

# Conservation as a Business Strategy

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## Reducing energy use is a key strategy for business success.

- Lower fuel and utility costs improving profits
- Reduces the need for costly pollution control equipment
- Emission trading credits
  - Avoid the need to purchase
  - Garner credits to sell
  - Anticipate future markets for carbon (global warming) credits
- Reallocate energy and infrastructure to revenue generating activities
- Control risk of escalating fuel and energy prices
  - Deregulation allowed electrical costs skyrocket by 30% or more (now about 15¢ /kWh)
  - Higher fuel costs
- Meet corporate responsibility and environmental goals; improve image as a green company

## Energy Myth

Saving energy is not important because energy represent a small percentage of operating costs.

- Lowering energy costs leverages profitability and strength in the marketplace.
- For example, if a company garners a 5% profit and pays 5% for energy, lowering energy costs by half grows profitability to 7.5%, a 50% increase.
- Addressing energy waste frees up plant capacity
  - Reduces stress on aging and limited power transmission infrastructure. Overstressed transmission lines and pipelines led to many recent widespread outages and interruptions.
  - Saving energy leads to other synergistic savings:
    - Reduced need for additional summertime cooling
    - Lower transmission losses, since resistance losses grow disproportionately with load, especially when conductors heat up.
    - Similarly using less fuel lowers fuel pumping costs

## Side Benefits of Conservation

- Monitoring energy usage highlights anomalous equipment operation and directs maintenance of that equipment and prevents outages.
- Improved operations (For example, co-generation)
- Less expensive fuel (I.e., Avoid having to buy on the spot market.)
- Reduced material costs
- Higher workplace safety lowers accidents, injuries, insurance premiums, and regulatory action.
- Reduced emissions
- Monitoring allows for Activity Based Accounting (ABC).
  - Costs are assigned to the entity using the energy. For an office or apartment building, these are tenants, who can be billed for this usage. In a factory, this would be a department.
  - When tenants pay for energy, they conserve benefiting themselves and the building owner.
  - Knowing production costs helps decide product mix and costs and fair market value
- Increases the value of fixed plant and equipment, as they now are more productive.
- Improved return on investment (ROI). For example, existing power lines can supply a larger facility.
- Competitive advantage in the marketplace.

## Two ways to Conserve

- Improve operation and maintenance of existing equipment. (e.g., Calibration, measurement, adjustment, lubrication, ...) These provide faster payback and an on-going commitment.
- Improve the infrastructure through capital investments (e.g., Monitoring equipment, motor variable speed controls, ...) These require a greater investment and less day-to-day attention.

## **Just Shopping for Cheaper Energy**

### Pro

- Relatively easy to initiate and sustain if fixed price contracts are used.
- Little coordination needed within the facility.

### Con

- Increased vulnerability to rising energy costs, unless fixed price contracts are used
- Fixed price contracts constrain opportunity for savings when energy prices decline
- Does not address environmental goals.
  - Lowest cost suppliers tend to use the dirtiest fuels
  - "Green" energy (e.g., windpower) may be more costly.
- Forgoes opportunity to reduce costs by lowering usage
- Does not capture productivity benefits

## **Stakeholders Benefit**

- CEO and shareholders realize savings, increased company profitability and value, and market share.
- CFO sees improved ROI as profit margins improve and savings are rolled back into higher production.
- Plant manager has greater knowledge of plant operations, leading to improved availability and productivity.
- Product managers: Lower cost structure allows lower prices; lower pollution allows manager to position products as "green".
- Procurement manager avoids having to buy expensive energy on the spot market.
- Surrounding communities experience lower pollution from sulfur and nitrogen oxides, mercury, and volatile organic chemicals. They also benefit from having a stable and growing employer.
- Staff has better opportunities for training and professional growth and greater job security.

Reference: "Strategic Industrial Energy Efficiency: Reduce Expenses, Build Revenues, and Control Risk", Alliance to Save Energy, July 31, 2003