



NEMI Recycling Forum

Motorola
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Motorola, Inc. (NYSE:MOT) is a global leader in providing integrated communications solutions and embedded electronic solutions.

- ◆ Software-enhanced wireless telephone, two-way radio, messaging and satellite communications products and systems, as well as networking and Internet-access products, for consumers, network operators, and commercial, government and industrial customers.
 - ◆ Digital and analog systems and set-top terminals for broadband cable television operators.
 - ◆ Embedded semiconductor solutions for customers in the networking and computing, transportation, wireless communications and imaging and entertainment industries.
 - ◆ Embedded electronic systems for automotive, communications, imaging, manufacturing systems, computer and industrial markets.
- ◆ **Sales in 1999 were \$33.1 billion.**



Motorola

EHS - Excellence

- ◆ **Motorola is on a Journey to a Sustainable World**
- ◆ **Environmental, Health & Safety (EHS) Excellence - Vehicle**
- ◆ **People - Provide the Energy**
- ◆ **Management - Driver, Strategy, Direction**



EHS Process Map

- ◆ **Policy - Corporate and by operations**
- ◆ **EHS Strategy - Corporate**
- ◆ **EHS Management system - Corporate and by Operations**
- ◆ **EHS Goals - Corporate, sectors, and Operations**
- ◆ **Expectations, Communication, Deployment and Performance reviews - Sector and by Operations**

- ◆ **Stakeholder are Customers, Corporate, Employees, Suppliers, Stockholders, Community and Public.**

- ◆ **Total EHS Management (TEM) similar to TQM**



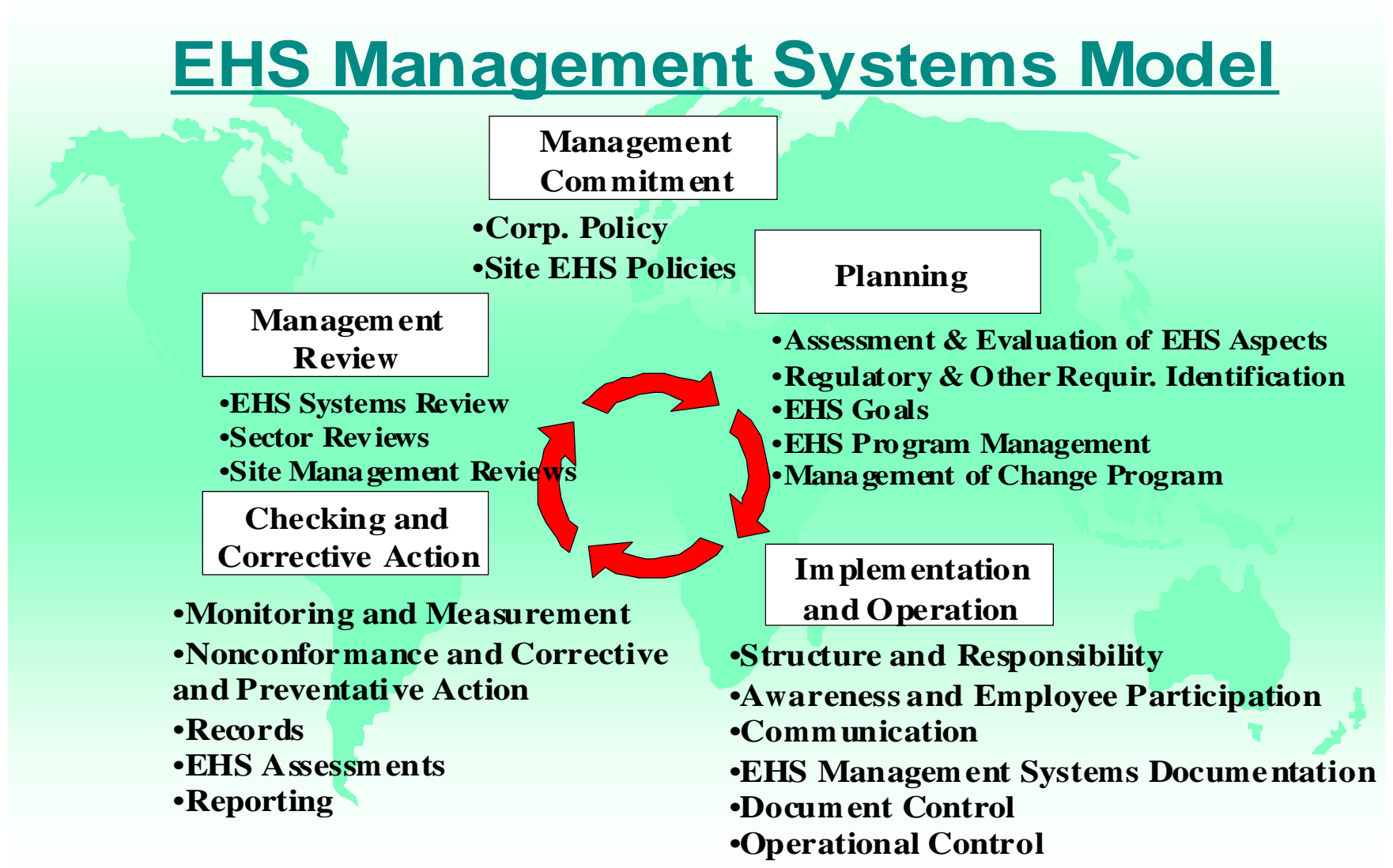
EHS Long Term Objectives

- ◆ **Zero Waste** - reuse or recycle all our waste material
- ◆ **Benign Emissions** - eliminate all emissions from our plants which adversely impact environment
- ◆ **Closed Loop** - conserve natural resources by integrating our products and processes in the recycling loop
- ◆ **Green Energy** - use energy in highly efficient ways at our sites and use renewable energy where practical
- ◆ **Zero occupational injuries & illnesses** - create a workplace free of occupational injuries & illnesses
- ◆ **All products designed for environment and safety** - reduce environmental impact and improve safety



Motorola EHS Plans

EHS Management Systems Model





Motorola Recognition

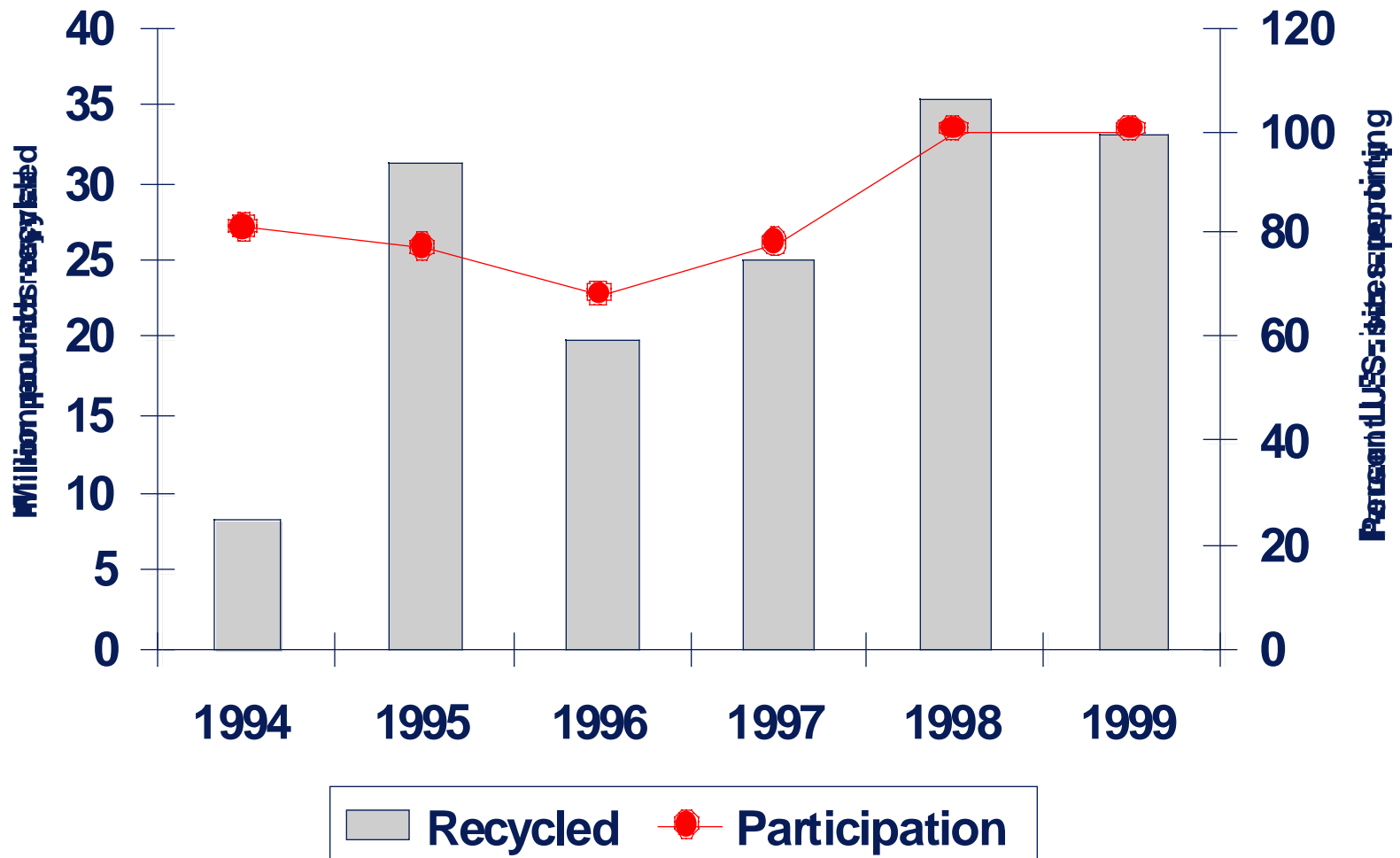
Awards

- ◆ *Recognized in 1995 by US EPA for “Demonstrating commitment to waste reduction by becoming a WasteWi\$e Charter Member”*
- ◆ *Recognized in 1996 by US EPA for “Continued commitment to solid waste reduction”*
- ◆ *Selected US EPA as the “2000 WasteWise Partner of the Year - Very Large Business”*



Results

◆ 153 Million Pounds recycled!





Reducing Green House Gas Emissions

- ◆ *Motorola's 1999 recycling effort reported to Waste Wi\$e resulted in a green house gas reduction of 10,735 million tons of carbon equivalent (MTCE)*

- ◆ *10,735 MTCE equals...*
 - » *The emissions of 8,051 cars, each traveling 11,000 miles at 20 miles per gallon.*
 - » *The annual emissions from the electric power consumption of roughly 6,441 households.*
 - » *The added carbon storage of 10,735 acres of a well established, rapidly growing stand of mixed species trees.*

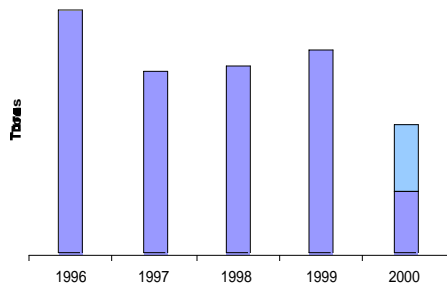


Product Take Back & Recycling

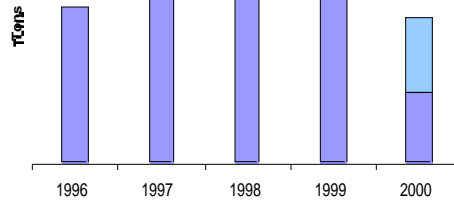
- ◆ **Batteries in USA & Canada**
- ◆ **Europe - Packaging, products, batteries**
- ◆ **Green Malaysia Program - 2-way radios and batteries**
- ◆ **Green, Hong Kong, China, India, Thailand**
- ◆ **Australia**
- ◆ **Mexico**
- ◆ **.....**



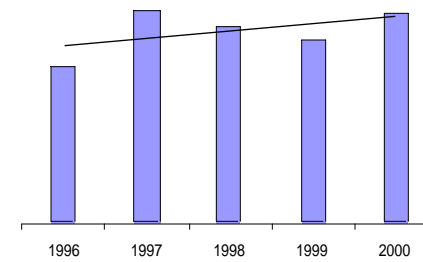
Landfilled
Normalized by Sales
Improvement 37%



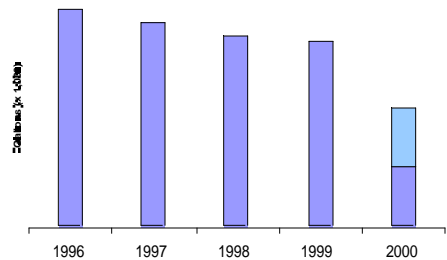
Recycle, Reuse, Energy Recovery
Normalized by Sales
Degradation -13%



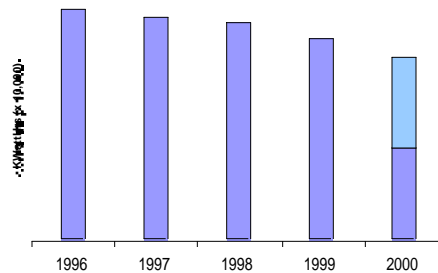
Recycled Waste as a Percent of Landfill Waste
Normalized by Sales
Improvement 17%



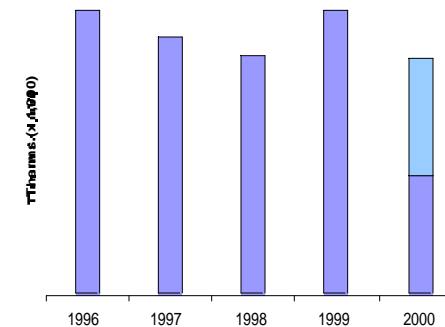
Water Used
Normalized per 100 Employees
Improvement 38%



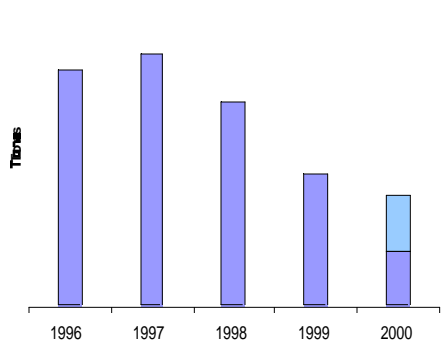
Electricity Used
Normalized per 100 Employees
Improvement 20%



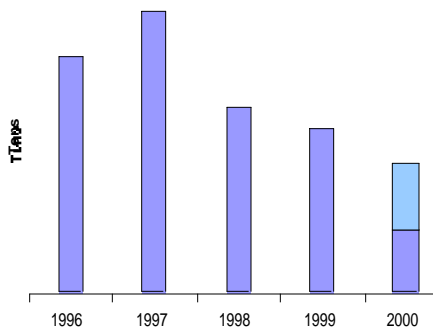
Natural Gas
Normalized per 100 Employees
Improvement 10%



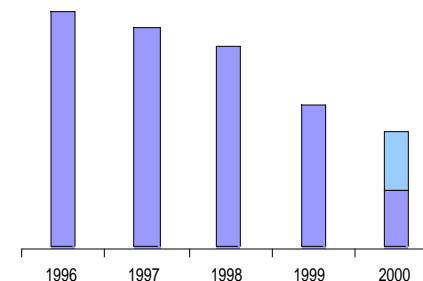
US RCRA Waste (US Sites Only)
Normalized by Sales
Improvement 56%



VOM's
Normalized by Sales
Improvement 50%



Accidents
Normalized per 100 Employees
Improvement 51%





Consolidated 3-Year Goals (2000 - 2002)

- ◆ *Recycle 65% of non-hazardous waste by 2003*
- ◆ *Promote recycling awareness*
- ◆ *Increase the use of recycled materials in our products*
- ◆ *Increase the use of materials manufactured with recycled content*
- ◆ *Minimize the ratio of packaging material to product volume*