3M’s Sustainability Strategy & Waste Minimization

Inventing Tomorrow
Sustaining Our Future

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3M Company Profile

- Founded in 1902
- Headquarters: St. Paul, MN, USA

2010 Information

- Sales: $27 billion
- R&D and Related Expenditures: $1.4 billion
- Employees: 80,000

- 3M is one of 30 companies in the Dow Jones Industrial Average
Six Market Leading Businesses

Providing more than 60,000 different products
What is “Sustainability”?  

“Meeting the Needs of Society Today, While Respecting the Ability of Future Generations to Meet Their Needs”
3M’s Corporate Values

- Act with uncompromising honesty and integrity in everything we do
- Satisfy our customers with innovative technology and superior quality, value and service
- Provide our investors an attractive return through sustainable, global growth
- Respect our social and physical environment around the world
- Value and develop our employees’ diverse talents, initiative and leadership
- Earn the admiration of all those associated with 3M worldwide
3M Strategic Sustainability Principles

- **Environmental Protection:** Provide practical and effective solutions and products to address environmental challenges for ourselves and our customers.

- **Social Responsibility:** Engage key stakeholders in dialogue and take action to improve 3M’s sustainability performance.

- **Economic Success:** Build lasting customer relationships by developing differentiated, practical and ingenious solutions to their sustainability challenges.
Sustainability is Part of Our DNA

- 3M’s Core Values
- Strong, Historic Leadership Support
- Corporate Culture
  - Innovation Encouraged & Initiative Rewarded
  - Every Employee is Responsible for Sustainability
  - Information Sharing & Collaboration
A Long-term Commitment

1930s
• Pension Plans & Disability Coverage
• 3M Foundation

1970
• 3M Safety & Environmental Management
• 3P: Pollution Prevention Pays

1990
• Environmental Targets
• Life Cycle Management
• Environmental Solutions

Today
Dr. Joe Ling; The Father of Pollution Prevention

“Pollution is … unused raw material. By reducing the amount of pollution, … [3M can] save money both on pollution control and on raw materials the next time around. It's a win-win situation.”

Dr. Ling launched 3M’s Pollution Prevention Pays program in 1975
Pollution Prevention Pays (3P)

3M's History and Future

- 3M’s 3P program served as the foundation for governmental environmental policies/programs across the globe.
- Environmental benefits can occur within 3M or for our customers & suppliers.
- Today 3P is a fundamental 3M philosophy.

3M’s 3P Results

(aggregate first year savings)

- Over 3 billion pounds of pollution prevented
- Over $1.4 Billion saved
3P Global Pollution Prevented 1975-2010
(Cumulative – First Year Only)
Recognition Levels

- **Basic/Fundamental Criteria (Level II)**
  - Prevent pollution by reducing/eliminating a problem pollutant or energy consumption; AND
  - Provide a monetary benefit to 3M

- **Special Criteria (Level I)**
  - **Excellence (Innovation)**
  - **Green Step (LCM – R&D/New Product Innovation)**
  - **Guardian (Toxicity Reduction)**
  - **Low Carbon Solution (Greenhouse Gas Reduction)**
  - **Mobius (Packaging Reduction)**
  - **Mover (Goods Distribution Improvement)**
3P at Work: Red Dot Resting Electrode Waste Reduction Project

- A 3P project team from 3M’s Valley, Nebraska facility reduced the inherent waste by redesigning the electrode size.

- The Team:
  - Re-configured the electrodes on the card
  - Reduced silver and adhesive coating weight
  - Reduced the overall size of the electrode

- The Results:
  - First Year Savings = $917,763
  - First Year Pollution Prevented = 11.8 tons of waste

RDR Electrodes are adhesive electrodes used in electrocardiogram (EKG) applications.
Addressing our Environmental Footprint

<table>
<thead>
<tr>
<th></th>
<th>Progress to Date</th>
<th>Current Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td><strong>131 million pounds of water pollution prevented</strong> (1975-2010)</td>
<td>Develop Water Conservation Plans for 3M sites Located in Areas With Scarce or Stressed Water Resources</td>
</tr>
</tbody>
</table>
Reduce Waste 10% 
by 2015 from 2010 base year indexed to net sales

- How we’re working on it
  - Prevent waste at the source
  - Reuse waste internally
  - Enhance recycling efforts

Results Thus Far:
Since 1990, 3M has reduced waste indexed to net sales by 66%
Product Life Cycle Management
3M’s Pathway to Product Sustainability

- 3M’s Life Cycle Management (LCM) process ensures our products address environmental, health and safety opportunities and risks throughout their life cycle
  - from materials acquisition and development
  - through manufacturing and distribution
  - to customer use and disposal/recycle

- LCM is a component of 3M’s formal New Product Introduction Process
  - bringing environmental, health, safety, and energy considerations into each stage of product development
Enhance the Environmental Sustainability Attributes of New Products

• How we’re working on it
  • Encourage the development of new products that help our customers address environmental challenges
  • Educate 3Mers globally on environmental issues and trends
Introducing the new Filtrete™ Water Station
Bottled Water from your Tap...IN SECONDS!

All the CONVENIENCE of bottled water without the cost, waste, time or hassle. Grab & go!

**Fill...Go...Reuse**

- simply fill the reservoir to filter into 1, 2, 3 or 4 bottles
- bottles fill IN SECONDS,
- save up to 3,000 bottles of water per year
- save more than $400 per year
- 100 gallon filter life
- 3 month filter change indicator
- 16.9 oz. reusable bottles are dishwasher safe, BPA free, with leak proof cap
- filter reduces sediment and chlorine taste & odor
WASH SOLVENT REVIEW
3M Cottage Grove

POLYCARBONATE RECYCLE PROJECT
3M Hutchinson
WASH SOLVENT REVIEW

- High Pressure Reactors (200 to 6,000 gal.) Rinsed Between Product Runs
- Production Specification Defines Rinse Cycles and Solvent(s)
- Average of Three Rinse Cycles Each Run
- 1,500 Gallons Virgin Solvent Each Product Run
WASH SOLVENT REVIEW

- **1970-1990**
  Solvent Rinse to Cottage Grove Incinerator –
  Recharged $2,000/tanker

- **1990 – 2000**
  Solvent Rinse to Cottage Grove Incinerator – No Recharge Fuel Value
WASH SOLVENT REVIEW

- 2000 – 2002
- Recycle Waste Solvent Cost to Recycle
- Incinerator Fuel vs. Recycle
  Conserve Natural Resource and Savings to 3M
- Incinerator Fuel vs. Recycle/Reuse
- Increase in Costs for Virgin Solvents and Natural Gas
- Recycle/Reuse Best Option
One Project at Cottage Grove; Eliminated 104 tons of Virgin Solvent/year and Saved $110,000/year by:

- Reviewing Production Specification
- Reduce Number of Rinses
- Reduce Volume of Solvent Required
- Replace Solvent with Water/Caustic
- Replace Virgin with Recycled Solvent
WASH SOLVENT REVIEW

- Cottage Grove Site Results;

  2.5 Million Pounds Virgin Solvent
  Eliminated Annually

  $1,250,000 Annual Savings
POLYCARBONATE RECYCLE PROJECT
POLYCARBONATE RECYCLE PROJECT

- Injection Molding Process Generates 450,000 Pounds Waste Annually
- Waste is HIPS (High Impact Polystyrene) and GPS (General Purpose Polystyrene)
- Originally Landfilled Changed to Ground by Contractor and Sent to Recycler
- Income From Sales to Recycler to Contractor Shop
POLYCARBONATE RECYCLE PROJECT

- Purchased Virgin Polystyrene Resin for Dispenser as Required by Production Standard
- Project to Reduce Virgin Resin Used in Making Desk Top Dispenser
POLYCARBONATE RECYCLE PROJECT
Vacuum System
We are currently running a 70% GP Regrinds and 30% HIPS Regrind mixture with 3% black colorant.
POLYCARBONATE RECYCLE PROJECT

- Production Standard Revision to Accept/Require Internally Recycled Resin. 100% Recycled Resin Content
- All HIPS and GPS waste (450,000 lbs./yr.) from Plant is Ground and used as Raw Material for Dispenser.
- Purchase Grinder $24,000
- Savings in First Year of $350,000
LESSONS LEARNED

- Production Specifications/Standards Are Not Sacred
- Look Internally First
- Complete Environmental and Financial Evaluations Are Important
- Advertise Success
2011 Qtr. 3 Financial Results

<table>
<thead>
<tr>
<th>Category</th>
<th>Sales</th>
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</thead>
<tbody>
<tr>
<td>CAPITAL EQUIPMENT</td>
<td>$683,940</td>
</tr>
<tr>
<td>PRECIOUS METALS</td>
<td>$860,440</td>
</tr>
<tr>
<td>METALS</td>
<td>$4,948,552</td>
</tr>
<tr>
<td>SOLVENTS &amp; CHEMICALS</td>
<td>$127,877</td>
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<tr>
<td>PLASTICS</td>
<td>$8,283,809</td>
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<tr>
<td>PAPER/LINER/CORGTED</td>
<td>$1,547,413</td>
</tr>
<tr>
<td>CONTAINERS / OTHER</td>
<td>$315,668</td>
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<tr>
<td>NWI / SURPLUS SALES</td>
<td>$154,145</td>
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<td>MONTHLY SALE</td>
<td>$476,678</td>
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<tr>
<td>MISCELLANEOUS</td>
<td>$7,158</td>
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<tr>
<td><strong>3M SALES SUB TOTAL</strong></td>
<td><strong>$17,405,680</strong></td>
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Thanks!

www.mmm.com/sustainability