP 115,300
- Reduction of water consumption by 216,000 m³, annual savings of PHP 7,992,000

Total annual savings: ~ PHP 8,107,300

Total Investments: ~ PHP 16,318,400

Payback: 24.2 months

COMPANY PROFILE

Address:

Industrial Estate 5, Clark
Freeport Zone

Telephone Nos.:

(045) 599-3603

Year Established: 1996

President:

Mr. Takayuki Hamaya

No. of employees: 1,700

Products/Services:

Rubber Tires

Nature of Business:

Rubber Manufacturing



Company Info_

Company Name: Angeles Ice Plant, Inc.

Address: 4174 Francisco St., Cutcut, Angeles City

Tel. No.: (045) 625-9854

Fax No.: (045) 888-1748

Established: January 1, 1980

Managing Director: Mr. Evan Nepomuceno

No. of Employees: 38

Products: Block Ice and Tube Ice

Nature of Business: Manufacturing

Operation hours: 24/7

Actions Planned & Implemented_

Planned

- Regular checking of pipes and valves for ammonia leakages
- Segregation of solid wastes: selling of scrap paper, used batteries, plastic containers to recyclers
- Installation of oil traps to prevent contamination of waste water
- Improvement of the insulation of storage/freezer particularly no. 2 & 3
- Installation of modified evaporative condensers to lessen water consumption
- Make a catch basin for oil spills
- Replace high-voltage lights with CFL lights

Implemented

- Reuse of waste water: wetting the dumping area, cleaning of delivery vehicles, and maintaining the correct level of temperature of the dip tank
- Collection of MSDS from suppliers of chemicals
- Collection of data on machines operating

Results_

Implemented

Reduction of 500 m³ of water consumption, annual savings of 8000 PHP

Planned

Reduction of ammonia consumption by 10%, annual savings of 15000 PHP

Reduction of electricity consumption by 5%, annual savings of 1400000 PHP

Total annual savings: ~ 1415000 PHP

Total Investments: ~500000 PHP

Payback: 4,2 months

Pictures_



Audit inside the storage freezer



Discussions on AIP's potentials

Company Info_

Company Name: Angeles Power, Inc.

Address: Angeles Industrial Park, Calibutbut,
Angeles City

Tel. No.: (045) 888-2838

Fax No.: (045) 636-6033 to 34

Established: April 22, 1993

Managing Director: Mr. Rosby Calma

No. of Employees: 60

Products: Power/Electricity

Nature of Business: Power Generation

Operation hours: 24/7

Actions Planned & Implemented_

Planned

- Reuse of water from the cooling tower
- Installing pressure switch on the supply pump for Jacket Water, Fuel Valve Cooling Water Make-up and centrifuge conditioning water.
- Jacket Water Collection for re-use.
- Replacement of pump packing seal to mechanical seal.
- Use cogged belt instead of V-belt for power transmission from motor to machine (e.g. at piston compressors): V-belt = 92% efficiency; Cogged belt=94% efficiency.

Implemented

- Insulation of pipes and machines
- Opened upper windows for better ventilation
- Heat recovery for pre-heating bunker fuel and lube oil.
- Optimisation of covering of oil trap to protect from heavy rainfall
- Sold recyclable materials for additional income

Results_

Planned

Reduction of water consumption, annual savings of ~700600 PHP

Reduction of 1839500 liter of diesel consumption, annual savings of ~33110400 PHP

Reduction of 3500 kWh electricity consumption, annual savings of ~22800 PHP

Total annual savings: ~ 33833800 PHP

Total Investments: ~2433000 PHP

Payback: 26 days

Pictures_



Demineralizing Plant



Fuel Tanks



European Union



This project is funded by
The European Union's Asia-Pro Eco Programme



A project implemented by
VSB - TUO, ASSIST, EPA, GrAT, and MACCII

BATIS ASUL CATERERS

Implemented Measures:

- Proper storage of soap and chemicals
- Set standards for proper food handling
- Bulk buying: minimized ordering and delivery
- Use of vinegar instead of chlorinated cleaning agents
- Standardized menu for proper less food wastes.
- Proper waste segregation for recycling and additional income
- Use of Isopropyl Alcohol as pest control instead of aerosol spray
- Repaired Refrigerator magnets/gaskets
- Daily energy/water consumption monitoring
- Use of reusable sack/bags instead of using plastic bags for transporting linens
- Painting the ballroom roof area to white for less heat absorption
- Utilizing rain water catchment

Planned Measures:

- To change CFLs lights to LED
- To add curtains in the function room to insulate cool air.
- To use metered LPG on a per consumption basis

Results:

Implemented:

Reduction of electricity consumption by 35%, annual savings of PHP 118,500

Reduction of water consumption by 40%, annual savings of PHP 110,300

Reduction of use of hazardous chemicals, annual savings of PHP 16,100

Reduction of food waste and residual waste, annual savings of PHP 59,000

Total annual savings: ~ 305,650 PHP

Total Investments: ~19,800 PHP

Payback: 0.8 months

Planned:

Reduction of electricity consumption by 5800 kWh, annual savings of PHP 44,000

Reduction of LPG consumption by 10%, annual savings of PHP 15,600

Total annual savings: ~ 59,600 PHP

Total Investments: ~73,700 PHP

Payback: 14.8 months

COMPANY PROFILE

Address:

Batis Asul Resort, MacArthur Highway, Barangay. Sto. Domingo, Angeles City

Telephone Nos.:

(045) 888-1499; 887-0385

Year Established: 1981

President:

Mr. Cornelio Melan L. Cruz

No. of employees: 58

Products/Services:

Catering services, events venue

Nature of Business:

Services



Company Info_

Company Name: Calburn Manufacturing Philippines

Incorporated

Address: Manga Road Pulung Bulo, Angeles City

Tel. No.: (045) 888-1958, 888-4044

Fax No.: (045) 322-8186, 636-6404

Established: August 26, 1976

Managing Director: Mr. Eredito P. Feliciano

No. of Employees: 508

Products: Rattan and wood furnitures

Nature of Business: Export Manufacturing

Operation hours: 10hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- Implementation of energy saving measures
- Use of more efficient spray painting guns/valves
- Monitor water consumption

Implemented

- Improved waste management system by selling used cartons
- Installation of natural lighting system
- Implementing planned clustered trips of delivery trucks

Results_

Implemented

Reduction of mixed waste, annual savings through additional income of 30000 PHP

Reduction of electricity consumption by 1%, annual savings of 40000 PHP

Reduction of diesel consumption for transportation by 66%, annual savings of 230000 PHP

Total annual savings: ~ 300000 PHP

Total Investments: ~50000PHP

Payback: 2 months

Pictures_



CRL ENVIRONMENTAL CORPORATION

Implemented Measures:

- Adjusted float valve to use small volume of water
- Use of refilled printer cartridges
- Recycling of used office papers
- Installed additional fume hoods to ensure worker's health and safety from exposure to volatile chemicals
- Improved storage and segregation of solid wastes
- Invested on WASP bar code to improve the labelling system of samples

Planned Measures:

- Installation of reflectors on the current lighting system
- Installation of gaskets at refrigerators and oven doors
- Use of an environmental friendly cleaning agent for laboratory glass wares and sample containers.
- Use of an environmental friendly solutions/powders for cleaning of floors, pantry, sinks, comfort rooms

Results:

Implemented:

Reduction of electricity consumption by 14,400 kWh, annual savings of PHP 75,000

Reduction of water consumption by 19,000 liters, annual savings of PHP 16,000

Optimised waste management, annual savings of PHP 25,000

Total annual savings: ~ PHP 166,000

COMPANY PROFILE

Address:

Bldg. 2, Berthaphil Compound
1, Berthaphil Industrial Park,
CFZ

Telephone Nos.:

(045) 599-3943

Year Established: 1998

President:

Ms. Elizabeth P. Romualdo

No. of employees: 43

Products/Services:

Environmental Testing
Laboratory

Nature of Business:

Services



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Optimised waste management, annual savings of PHP 25,000

Total annual savings: ~ PHP 166,000

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DOLOMATRIX PHILIPPINES, INC.

Implemented Measures:

- Regular maintenance and cleaning of AC units and filling gaps on walls to prevent cold air loss
- Re- using of water coming from washing of uniform, drums and bin.
- Increase capture velocity to minimize dispersion of dust
- Reused of treated waste
- Use of an environmental friendly fuel (biofuel)
- Use of an environmental friendly material for toilet bowl cleaning instead of Acid

Planned Measures:

- To improve site development plan
- To use Bio-diesel to other vehicles
- To redesign draft hood to enclose non operating duct
- To Put up own landfill
- To create awareness and conduct trainings/drills in dealing with any hazardous substances/ chemicals
- To improve PPE program, replacement schedule, acquire new design and efficient PPE
- To use treated waste as concrete material instead of final disposal

Results:

Implemented:

Reduction of electricity consumption, annual savings of PHP 2,450

Reduction of water consumption, annual savings of PHP 30,600

Total annual savings: ~ PHP 33,000

Total Investments: ~ PHP 3,000

Payback: 1.1 months

Planned:

Optimisation of treated waste disposal, annual savings of PHP 1,019,000

Total Investments: PHP 13,550,000

Payback: 13.3 years

COMPANY PROFILE

Address:

Angeles Industrial Park,
Calibutbut

Telephone Nos.:

(045) 636-6032

Year Established: 2001

President:

Mr. Arsenio N. Valdez

No. of employees: 31

Products/Services:

Service Provider/Treatment and
Disposal of Hazardous waste

Nature of Business:

Services



Company Info_

Company Name: Feedworld, Incorporated

Address: Edsan Farm, Manibaug Paralaya, Porac, Pampanga

Tel. No.: (045) 322-2094

Fax No.: (045) 322-2094

Established: 1996

Managing Director: Mr. Rene G. Tayag

No. of Employees: 60

Products: Livestock Feeds: H. Starter, H. Grower P/OTC, H. Finisher P/OTC, Lactating P/OTC, Broodkaw P/OTC;
Aqua Feeds: 015 Starter, 035 Grower, 185 Finisher

Nature of Business: Manufacturing

Operation hours: 12 hours a day, 3-4 days a week

Actions Planned & Implemented_

Planned

- Installation of water meter to measure water consumption, especially water used in the boiler.
- Inspection and repair of leaks in extruder pipes.
- Improve lighting system inside the production by using fluorescent lamps instead of bulbs. Use of energy efficient bulbs with electronic ballast.

Implemented

- Energy-saving measures: Turning off of lights and PC during break-times
- Repaired of worn out power outlets inside the production area for safety precaution.
- Conduct of proper maintenance for equipment to reduce emission.
- Conduct of SO2 emission test by external parties
- Proper waste segregation scheme in identifying wastes that could still be recycled and generate income for the benefit of the employees.

Results_

Implemented

Reduction of mixed waste quantity by 50%, annual savings of 9000 PHP

Total Investments: none

Planned

Reduction of 65000 kWh of electricity consumption, annual savings of 500000 PHP

Reduction of fuel consumption by 1%, annual savings of 50000 PHP

Total annual savings: ~ 550000 PHP

Total Investments: ~100000 PHP

Payback: 2,2 months

Pictures_



Inside the production area



Company Info_

Company Name: Friendship Wash and Dry

Address: Sta. Maria Subdivision, Balibago, Angeles City

Tel. No.: (045) 892-0387

Fax No.: (045) 892-0387

Established: 1978

Managing Director: Mr. Carlos Rosas

No. of Employees: 60

Products: Laundry

Nature of Business: Services

Operation hours: 4/7

Actions Planned & Implemented_

Planned

- Acquire all the necessary permits from DOLE and DENR
- To recycle empty plastic containers
- Installation of water meter to better monitor water usage
- To reduce amount of chemicals used
- Transfer the laundry plant to a new industrial/commercial location

Implemented

- Proper insulation of steam lines
- Construction of the series of 3 septic tanks for our waste water treatment
- Conversion of one of our boilers from fuel to use wood
- Installation of the lint trap and tubings for the series of tumble dryers

Results_

Planned

Reduction of 14 ton of detergent and chemicals, annual savings of ~283400 PHP

Reduction of 80500 liter of diesel consumption, annual savings of ~2606000 PHP

Reduction of 80000 kWh heat losses, annual savings ~110000 PHP

Total annual savings: ~ 3 Mio PHP

Total Investments: ~350000 PHP

Payback: 1,4 Months

Pictures_



Audit inside the washing area



...In the folding/dispatching area



European Union



This project is funded by
The European Union's Asia-Pro Eco Programme



A project implemented by
VSB - TUO, ASSIST, EPA, GrAT, and MACCII

H3 TECHNOLOGY PHILIPPINES, INC.

Implemented Measures:

- Sectioning of light switches in the hallway and production area
- Turning off of lights and PC during break time
- Installation of air filter and air trap in the compressor.
- Conducted daily draining of compressor to eliminate moisture.
- Established new compressor layout to maximize use of compressor
- Replaced old hoses with pneumatic hoses in the compressor
- Installed metal sheet as oil catchment for the compressor
- Has improved proper waste segregation
- Implemented mold resin recycling
- Reduced hazardous waste thru re-use of empty containers (refilling of empty containers)

Planned Measures:

- To create a power saving device by installing capacitive load on the electronic ballast
- To reduce rejected component (expensive parts) by 90%
- To reduce waste generated to reduce environmental pollutants

Results:

Implemented:

Reduction of electricity consumption by 29%, annual savings of PHP 118,800
Recovery (recycling) of mold resin by 80%

Total Investments: ~ PHP 20,755

Payback: 2.1 months

Planned:

Reduction of electricity consumption by 16,800 kWh, annual savings of PHP 84,000

Total Investments: undisclosed

COMPANY PROFILE

Address:

Bldg. 20 Berthaphil Compound,
CFZ

Telephone Nos.:

(045) 893-4001 to 02

Year Established: 2002

President:

Mr. Ashok Daga

No. of employees: 142

Products/Services:

Electronic Devices

Nature of Business:

Electronics Manufacturing



HISTORIC CAMALIG RESTAURANT

Implemented Measures:

- Adoption of the bilao (woven basket tray), instead of the traditional cardboard box, for our pizza carryout and delivery packaging. Instead of using aluminum foil wrapped over the pizza in the bilao, we are using brown paper and cotton string (instead of plastic string)
- Optimised waste segregation in terms of recyclables like tin cans, aluminum cans, plastic bottles, glass bottles, and PET bottles.
- Opened boarded-up windows to increase natural lighting and ventilation-
- Use of manual pitcher pump to draw ground water for watering the plants and the
- Replaced almost all incandescent bulbs with compact fluorescent bulbs
- Use of wood instead of LPG for cooking the sauce (which takes at least 4 hours) and other bulk items
- Accumulation of dish water for watering the grounds
- Use of jumbo-sized toilet paper rolls instead of the regular toilet paper rolls
- installation of electrically operated hand dryers instead of paper towels
- use of liquid soap instead of bar soap in the customer restrooms and handwashing area
- Removed inefficient beer chillers and replaced with ice boxes
- Removed chest type freezer and a refrigerator and replaced with a 4-door freezer
- Replaced old screens to improve ventilation
- Replaced bottled soft drinks with canned soft drinks
- Replaced old cast-iron burners with new high-pressure burners

Planned Measures:

- Use of a wood-fired stone oven to handle all baking and cooking

Results:

Implemented:

Figures undisclosed

COMPANY PROFILE

Address:

292 Sto. Rosario Street, Angeles City

Telephone Nos.:

(045)963-4412, 458-0000

Year Established: 1980

President:

Mr. Marc Nepomuceno

No. of employees: 27

Products/Services:

Pizza & Pasta Restaurant

Nature of Business:

Food services



Company Info_

Company Name: Hitachi Terminals Mechatronics Philippines

Corporation (formerly TOP Mechatronics Corporation)

Address: Blk E-1, Subic Techno Park, Boton Area, Subic Bay Freeport Zone

Tel. No.: (047) 252-1493

Fax No.: (047) 252-1491

Established: 1997

Managing Director: Mr. Kiyotaka Adchi

No. of Employees: 900

Products: ATM parts, ATM and card readers

Nature of Business: Manufacturing

Operation hours: 24 hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- Installation of additional plastic curtains.
- Improve insulation of thermal heat chamber
- Consider replacement of fluorescent and hi-bay lamp to compact fluorescent lamp
- Strengthen the awareness to members regarding the importance of water consumption/reduction through posters, fliers & orientation.
- Strengthen the monitoring of waste being generated by revising the process of waste disposal.

Implemented

- Conservation and monitoring of water consumption.
- Conduct air con maintenance based on the schedule per area to ensure efficiency.
- Conduct Monthly Energy Audit Patrol (checking of compressed air leaks)
- Re-usable of packaging materials (e.g. cartons). Strict implementation of waste segregation.

Results_

Implemented

Reduction of 226700 kWh of electricity consumption, annual savings of ~1186200 PHP

Reduction of 4600000 liter of water consumption, annual savings of ~193500 PHP

Total annual savings: ~ 1379700 PHP

Total Investments: ~300000 PHP

Payback: 2,6 months

Pictures_



Audit in the waste storage area



The GPP Team and company representatives

HONEYWELL CEASA SUBIC BAY

Implemented Measures:

- Energy reduction by turning off equipments and lighting when not in used (during break time)
- Fixed compressed air leaks
- Adjustment of urinal float for less water
- Fixed of leaks on water pipes
- Maximized chemical & water solution usage
- Maximized usage of plastic media
- Implemented proper waste segregation
- Fully consumed all spray can chemicals

Planned Measures:

- To further reduce use of electricity
- To contain all Heat source to shorten AC usage
- To reduce water Consumption by maximizing chemical usage and fixing leaks
- To promote water conservation

Results:

Implemented:

Reduction of electricity consumption by 8,4%, annual savings of PHP 149,700

Reduction of water consumption by 11%, annual savings of PHP 3,500

Reduction of hazardous waste by 5,000 kg, annual savings of PHP 92,000

Total annual savings: ~ PHP 245,000

Planned:

Reduction of electricity consumption by 3%, annual savings of PHP 54,800

Reduction of water consumption by 10%, annual savings of PHP 3,000

Reduction of solid waste by 4%, annual savings of PHP 57,700

Total annual savings: ~ PHP 115,500

COMPANY PROFILE

Address:

Bldg. 1A-2, Subic Techno Park,
Subic Freeport Zone

Telephone Nos.:

(047) 252 - 5651 to 54

Year Established: 2002

President:

Mr. Stronger Peng

No. of employees: 27

Products/Services:

Aircraft Wheels and Brakes
repair services

Nature of Business:

Services



KOUSHIN MECHATRONICS MFG. PHILS., INC.

Implemented Measures:

- Recycled of all paper, cardboard, aluminum/plastic/glass containers, toner cartridges/consumable supplies and office equipment used internally
- Reduced water consumption by regular monitoring of water and fixing leaks and change of toilet flusher with water adjustment to lessen the water consumption during flushing
- Reduced mixed waste disposal.

Planned Measures:

- To reduce Water consumption by 2% by the end of 2009
- To reduce power consumption by 2% by the end of FY 2009
- To eliminate purchasing of chlorinated cleaning agent
- To reduce 20% consumption of palm coating gloves by the end of 2009
- To reduce 5 % of hazardous waste disposal.

Results:

Implemented:

Reduction of water consumption by 60m³, annual savings of PHP 1,870
Reduction of mixed waste by 51%, annual savings of PHP 3,270
Recycling of solid waste, annual savings of PHP 3,600

Total annual savings: ~ PHP 8,740

Total Investments: ~ PHP 750

Payback: 1 month

Planned:

Reduction of water consumption by 2%, annual savings of PHP 230
Reduction of hazardous waste disposal by 5%, annual savings of PHP 155
Reduction of electricity consumption by 2%, annual savings of PHP 1,560
Reduction of use of auxiliary material, annual savings of PHP 10,770

Total annual savings: ~ PHP 12,715

Total Investments: undisclosed

COMPANY PROFILE

Address:

BICC Brand-Rex Bldg., Along
Argonaut Boton, Subic Freeport
Zone

Telephone Nos.:

(047) 252 – 2740

Year Established: 2004

President:

Mr. Masashige Ikeda

No. of employees: 36

Products/Services:

Cartridges for Coin Dispenser,
ATMs, Connector
harnesses/Wirings for Card
Readers

Nature of Business:

Electronics Manufacturing



L&T INTERNATIONAL GROUP PHILS., INC.

Implemented Measures:

- Installation of 7 units of water-free urinals
- Replacement of ventilation unit from ac units to fans
- Promote less paper activities in the company
- Renovation/improvement of their waste water treatment facility
- Utilize photocopying machines for photo-copying, scanning, and printing
- Participated in recycling activities

Planned Measures:

- To use of effluent discharge water into domestic use.
- To use Solatube technology for better lighting system (as initial project)
- To conduct garbage week within the company
- To conduct tree-planting activities

Results:

Implemented:

Reduction of electricity consumption by 15%, annual savings of PHP 8,639,170

Reduction of water consumption by 1,050 m³, annual savings of PHP 38,200

Total annual savings: ~ PHP 8,677,390

Total Investments: ~ PHP 2,641,400

Payback: 3,7 months

Planned:

Reduction of electricity consumption by 1,3%, annual savings of PHP 743,000

Reduction of water consumption by 3150 m³, annual savings of PHP 114,770

Total annual savings: ~ PHP 857,770

Total Investments: undisclosed

COMPANY PROFILE

Address:

7500 A. Bonifacio Ave., cor. J. Tinsay St., CFZ

Telephone Nos.:

(045) 599-2256

Year Established: 1995

President:

Mr. Frank Saucedo

No. of employees: 3,037

Products/Services:

Garments

Nature of Business:

Apparel Manufacturing



MEKENI FOOD CORPORATION

Implemented Measures:

- Optimization of Defrost Cycle of Evaporators at Cold Storage Area
- Returning of the Condensate to the Feedwater of the Boiler
- Optimisation of storage of hazardous material

Planned Measures:

- Optimization of Compressed Air System
- Optimization of Lighting System (40 watt Tubes)
- Optimization of production and Cold Storage Facility by Installation and upgrading of gaskets and double plastic curtains
- Installing weather strips at air conditioned rooms
- Optimisation of electricity consumption for IT
- Avoidance of Heat Losses by replacement of gaskets from Smokehouse
- Optimization of Flushing at Toilets and Urinals
- Detailed program on reporting and immediate repair of leaking faucets and valves including toilet fixtures and bowls
- Ensure watering of Garden early in the Morning and Late Afternoon
- Installing power spray handles with stop valves
- To optimize use of cleaning materials

Results:

Implemented:

Reduction of electricity consumption by 11%, annual savings of PHP 3,558,750

Reduction of fuel consumption by 25,550 liters, annual savings of PHP 945,350

Total annual savings: ~ PHP 4,504,100

Total Investments: ~ PHP 100,000

Payback: 0.3 months

Planned:

Reduction of electricity consumption by 10%, annual savings of PHP 3,369,000

Reduction of water consumption by 30%

Total annual savings: ~ PHP 33,969,000

Total Investments: ~ PHP 779,000

Payback: 2.8 months

COMPANY PROFILE

Address:

Balubad, Porac, Pampanga

Telephone Nos.:

(045)963-4412, 458-0000

Year Established: 1985

President:

Mr. Prudencio Garcia

No. of employees: 800

Products/Services:

Tocino, Longganiza, and Hotdog

Nature of Business:

Meat Processing Industry



Company Info_

Company Name: MICRO HI-FI SOLUTIONS INC.

Address: Bldg 7170 Blue Diamond & Feati Sts., Clark

Freeport Zone

Tel. No.: (045) 599-6615

Fax No.: (045) 599-7450

Established: 2006

Managing Director: Mr. KIYOHICO HACHIYA

No. of Employees: 330

Products: Headphones / Earphones, Headsets, Speakers,
Micro-Dynamic Speakers (MDS) and other related
components

Nature of Business: Manufacturing

Operation hours: 24hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- To reduce disposal of residual wastes segregating wastes as below using labeled containers and conducting orientation and awareness to employees and Janitorial Service Personnel
- Reduction of use of hazardous substance (toluene)
- Search for environmental friendly alternatives for Toluene
- To maximize use of PET Film (R&D ongoing)

Implemented

- Reduction of paper used
- Enclosure of Repair Area in Sub-Assembly Section Reduction of use of Hazardous Substance (Toluene)
- Remove the use of six (6) suction fan with 14 hrs running time per day in collecting and containing the excess / cut wires and replaced it with plastic bin
- Reduction of use of Hazardous Substance (Toluene)
- Remove the use of three (3) units of mini-conveyors in Voice Coil Machine with 21 hours running time per day

Results_

Implemented

Reduction of electricity consumption per unit of product by

34%, annual savings of 485500 PHP

Reduction of water consumption per employee by 32%,

annual savings of 77900 PHP

Reduction of paper consumption per employee by 28%,

annual savings of 11000 PHP

Reduction of 1280 liter of toluene consumption, annual

savings of 74300 PHP

Total annual savings: ~ 648700 PHP

Total Investments: ~164000 PHP

Payback: 3 months

Planned

Reduction of electricity consumption per unit of product by

8%, annual savings of 115000 PHP

Reduction of toluene consumption per unit of product by 8%,

annual savings of 270000 PHP

Pictures_



Audit in the chemical room



Company briefing during initial audit

Company Info_

Company Name: Mother Earth Products, Inc.

Address: Maunawa St.Bo. Duquit Mabalacat Pampanga

Tel. No.: (045) 892-6625

Fax No.: (045) 624-0520

Established: 1984

Managing Director: Mr. Renato S. Tayag

No. of Employees: 130

Products: Pork & beef carcass, fresh/frozen pork & beef choice cuts, processed meats

Nature of Business: Slaughtering, fabrication, and meat processing

Operation hours: 10hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- Installation of water meter
- Water conservation in cleaning and in the slaughterhouse
- Improve/change insulation of the production area

Implemented

- Construction of shed area for proper waste segregation/ storage
- Boiler efficiency that leads to 8% combustion efficiency
- Reduction of electricity from the condenser by 40%

Results_

Implemented

Reduction of mixed waste by 15%

Reduction of diesel consumption by 1%, annual savings of 30000 PHP

Planned

Reduction of electricity consumption by 5%, annual savings of 400000 PHP

Reduction of diesel consumption by 5%, annual savings of 150000 PHP

Total annual savings: ~ 550000 PHP

Total Investments: ~500000PHP

Payback: 11 months

Pictures_



Company Info_

Company Name: JDNSI (a.k.a. NepoMall)
Address: Nepomart Complex, Angeles City
Tel. No.: (045) 625-9253, 322-5102
Fax No.: (045) 887-0998
Established: 2003
Managing Director: Mr. Arsenio N. Valdes
No. of Employees: 57
Products: Mall spaces/stalls
Nature of Business: Leasing
Operation hours: 24/7

Actions Planned & Implemented_

Planned

- Repainting of the roof
- Improvement of illumination.
- Reuse of blowdown water for cleaning purposes or flushing of toilets.

Implemented

- Waste disposal revenue as a result of agreement between hauler and the mall: Php 3,000.00 per month.
- Secured MSDS from suppliers of cleaning agents/chemicals for better handling/use
- Variable speed drive on cooling tower, pump, and chillers when the dew point is low
- Reduced operating hour of some AC equipment to reduce operating cost
- Use odor eliminator/ disinfectant chemical solution in the Garbage Room instead of Aircon
- Installed better water gasket to stop continuous flow of water from water closet.

Results_

Implemented

Reduction of 36700 kWh electricity consumption, annual savings of ~312500 PHP
Reduction of 700000 liter of water consumption, annual savings of ~9000 PHP
Total annual savings: ~ 321500 PHP
Total Investments: ~3000 PHP
Payback: 4 days

Planned

Reduction of 130000 kWh electricity consumption, annual savings of ~1100000 PHP
Reduction of 6000000 liter of water consumption, annual savings of ~200000 PHP
Total annual savings: ~ 1300000 PHP
Total Investments: ~6000000 PHP
Payback: 4,5 years

Pictures_



The Mall's natural lighting system



Checking the roofing and cool towers



European Union



This project is funded by
The European Union's Asia-Pro Eco Programme



A project implemented by
VSB - TUO, ASSIST, EPA, GrAT, and MACCII

NICERA PHILIPPINES, INC.

Implemented Measures:

- Reduced the number of turned on fluorescent bulb at Warehouse and ED office
- Reduced the number of turn on exhaust fan at IQC (Incoming Quality Control) Area
- Reduced the number of refrigerator used at Production Area
- Enclosed the priming area so that the fumes will not go out anymore and no need to turn on the exhaust fan in the entire room just to suck out fumes.
- Separate the metal scraps according to their identity (if metal, alloy, or lead).
- Use storage rack that is made up of metal for chemical storage and separate acidic substances from flammable substances

Planned Measures:

- Further energy conservation measures to be implemented

Results:

Implemented:

Reduction of electricity consumption by 5,100 kWh, annual savings of PHP 23,570

Planned:

Reduction of electricity consumption by 3,800 kWh, annual savings of PHP 17,400

COMPANY PROFILE

Address:

Lot 46 Blk. F, Subic TechnoPark,
Boton Area, Subic Freeport
Zone

Telephone Nos.:

(047) 252 -1237

Year Established: 2001

President:

Mr. Takashi Morimoto

No. of employees: 647

Products/Services:

Ultrasonic Transducers

Nature of Business:

Electronics Manufacturing



NIDEC SUBIC PHILS., CORP.

Implemented Measures:

- Removal of glass windows in Die Cast Area
- Installation of glass windows in hallway of Bldg. B. and Admin Bldg
- Installation of cracked ice (translucent plastic) as ceiling covers for rest rooms
- Conversion of power supply from generator to normal power (Air-conditioning systems and air compressor)
- Installation of by-pass pipeline system to reclaim water tank
- Installation of pipeline tapped along drain/reject water for recycle
- Adjustment on sampling parameters -wastewater and air sampling

Planned Measures:

- To install of Bio-Amp unit for treatment of oil & grease in septic treatment plant
- To install glass walls and doors at canteen areas to enclosed running airconditioning units.
- Proposed conversion of rest rooms to use of waterless urinals
- To substitute machining oils with water based reagent
- Change mercury bulbs/conventional lighting with efficient lighting systems in all possible areas where applicable
- Reclassification of Hazardous wastes to qualify as solid waste disposal (thru TCLP analyses)
- Replacement of cotton rags into micro fibre rags

Results:

Implemented:

Reduction of electricity consumption by 283,800 kWh, annual savings of PHP 1,261,700

Reduction of water consumption by 4000 m³, annual savings of PHP 216,200

Total annual savings: ~ PHP 2,212,700

Total Investments: ~ PHP 249,000

Payback: 1.4 months

Planned:

Reduction of electricity consumption by 40000 kWh, annual savings of PHP 179,000

Reduction of water consumption by 48,400 m³, annual savings of PHP 2,187,700

Reduction of solid waste, annual savings of PHP 284,300

Total annual savings: ~ 3048200 PHP

Total Investments: ~ 2145900 PHP

Payback: 8.3 months

COMPANY PROFILE

Address:

Blk. B Subic Technopark Boton Area, Argonaut Highway, Subic Freeport Zone

Telephone Nos.:

(047) 252 - 5827 to 28

Year Established: 2001

President:

Mr. Toshihiko Miyabe

No. of employees: 2,123

Products/Services:

Spindle motors for HDDs

Nature of Business:

Electronics Manufacturing



Company Info_

Company Name: Oasis Hotel

Address: Clarkville Compound, Angeles City

Tel. No.: (045) 893-3301 to 3304

Fax No.: (045) 625-3306

Established: 1966

Managing Director: Ms. Abbygail N. Del Rosario &
Mr. Rodrigo N. Del Rosario

No. of Employees: 151

Products: Hotel/ Restaurant & Bar

Nature of Business: Services

Operation hours: 24/7

Actions Planned & Implemented_

Planned

- Use of micro fiber rags to substitute cleaning detergents
- Solar Heater is being considered. As of now individual heaters are already installed to some rooms.
- Use of rechargeable batteries is considered as well as sensor type lights for hotel hallways.
- ECO-policy on towels to be implemented within the month

Implemented

- Electricity Conservation Measures i.e. turning off lights when not in use, switching-off aircon units when not in use
- Regularly check maintenance of equipment such as freezer and aircon.
- Separate storage area for different kinds of waste such as: 1) Oil, 2) Plastic container, 3) Carton boxes.
- Disposal of fully depreciated kitchen equipment, Hotel equipment etc. by selling to employees
- Changed ACs from window type to split type for more efficient cooling system.
- Bulk purchasing of supplies, reducing logistics costs.

Results_

Implemented

Reduction of paper consumption by 10%, annual savings of 18000 PHP

Reduction of mixed waste, annual savings through additional income of 100000 PHP

Total annual savings: ~ 118000 PHP

Planned

Reduction of electricity consumption by 10%, annual savings of 1200000 PHP

Reduction of usage of detergents in laundry and for room cleaning by 20%, annual savings of 50000 PHP

Reduction of LPG consumption for laundry by 20%, annual savings of 140000 PHP

Reduction of water consumption for laundry by 20%, annual savings of 10000 PHP

Total annual savings: ~ 1418000 PHP

Total Investments: ~ 1000000 PHP

Payback: 8,4 months

Pictures_



Inside the hotel's cozy room



The Team, at the Hotel's lobby



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VSB - TUO, ASSIST, EPA, GrAT, and MACCI

PAMPANGA'S BEST, INC.

Implemented Measures:

- Reduction of working days, from 6 days to 5 days (maintaining weekly output)
- Reduce from 56 units 250W perimeter lights by 50% and replace with 55W CFL
- Re-use of effluent water for watering the greens and for irrigation purposes
- De-lamping of 456 to 228 pieces 40W fluorescent lamp with improved/better reflectors on all fixtures with expected savings of 50% on electric energy consumption giving equal or better illumination.
- Provision of Water Recovery System

Planned Measures:

- Replacement of steam line insulations
- Putting of silicon between panel and ceiling of cooling chambers
- Implementation of tag system at compressed air and water piping
- Rehabilitation of Pull-up doors at the dispatching area
- Better production planning resulting to reduction in boiler operation
- Use of "Tube in Tube Technology" lighting system
- Purify used oil and reuse as additive for boiler fuel
- Steam line recovery
- Reduced compressor from 100HP to 30HP
- Good Housekeeping especially in Offices

Results:

Implemented:

Reduction of water consumption by 34%, annual savings of PHP 2,569,300

Reduction of electricity consumption by 17,7%, annual savings of PHP 9,591,820

Reduction of paint sludge mass by 33%, annual savings of PHP 284,380

Total annual savings: ~ PHP 12,445,500

Total Investments: ~ PHP 1,400,000

Payback: 1.3 months

Planned:

Reduction of use of water treatment chemicals by 10%, annual savings of PHP 80,000

COMPANY PROFILE

Address:

Dela Paz Norte, City of San Fernando, Pampanga

Telephone Nos.:

((045) 636-4280 to 83

Year Established: 1967

President:

Mr. Enrico Maria Hizon

No. of employees: 1,000

Products/Services:

Tocino, Longganiza, and Hotdog

Nature of Business:

Meat Processing Industry



Company Info_

Company Name: Romac Industries, Inc.

Address: Brgy. Del Rosario, City of San Fernando, Pampanga

Tel. No.: (045) 861-3371

Fax No.: (045) 861-3371

Established: 1997

Managing Director: Mr. Sir Ritchie Romero

No. of Employees: 160

Products: Processed Poultry

Nature of Business: Food

Operation hours: 24 hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- Lessen or eliminate the use of Chlorine for cleaning change to hydrogen peroxide
- Installation of Water Pipe Line on top of the roof for water heating purposes
- Optimization of lighting system (energy efficient bulbs, electronic ballasts)

Implemented

- Monitoring on the use of cleaning agents
- Monitoring on the use of polybags
- Implementation of some energy saving measures
- Installation of modular panels instead of concrete walls in their expansion plant

Results_

Implemented

Reduction of cleaning agent consumption by 15%, annual savings of 4800 PHP

Reduction of usage of polybags by 25%, annual savings of 750000 PHP

Reduction of electricity consumption by 5%, annual savings of 80000 PHP

Total annual savings: ~ 834800 PHP

No investments

Planned

Reduction of electricity consumption by 3%, annual savings of 60000 PHP

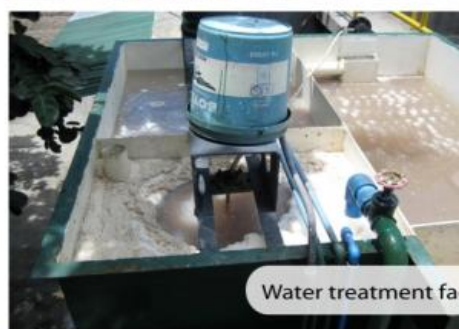
Total Investments: ~55000 PHP

Payback: 11 months

Pictures_



Interview with the company managers



Water treatment facility

Company Info_

Company Name: Romac Industries, Inc.

Address: Brgy. Del Rosario, City of San Fernando, Pampanga

Tel. No.: (045) 861-3371

Fax No.: (045) 861-3371

Established: 1997

Managing Director: Mr. Sir Ritchie Romero

No. of Employees: 160

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Nature of Business: Food

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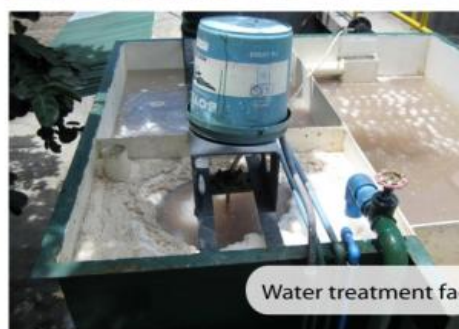
Total Investments: ~55000 PHP

Payback: 11 months

Pictures_



Interview with the company managers



Water treatment facility

SAFEWASTE, INC.

Implemented Measures:

- Regular monitoring of equipment: time used, electricity and water consumed
- Monitoring of consumable items: maximized resource efficiency
- Installation of wash bins for soaking / sanitizing exchange collection bins
- Use of chlorinated water in soaking of equipments to washing of transport vehicles.
- Segregate treated plungers and sell it to junk shops that buys plastic for recycle and not re-use
- Transport monitoring: the Klms per Liter are calculated and feed back is given to the driver
- To use treated placenta as compost ingredient for fertilizer

Planned Measures:

- Transfer of TSD facility to new location with secure lease

Results:

Implemented:

Reduction of water consumption by 20%, annual savings of PHP 15,600

Reduction of use of auxiliary material, annual savings of PHP 8,300

Recycling of solid waste, annual savings of PHP 33,800

Reduction of fuel consumption by 6%, annual savings of PHP 7,070

Total annual savings: ~ PHP 64,770

Total Investments: ~ PHP 1,800

Payback: 0.3 months

COMPANY PROFILE

Address:

1706 Angeles Livelihood Complex, EPZA, Angeles City

Telephone Nos.:

(045) 888-3408

Year Established: 2006

President:

Mr. Alastair Jon Kane

No. of employees: 8

Products/Services:

Medical Waste Management/ Treater

Nature of Business:

Services



SANYO SEMICONDUCTOR MFG. PHILIPPINES CORP.

Implemented Measures:

- Compressed Air Conservation Program: e.g. Checked and rectified leaks at production (use point) and utility (supply point)
- Adjusted air flow rate consumption of production equipment according to their specification
- Conducted awareness campaign on production process regarding the cost of producing compressed air
- Rationalized break times and standardized operation of canteen, refreshment area and locker room to reduce by 9HRS the operation of the lighting and fan coil units installed
- Shut-off general aircon by 10HRS on offices, meeting / conference / training rooms and general hallways during night time
- Installed of efficient lighting system on facility office area
- Inspection and repair of water leaks, water recycling activitie
- Manual sun drying of generated plating sludge by maximizing solar power

Planned Measures:

- Reduction of Plating Wastewater Treatment & Pure Water System Chemical Usage
- To use Solatube technology for better lighting system

Results:

Implemented:

Reduction of water consumption by 34%, annual savings of PHP 2,569,300

Reduction of electricity consumption by 17,7%, annual savings of PHP 9,591,820

Reduction of paint sludge mass by 33%, annual savings of PHP 284,380

Total annual savings: ~ PHP 12,445,500

Total Investments: ~ PHP 1,400,000

Payback: 1.3 months

Planned:

Reduction of use of water treatment chemicals by 10%, annual savings of PHP 80,000

COMPANY PROFILE

Address:

Special Economic Processing Zone, Luisita Industrial Park, San Miguel, Tarlac City

Telephone Nos.:

(045) 985-0564

Year Established: 1995

President:

Mr. Nobuhiro Taino

No. of employees: 700+

Products/Services:

Large Scale Integrated Circuits

Nature of Business:

Semiconductor Manufacturing



Company Info_

Company Name: Tailin Abrasives Corporation

Address: Blk # 25 Innovative St., cor. Efficiency Avenue, SBIP
Phase 1, SBFZ

Tel. No.: (047) 252-6318 to 20

Fax No.: (047) 252-6321

Established: 1998

Managing Director: Mr. Kiko Wu

No. of Employees: 350

Products: Grinding and Cutting Wheels

Nature of Business: Manufacturing

Operation hours: 20 hrs./day, 6 days a week

Actions Planned & Implemented_

Planned

- Reduce of Diesel Consumption
- Use smart bulbs for better illumination and energy efficiency
- Insulation of chemical storage room (1st floor)
- Implement eco ventilators to improve air quality
- Reduce the thermal load of the roofs by insulation and reflective painting

Implemented

- Conversion of conventional faucets to Auto shut-off to minimize wastage of water during body and hand washing
- Segregation of Garbage for recycling and cost recovery
- Replacement of Oven door gaskets, to minimize temperature loss during curing
- Relocated some testing compartments /ovens on the newly constructed building
- Reduced layers of packaging wrapping from five layers to two layers

Results_

Implemented

Reduction of 29200 kWh electricity consumption, annual savings of ~158500 PHP

Reduction of 5800000 liter of water consumption, annual savings of ~134100 PHP

Reduction of mixed waste, annual savings of ~84000 PHP

Reduction of plastic foil consumption by 60%, annual savings of ~ 109000 PHP

Total annual savings: ~ 485600 PHP

Total Investments: ~20000 PHP

Payback: 15 days

Planned

Reduction of 24000 kWh electricity consumption, annual savings of ~132000 PHP

Total Investments: ~200000 PHP

Payback: 1,5 years

Pictures_



Discussion of the company's potentials



Audit and interview



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