

SIMS | RECYCLING SOLUTIONS

A Company Overview And Energy Efficiency Efforts

Presented By
Lavanya Ranganath
EHS Manager – Roseville, CA



COMPANY INFORMATION

- ◆ Sims Group is the world's leading metal recycling company.
- ◆ With over 120 divisions in four continents, Sims Group processes metallic, non-metallic and end of life electronics
- ◆ Approximately 15 million tons of metals is recycled each year
- ◆ Sims also offers other services such as industrial solutions (furnace loading, stock pile management) and international brokerage and metals trading



DIVISION INFORMATION

- ◆ **Sims Recycling Solutions (SRS), a division of Sims Group specializes in electronics product recycling**
- ◆ **SRS is the world's largest electronics recycler**
- ◆ **SRS processes a variety of used electronic equipment including, but not limited to computers, televisions, printers, copiers, telecommunication devices, test and measurement units, etc.**

DIVISION INFORMATION

Sims Recycling Solutions – North American Locations





DIVISION INFORMATION

- ◆ **Total processing capacity (all seven facilities combined) is approximately 242 million pounds of E-waste**
- ◆ **SRS offers an excellent solution to original equipment manufacturers for their used electronic products. The processes are designed to best utilize the resources through direct refurbishment or recover metals in the product through recycling**
- ◆ **Many of the SRS facilities are ISO 14001 certified and a few have been accredited with ISO 9001 certification**

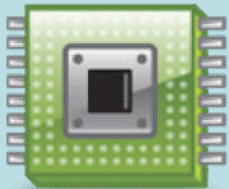


SERVICES OFFERED



DATA
SECURITY

Client's confidential information is maintained by either destroying the data by means of shredding or wiping hard drives using DOE approved software



PARTS
RECOVERY

Components or parts with value are pulled out of the units as specified by the customer and resold to maximize reuse and returns on products



SERVICES OFFERED



PM
RECYCLING

Closed loop solution is offered for precious and semi-precious metals by recycling and refinement



ASSET
MANAGEMENT

Information collection process is offered to customers to catalogue their disposition and to maximize returns



LOGISTICS

Cost effective logistics is offered at competitive rates



SRS PROCESS

RECIEVING



WAREHOUSING



PARTS RECOVERY



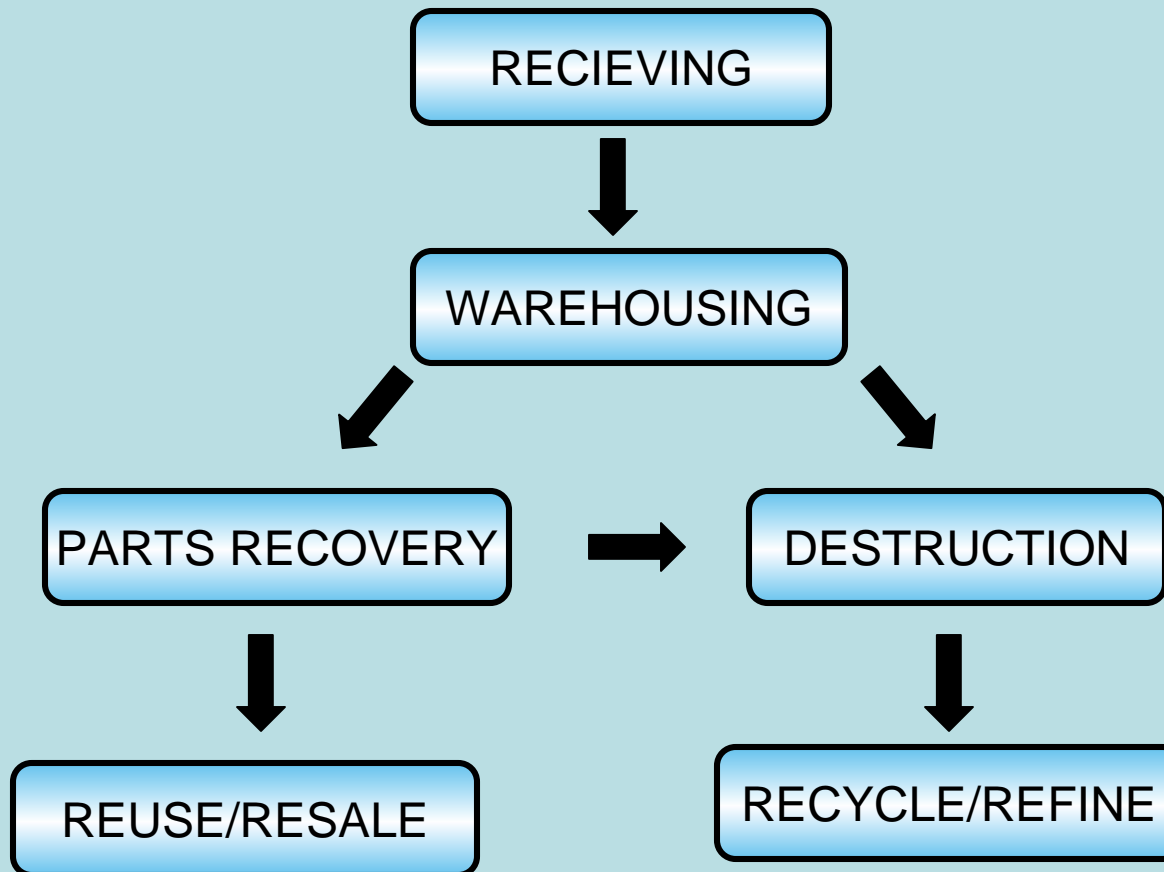
DESTRUCTION



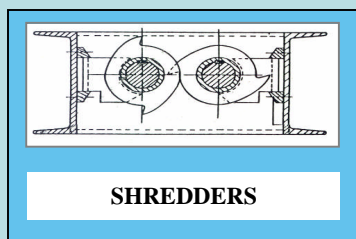
REUSE/RESALE



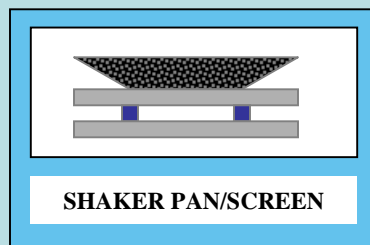
RECYCLE/REFINE



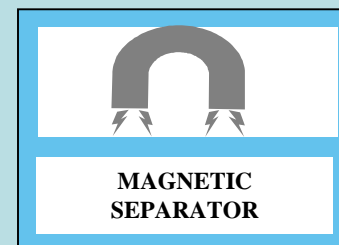
SRS PROCESS



Crushes the units
into 2" pieces

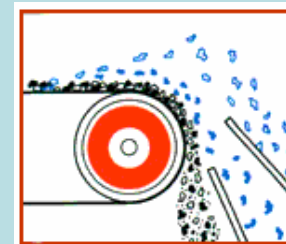


Separates very small
pieces – Cu rich



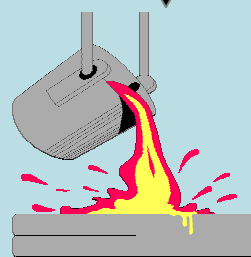
Separates steel

Steel



Eddy current
separator

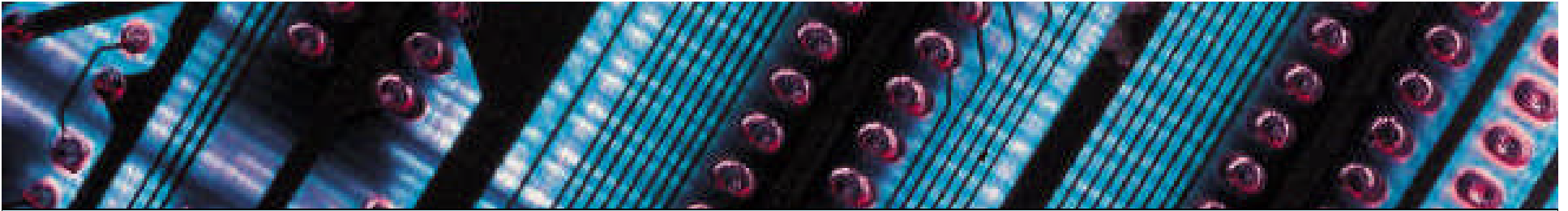
Aluminum



Sent to smelter for
copper recovery



Copper ingots



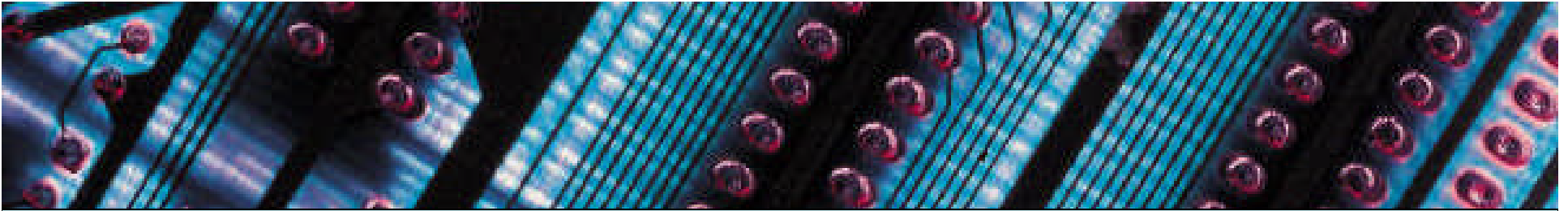
SRS PROCESS



Packaging Separation Plant



Metal Separation Plant



SRS PROCESS

SHREDDER OUTPUT



SHREDDED CIRCUIT BOARDS



SHREDDED/SEPARATED STEEL

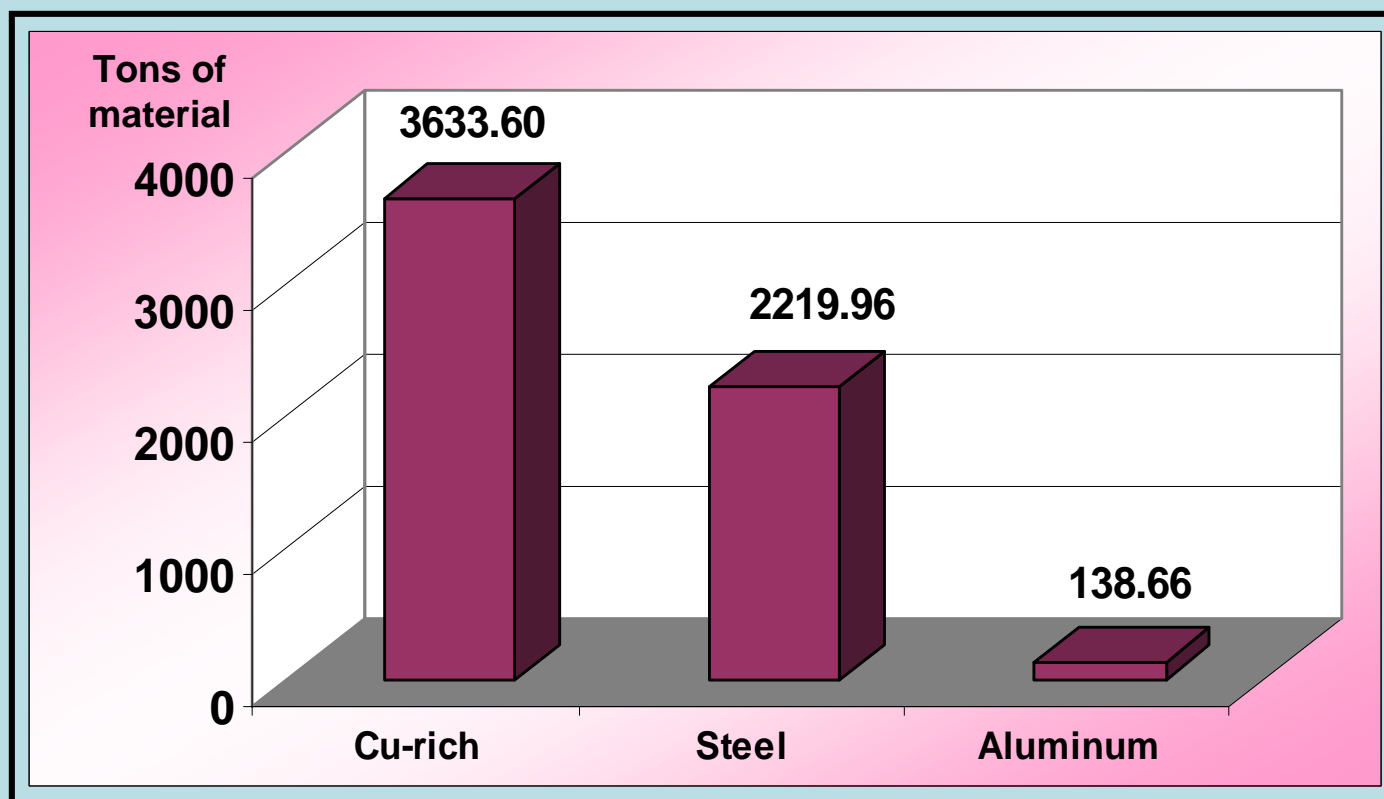


ENVIRONMENT AND SUSTAINABILITY

- ◆ **Sims is committed to ecologically sound and sustainable use of resources and strives to operate in a manner which minimizes waste and prevents pollution**
- ◆ **Through the use of secondary/recycled materials, Sims is helping in preserving natural resources and at the same time reduce energy and CO2 emissions**
- ◆ **In addition, the recycling process has environmental benefits such as reduction in pollution. For example, using recycled steel to make new steel can reduce air pollution by 80%, water use by 40% and water pollution by 76%**

RESOURCE CONSERVATION EFFORTS

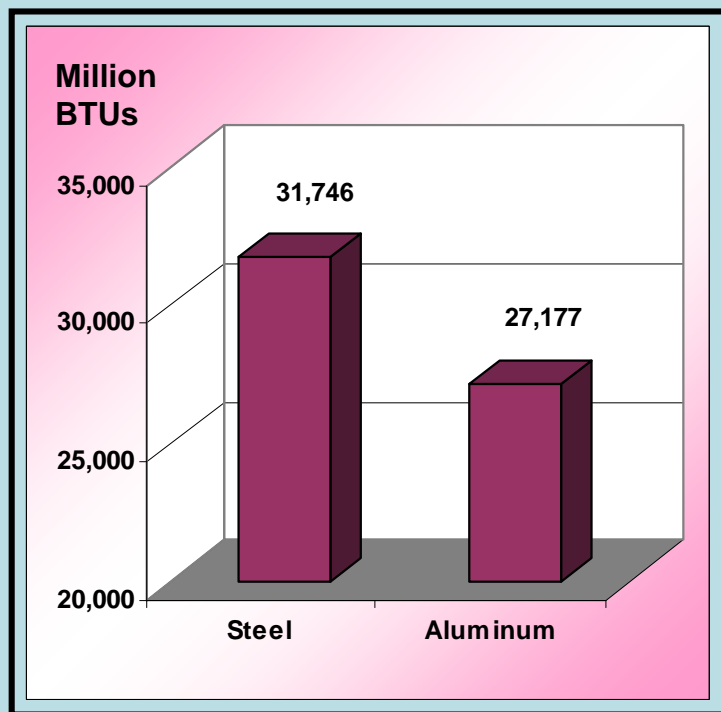
DATA RANGE – JAN TO DEC 2007



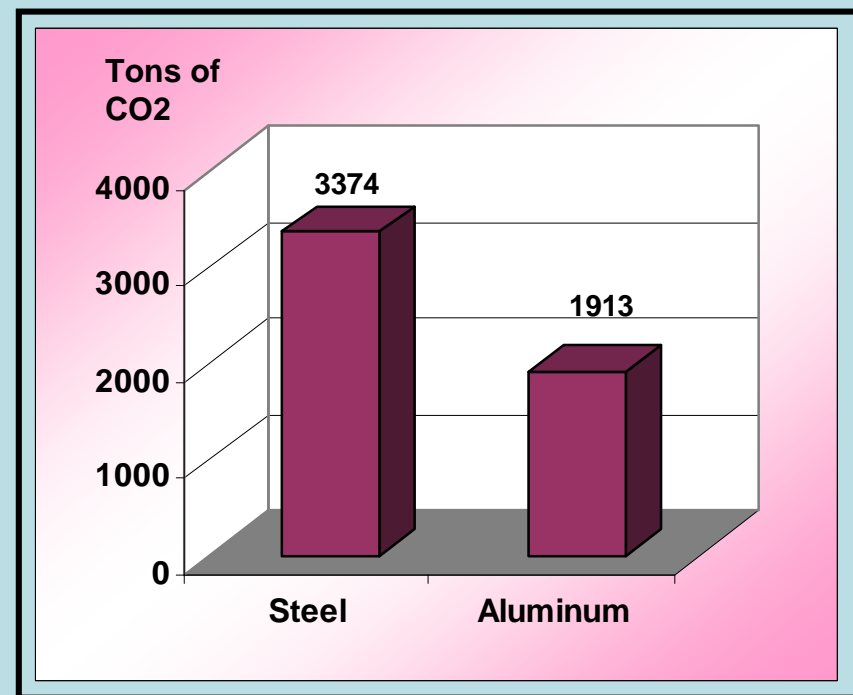
Approximate Quantity of Materials Reclaimed from E-Waste

RESOURCE CONSERVATION EFFORTS

2007 Annual Energy Savings and CO2 Emission Reduction



Energy Savings Per Ton Recycled



Tons of CO2 Emissions Reduced

Reference: Recycling and Incineration - Energy Savings and CO2 impacts – www.nrdc.org



ENERGY EFFICIENCY PROJECTS

EPA's GREEN POWER PARTNER

- As an ISO 14001 certified company, SRS is always seeking ways to improve its environmental performance
- In 2007, SRS partnered with City of Roseville to reduce the risk of climate change through 100% green energy purchase
- This green energy credit purchased by the SRS-RV is equal to protecting more 700 acres of trees OR taking 187 cars off the road each year



ENERGY EFFICIENCY PROJECTS

ENERGY AUDITS

- SRS-RV partnered with City of Roseville to perform an energy audit to evaluate further opportunities to reduce power consumption
- Based on the above audit, an estimated 227,485 kWh/year energy savings has been identified by replacing existing metal halide lamps with T-5 fixtures
- Additional, energy savings of 21,756 kWh/yr has been identified through minor modifications/changes to the existing energy usage

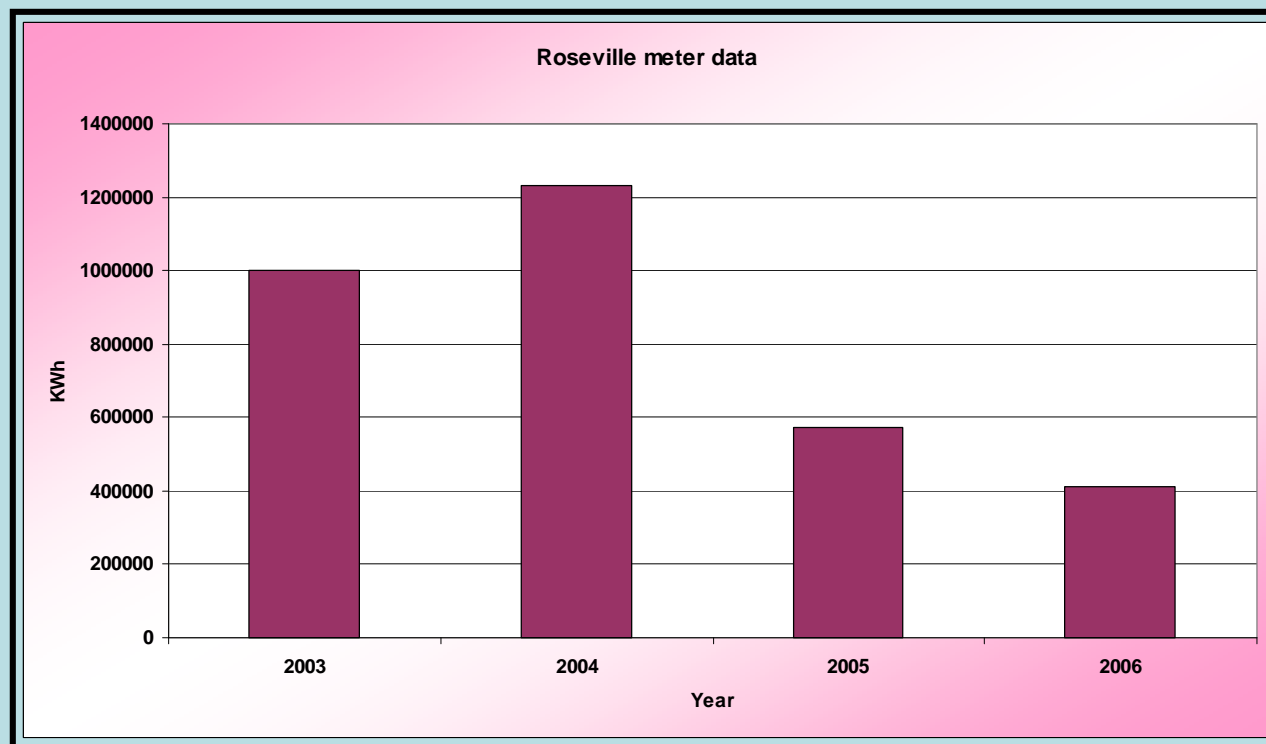


ENERGY EFFICIENCY PROJECTS

Several modifications/improvements have been made over the years to achieve optimum energy usage

- Changed the shredder control program (amperage levels) to achieve faster shredding. Through this process change, the throughput was almost doubled – and shredder energy consumption halved and saved 529,000 KWh per year.
- Investigated automated plastics separation technology that would allow better separation by polymer type, which in turn would maximize recycling opportunities – commissioned already at our Nashville site.
- Implemented HVAC maintenance and temperature monitoring and control system – thermostats set more liberal, condenser coils cleaned frequently

ENERGY EFFICIENCY PROJECTS

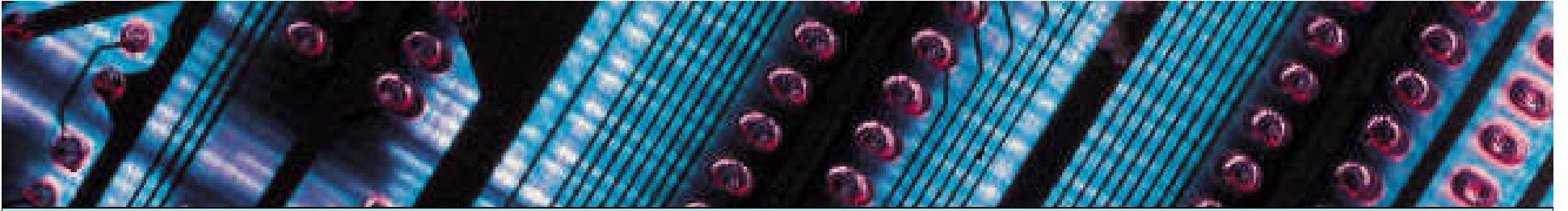


- ◆ A software change saved 529,000 KWh and cost 0\$ to do!
- ◆ The KWh trend is in the right direction



EXPECTATIONS

- More rebate programs for installation of solar power
- Quality power supply
- Proactive investment in non-conventional energy sources
- Investment in research and development of alternative fuel for power generation
- Engage in cleaner power generation



Thank You