Sustainability; Past, Present and Future from a Corporate View

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Vice President
Environment, Health and Safety
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Past, Present and Future from a Corporate View

- Who is 3M?
- What is Sustainability?
- 3M’s Long History of Protecting the Environment.
- Climate Change: A Multi-Disciplinary Challenge.
- Corporate Social Responsibility.
3M Company Profile

- Founded in 1902
- Headquarters: St. Paul, MN, USA
- 2008 Sales: $25.3 billion
- R&D and Related Expenditures: $1.4 billion (2007)
- Employees: 76,000
- 3M is one of 30 companies in the Dow Jones Industrial Average
3M is a Global Company

Sustainability Is a Global Objective
Six Market Leading Businesses

- Consumer and Office
- Electro and Communications
- Display and Graphics
- Safety, Security, and Protection
- Industrial and Transportation
- Health Care

Providing more than 50,000 different products
3M

A Diversified Technology Company

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3M Brands
3M 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

Corporate values form the foundation for our sustainability efforts
What is “Sustainability”? 

“Meeting the Needs of Society Today, While Respecting the Ability of Future Generations to Meet Their Needs”
<table>
<thead>
<tr>
<th>Economic Success</th>
<th>Environmental Performance</th>
<th>Social Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codes of Conduct</td>
<td>Environmental Performance</td>
<td>Philanthropy</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>Climate Strategy</td>
<td>Human Capital Develop</td>
</tr>
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<td>Customer Service</td>
<td>Eco-efficiency</td>
<td>Labor Practices</td>
</tr>
<tr>
<td>Risk &amp; Crisis Management</td>
<td>Environmental Policies</td>
<td>Employee Health &amp; Safety</td>
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<td>Product Stewardship</td>
<td>Supplier Standards</td>
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Sustainability is the Lens by which Customers, Investors, and Society View 3M

- Increasing interest from key customers in 3M’s sustainability performance and products
- Socially responsible investing is the fastest growing sector of investment
- Institutional investors are demanding greater information on management of climate risks, governance, etc.
- New recruits place a premium on sustainable companies
3M Sustainability Journey: A Series of Firsts

1930s
- Pension Plans & Disability Coverage
- 3M Foundation
- 3M Safety & Environmental Management

1970
- 3P: Pollution Prevention Pays
- Environmental Targets
- Life Cycle Management

Today
- Environmental Solutions
“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 History and Future

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

3M 3P Results

(aggregate first year savings)

- Over 2.9 billion pounds of pollution prevented
- Over $1.2 Billion saved
3P at Work
Red Dot Resting Electrode Waste Reduction Project

- Reduced waste by redesigning the electrode
  - Re-configured the electrodes on the card
  - Reduced silver and adhesive coating weight
  - Reduced electrode size

- Prevents 11.8 tons of waste and saves $917,763 each year

RDR Electrodes are adhesive electrodes used in electrocardiogram (EKG) applications
Waste Management

- Drive reduction through prevention before recycling & reuse
- 3M recycles or reuses 24X more waste than it disposes
- Current goal: reduce waste/net sales by 20% from 2005-2010

**Waste Hierarchy**

1. Prevention
2. Reuse
3. Recycle
4. Disposal

**Total Waste**

(millions of pounds / million dollars net sales)

39% Reduction
Energy Management

- Corporate Energy Management Program established in 1973
- 3M has been recognized by ENERGY STAR for the last 5 years
- Current goal: reduce energy use/net sales by 20% from 2005-2010

Worldwide Energy Use
( millions Btus / millions dollars sales)
Anthropogenic Global Greenhouse Gas Emissions by Type (2004) (Gases shown in CO$_2$-Equivalent)

- CO$_2$ – Fossil Fuel (57%)
- CO$_2$ – Deforestation & Biomass Decay (17%)
- Methane (14%)
- Nitrous Oxide (8%)
- CO$_2$ Other (3%)
- HFCs, PFCs, SF$_6$ (1%)

International Panel Climate Change, Assessment Report 4 (2007). “Summary of Policy Makers. Figure SPM3

- Energy Supply (26%)
- Agriculture (14%)
- Industry (19%)
- Transportation (13%)
- Forestry (includes deforestation) (17%)
- Residential & Commercial Buildings (8%)
- Waste & Wastewater (3%)

International Panel Climate Change, Assessment Report 4 (2007). “Summary of Policy Makers. Figure SPM3
Impacts of Climate Change on the United States
Based on a May 2008 U.S. Government Assessment

- Health, Population and Society
  - Food borne & infectious diseases
  - Coastal regions vulnerable
- Energy
  - Hydro, thermal and nuclear
  - Biomass, wind and solar
- Agriculture
  - U.S. crop yield
  - Livestock health
- Water
  - Water quality
  - Effects on aquatic ecosystems
- Transportation
  - Airports, railways and ports
  - Roads and transit systems

Tangible impacts on water resources, agriculture, land resources, biodiversity, and human health

Create opportunities for existing & new 3M technologies and products to mitigate impacts.
Greenhouse Gas (GHG) Emissions

- 3M GHG management strategy includes
  - Robust GHG accounting
  - Corporate reduction targets, and
  - Developing of GHG solutions for our customers

- 3M is partnering with the U.S. EPA through Climate Leaders to reduce its U.S. GHG emissions by 60% from 2002-2007

3M's Greenhouse Gas Emissions
(million metric tons)

62% Reduction
Global Energy Demand Continues to Rise

World energy consumption is projected to increase by 71% between 2003 and 2030.
Customers seeking assistance in managing their greenhouse gas emissions

“$170 Billion dollars a year invested in efforts to boost energy efficiency from now until 2020 could halve the projected growth in energy demand.”
[Residential, Commercial & Transportation sectors]

Products for the Renewable Energy Market


- **Energy Generation** – Films, tapes, coatings, adhesives to reduce the cost of renewable energy
More than 100 3M Products for the Wind Industry

<table>
<thead>
<tr>
<th>Blades</th>
<th>Nacelle &amp; Hub</th>
<th>Tower</th>
<th>Maintenance &amp; Repair</th>
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<tbody>
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<td>Leading edge protection tapes</td>
<td>VHB Tape</td>
<td>Abrasives</td>
<td>Adhesives</td>
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<td>Abrasives</td>
<td>Dual Lock Fasteners</td>
<td>Safety-Walk Matting</td>
<td>Cleaners</td>
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<td>Structural adhesives</td>
<td>Safety-Walk Matting</td>
<td>Electrical splices</td>
<td>Respirators</td>
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<td>Sealants</td>
<td>Safety-Walk Matting</td>
<td>Air filters</td>
<td>Welding helmets</td>
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<td>Layup adhesives</td>
<td>Safety-Walk Matting</td>
<td>Thinsulate Insulation</td>
<td>Respirators</td>
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<td>Tapes</td>
<td>Safety-Walk Matting</td>
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<td>Reflective tapes</td>
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<tr>
<td>Glass bubbles</td>
<td>Safety-Walk Matting</td>
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<td>Respirators</td>
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<tr>
<td>PolyMask Protective Film (temporary protection)</td>
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Balance of plant

- Electrical splices
- Electrical terminations

Maintenance & Repair

- Leading edge protection tapes
- Abrasives
- Sealers & fillers
- Adhesives
- Cleaners
- Respirators
Product Life Cycle Management:  
3M Pathway to Product Sustainability

- Focus on the broader impact of products and processes over their entire life cycle - from development and manufacturing through distribution and customer use to disposal, environment, health, safety, and energy
- LCM is a component of 3M’s formal New Product Introduction Process

Life Cycle Management Process

Identifies Solutions for a Better Environment
Life Cycle Management at Work

Novec™ 1230 Fire Protection Fluid

- Next-generation halon alternative
- Superior performance in extinguishing efficiency, safety, and global warming impact
  - Zero ozone depletion potential
  - 5-day atmospheric lifetime
  - A global warming potential of 1 (compared to alternative with GWPs of 1300-12,000)

3M™ Novec™ 1230 has prevented more lbs of CO₂ equivalent emissions than 3M emitted in 2007
3M Joins the National Climate Coalition & Environmental Defense Fund Agreement

- Legislation should define and integrate the appropriate departments including energy, environment, security and transportation.

- Prompt action needed. Mass. v. EPA requires EPA to determine whether GHG emissions endanger public health and welfare.

- Policy to reduce global warming should be cost effective, science based and have lasting benefits.

Achieve Through Partnership - Government, business, environmental organizations, public working together.
Climate Change; A Multidisciplinary Challenge

- Adaptation
- National Security
- Cap & Trade
- Carbon Footprint
- Risk Communication
- Credit for Early Action
- Global GHG Ownership
- Eco-Justice
- Health
- Energy Security
- Clean Tech
- Carbon Offsets

And more…
What are Carbon Offsets?

- One entity “offsets its emissions” by funding reductions from another entity

Projects include

- generating renewable energy,
- increasing energy efficiency,
- capturing greenhouse gases,
- increasing sequestration
- forestation

- Helps entities meet GHG reduction targets when the cost of internal reductions is too high
What to Look for in Carbon Offset Projects

- **Additionality:** Does your funding add incremental gain that would not have happened without it
- **Ownership:** Credits clearly belong to you and are counted only once
- **Transparency:** Emissions calculations are transparent and reliable
- **Permanence:** Creation of permanent reductions
- **Verification:** Projects are monitored and verified
What does it mean to be green?

- Are there hidden trade offs?
- Are the claims substantiated?
- Are the claims vague?
- Is the claim relevant to the product?
- Does the product pose other greater concerns?
- Is the claim truthful?

Content & Image taken from
“The Six Sins of Greenwashing”
TerraChoice Environmental Marketing Inc.
(November 2007)
3M Approach to “Green” Products

- No product is “Green” … although many of 3M’s products have environmental / energy advantages.

- Global environmental marketing claims policy since 1990.

- Environmental Claims Committee
  - Oversees implementation of the claims policy.
  - Evaluates all claims to ensure adequate substantiation.
  - Includes legal, environmental, toxicology, marketing, sustainability, & product responsibility.

3M Environmental, Health and Safety Policy

Environmental Marketing Claims Policy

Applicable: This policy applies to all 3M operations.

Introduction: An “Environmental Marketing Claims Policy and Process” has been established to ensure that all claims used in marketing, advertising, promotion, and sales materials are accurate and consistent with objective data.

Policy Statement: All new and existing products, environmental claims, and changes resulting from modifications are released in the Environmental Marketing Claims Policy. The policy includes the following:

- Adheres to the Federal Trade Commission (FTC) Green Guides and other relevant guidelines.
- Maintains accurate and comprehensive records.
- Evaluates claims to ensure a reasonable basis.
- Ensures that claims are true and not misleading.
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3M Corporate Processing and Regulatory Services
1501 South 150th Street
Maplewood, Minnesota 55119
Phone: 651-720-4785
Fax: 651-720-4702

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Environmental Claim: Thinsulate™ Insulation

- Environmental/Energy Advantage:
  Thinsulate™ Insulation contains 50% recycled polyester fibers made from postconsumer waste.
Environmental Claim: Post-it® Products

- Post-it® 100% Recycled Notes in Cabinet Pack

  - Environmental/Energy Advantage:
    This product is made with 100% recycled paper and contains a minimum of 30% postconsumer recycled content. All Post-it® Notes are recyclable.
Environmental Claim: 3M™ PPS™
Paint Preparation System for Automotive Market

- Environmental/Energy Advantage:
  By eliminating the need for mixing cups and filters, the PPS paint preparation system reduces the need for cleaning solvents by as much as 70 percent, and there is also less wasted paint.

  Less solvent means less hazardous waste and lower volatile organic compound (VOC) emissions, enabling automotive paint shops to maintain cleaner working environments and reduce costs.
Environmental Claim: 
3M™ Neutral Cleaner Concentrate

- This product meets the requirements of Green Seal Standard 37 (GS-37).

GS-37 is an environmental standard for industrial and institutional cleaner with specific requirements for effects on human health and the environment.
3M Products for Green Buildings

- 3M offers more than 200 products for the green building market, including products to address:
  - Indoor Air Pollution
  - Energy Use
  - Water Management
  - Waste

3M Di-Noc™ Architectural Finishes

3M™ Twist ‘n Fill™

3M™ Adhesives

Nomad™ Matting

Filtrete™

3M™ Adhesives
What is “Sustainability”?

“Meeting the Needs of Society Today, While Respecting the Ability of Future Generations to Meet Their Needs”
Corporate Social Responsibility

- Providing a safe and healthy work place
- Supporting continuous learning and knowledge sharing
- Ensuring ethical operations
- Partnering with governments, non-governmental organizations, communities to achieve sustainability
- Supporting communities where we operate
## Partnering to Achieve Sustainability

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<tr>
<td><strong>U.S. EPA Performance Track, Climate Leaders, &amp; ENERGY STAR</strong></td>
<td><strong>More than $5.5 million donated over the last few years to protect more than 70,000 acres of wildlife in Minnesota, Texas, and Brazil.</strong></td>
</tr>
<tr>
<td><strong>The Nature Conservancy</strong></td>
<td><strong>Partnering with the Center for Health and the Global Environment to improve environmental education in the United States</strong></td>
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<tr>
<td><strong>Harvard Medical School</strong></td>
<td><strong>$4.7 million to support tsunami relief efforts in Asia and Africa</strong></td>
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<tr>
<td><strong>Disaster Relief World Wide</strong></td>
<td><strong>$14 million to support relief to hurricanes Katrina and Rita survivors</strong></td>
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</table>
Employee Contributions & Volunteerism

- United Way, 2008 U.S. Results
  - $4,820,989 in pledges
  - A record 11,835 volunteer hours

- Employee Volunteer Program since 1953
  - Volunteer Match
  - 3M Science Training
    Encouragement Program
  - 3M Visiting Wizards—half a million students have been educated and entertained since 1985
Community Giving

- Decentralized with 3M subsidiaries in each country administering a program that reflects the local culture and needs

- Example: the United States
  - $42.591 million in 2007
  - Giving around education, health & human services, environment, and arts & culture

- Example: Brazil
  - Nearly $500,000 to Social Innovation Institute
  - Driving social development in Brazil

- Example: Mexico
  - More than $500,000 to The Nature Conservancy to support the creation of Calakmul Biosphere Reserve
  - 26,500 acres preserved
In Summary

1. Meeting the Sustainability Challenges of Today and Tomorrow Will Require Business, Governments, Non-Governmental Organizations, Academia, and Communities to Work Together

2. Big Problems Mean Big Opportunities
   - Business Opportunities
   - Societal Opportunities
   - Career Opportunities Across All Sectors

Everyone must be part of the solution!
Questions?