2007 Environmental, Health & Safety Annual Report
Today, Knoll focuses on three key environmental areas: climate change; third-party certification; and environmentally-friendly materials, products and processes. And we are continuing to set industry-leading standards for environmental sustainability.”

Andrew Cogan
CEO
Knoll, Inc.
Climate Change

In 2007, as scientific evidence and public concern mounted on the devastating impacts of global warming, Knoll began implementation of a Sustainable Wood Policy targeted to protect endangered forests and promote sustainable harvesting of wood resources. The Wood Policy is expected to be fully implemented in 2010. In addition, Knoll introduced a comprehensive Energy Management Program targeted to reduce our energy consumption and carbon emissions.

Knoll Sustainable Wood Policy

Knoll has a history of responsible wood management that has included the use of century-old logs retrieved from Great Lakes waterways and wood obtained from the Menominee Tribal Enterprise, a Native American wood supplier that has practiced sustainable forestry for 140 years. We are the first major furniture industry OEM to earn Forest Stewardship Council (FSC) certification authorizing us to provide chain-of-custody proof that wood bearing the FSC mark comes from forests that protect environmental, social and economic values.

Now we have taken the FSC Controlled Wood Policy and are working toward applying it to all the wood we use in our manufacturing, regardless of whether it is FSC-certified or not. We take seriously our responsibility to customers who rely on our high standards of accountability for the wood used in our products to help them achieve their own sustainability goals.

Resources At Risk

The purpose of the Knoll Sustainable Wood Policy is to ensure that wood and wood fiber used in the manufacture of Knoll products is obtained from environmentally responsible sources.

This is a matter of critical importance. Forests are vital components of our ecosystem. They provide timber and wood pulp, food and medicines, wildlife habitat, and livelihoods and cultural identity for those who dwell in them. They contribute to air and water quality and play a key role in the global carbon cycle. Around the globe, unmanaged and illegal wood harvesting are associated with rapidly disappearing forest resources, diminishing bio-diversity, destruction of local cultures and economies, lost tax revenues, government and industry corruption, and the financing of conflicts in unstable regions.

“If you reduce your carbon discharge from manufacturing but at the same time are not addressing the management of the rainforest, you’re negating the value. Deforestation is responsible for 25% of greenhouse gas emissions.* At Knoll we have made a strong commitment to help reduce global warming, and that means, when it comes to wood, we cannot look the other way.”

Lou Newett
Environmental, Health and Safety Manager
Knoll, Inc.

*The Rainforest Alliance
Scaled for open plan workspaces, private offices and conference areas, Reff®, above, showcases the beauty of wood.

In 2007, we introduced a comprehensive wood policy to ensure that illegally harvested wood is not used in our products. We uphold the same standards of accountability for all the wood we use in our manufacturing, whether for an AutoStrada® table, right, or Shelton Mindel side chairs, far right.

“Sustainable forestry can have a very quick impact because, unlike transportation, it involves just three steps: managing sustainable forests, preventing illegal logging and having strong legislation in place to prevent imports of illegally harvested woods. This is happening all over Europe, it just isn’t happening here strongly enough. Knoll is absolutely a leader within its industry in supporting sustainable practices. I think they are a very important player in the field.”

Daphne Hewitt
Senior Projects Manager
The Rainforest Alliance
Our Policy

The Knoll Sustainable Wood Policy, once fully implemented, will apply to all wood used in the manufacture of our products: solid wood, veneer, Techwood and composite or particleboard.

+ Knoll shall identify and document the country and district of origin of all wood products it procures.
+ Knoll shall confirm to the best of its abilities that all suppliers of forest products are in compliance with applicable laws and regulations governing timber harvesting.
+ Knoll shall require that each forest from which wood or wood fiber is derived for Knoll products has a sustainable forest management program in place that is certified by an independent third party.

Knoll shall not use wood from the following controlled categories in the manufacture of our products:

+ Wood harvested from forest areas where traditional or civil rights are violated.
+ Wood harvested from non-FSC forests having high conservation values* which are threatened or not managed using sustainable forest practices.
+ Wood harvested from primary tropical moist forests** that are not managed using sustainable forestry practices as verified by an independent third-party audit.
+ Wood harvested from intact forests, as defined by the World Resources Institute’s (WRI) Global Forest Watch mapping, as it develops.

Implementation and Monitoring

Knoll has integrated Sustainable Wood Policy procedures into our operating infrastructure includes a Forest Products Procurement Checklist: a detailed questionnaire on forestry and manufacturing practices that must be completed and documented by all potential suppliers and is used by Knoll to assess the risk of each forest resource. A Verification Review Checklist requires applicants to disclose if they have been cited by any of six prominent organizations that provide international oversight of forest practices. These organizations include the UN Security Council, U.S. Agency for International Development (USAID), the World Wildlife Fund, Conservation International, Global Forest Watch and FSC. Knoll maintains a detailed record of all incoming wood and wood fiber, by supplier, which is updated annually. A glossary of terms ensures clear understanding of all policy mandates.

Monitoring of the process is achieved through inclusion of Sustainable Wood Policy directives in our ISO 14001 plan. Knoll Purchasing, Environmental Health and Safety (EHS) and Product Development departments have clearly delineated responsibilities for implementing procedures, maintaining documentation and reporting. Oversight is provided by the Knoll Corporate EHS Manager, the Director of Global Sourcing, the Senior Vice President of Operations, and the President and COO, Knoll North America.

We are actively engaged in developing suppliers for controlled wood, and in so doing we are helping expand the practice of sustainable forestry and the availability of responsibly harvested wood.

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*High Conservation Value Forests (as defined by the Forest Stewardship Council) are those that contain globally, regionally or nationally significant concentrations of bio-diversity values and/or contain viable populations of mostly naturally occurring species existing in natural patterns of distribution and abundance. Also those that contain rare, threatened or endangered ecosystems; and/or provide basic services of nature in critical situations (e.g. watershed protection); and/or are fundamental to meeting the basic needs of local communities or are critical to traditional cultural identity.

**Tropical moist forests are defined as those in areas that receive not less than 100 mm of rain in any month for two out of three years and have an annual mean temperature of 24º C or higher.
We have a supplier in Cameroon with eleven concessions. But when we initially did the due diligence we told him only one of those concessions met the standards for our wood. So he went out and put procedures in place to ensure compliance from six more. That’s a great result. We not only got the wood we needed but we were able to drive change. And he is supplying other vendors as well, so the effect is multiplied.

Lou Newett
Environmental, Health and Safety Manager
Knoll, Inc.

Forests are a bulwark against global warming, capturing carbon dioxide that would otherwise contribute to heating the planet. They hold some of the richest flora and fauna anywhere, and they have supplied generations of people with livelihoods that are now threatened.


In the next 24 hours, deforestation will release as much CO₂ into the atmosphere as 8 million people flying from London to New York.

According to audited figures from 2003, two billion tons of CO₂ enters the atmosphere every year from deforestation. The remaining standing forest is calculated to contain 1,000 billion tons of carbon, or double what is already in the atmosphere.

If we lose forests, we lose the fight against climate change.

Report by the Oxford University-based Global Canopy Programme, quoted in The Independent, May 14, 2007
Former President Bill Clinton congratulated Knoll and the Chicago Climate Exchange (CCX®) on their mutual efforts to reduce greenhouse gas emissions at Greenbuild, the world’s largest conference on green building. Knoll was a Platinum Sponsor of the November 2007 Chicago event.

**Knoll Energy Management Program**

In 2006, Knoll became the first contract furniture industry member of the Chicago Climate Exchange (CCX) through its commitment to the Clinton Global Initiative. The CCX is the world’s first and North America’s only legally binding rules-based greenhouse gas emissions allowance trading system, as well as the world’s only global system for emissions trading based on all six greenhouse gases.

In Phase I of our North American greenhouse gas reduction program with CCX, we achieved an 8.8% reduction in carbon dioxide emissions over the 1998-2001 baseline. This exceeded the required 4% reduction in carbon dioxide emissions in the Phase I period by 4.8%.

For Phase II of the CCX program, Knoll expects to further reduce emissions by 2% over the 1998-2001 baseline by 2010.

The Knoll CCX commitment is part of a comprehensive Energy Management Program that establishes infrastructure, protocols and procedures to meet long-term, company-wide energy reduction goals.

In 2007, the Energy Management Program also:

- **Completed specific energy-saving projects.**
  - Lighting Upgrades in East Greenville will save 690,274 kwh per year (421 tons of CO₂ per year).
  - Lighting Upgrades in Grand Rapids will save 155,300 kwh per year (95 tons CO₂ per year).
  - Low Temperature Phosphate Cleaning Process in Muskegon will save 698 MCF of gas per year (38 tons of CO₂ per year).
  - Low Temperature Phosphate Cleaning Process in the Toronto Metals Plant will save 4,320 MCF of gas per year (234 tons of CO₂ per year).

- **Established metrics for site energy consumption.**
  - Metrics used to track overall site energy performance on a monthly basis.

- **Established energy teams at each site.**
  - Goals and objectives defined; teams to monitor all motors in all facilities to precisely define energy use.

- **Modified capital appropriation process to include the carbon footprint impact.**
  - Funding to reduce our carbon footprint integrated into corporate capital projects.

- **Modified site management goals to include a CO₂ reduction component.**
  - Original CCX commitment not site specific. This initiative sets responsibility for reductions at the site level.

With FSC-certified wood and other energy saving features, the Knoll San Francisco showroom, above, is LEED Silver certified.
At Greenbuild 2007, above, from left to right: Bill Clinton, 42nd President of the United States; Dr. Richard L. Sandor, Chairman and CEO of CCX; Andrew Cogan, Knoll CEO; and Lou Newett, Knoll Environmental, Health and Safety Manager.

Knoll participates in the Energy and Climate Change Group of the non-partisan Clinton Global Initiative. At right, panelists seated in Life® chairs at the Annual Meeting.

“Knoll is not only the first member of the furniture industry to take on a legally binding commitment to tackle climate change through CCX membership but also widely recognized for their design and materials excellence. We look forward to moving together to address climate change through a commitment to environmental innovation.”

Dr. Richard L. Sandor
Chairman and CEO
Chicago Climate Exchange
In 2007, we received and/or maintained certification from the following:

+ **CCX® (Chicago Climate Exchange) Phase II** (2007-2010). We continued reductions in emissions against 2010 goals.

+ **ISO® 14001 (International Organization for Standardization)** annual audit of corporate process and sustainability program and site audit of Toronto facility. All audits successfully passed and certification re-issued.

+ **FSC® (Forest Stewardship Council)** audit approval and five-year certification of Toronto, East Greenville and Grand Rapids plants. FSC certification authorizes Knoll to provide chain-of-custody proof that wood bearing the FSC mark comes from forests that protect environmental, social and economic values.

+ **GREENGUARD™ (Indoor Air Quality)** certification for additional KnollStudio products. All Knoll North American systems, seating, KnollStudio seating, KnollExtra accessory products (except poster boards) and textiles are GREENGUARD certified. GREENGUARD certification is the gold standard for identifying products that meet stringent testing criteria and have no adverse impact on indoor air quality. In 2007, an additional standard called GREENGUARD for Children & Schools™ was developed for sensitive populations. The Knoll Life® Chair was required to meet this stringent new standard as part of its SMaRT® certification.

+ **SMaRT® (Sustainable Materials Rating Technology)** from MTS (Market Transformation to Sustainability). Knoll Life Chair awarded SMaRT Gold certification. (See details under Environmentally Responsible Materials, Manufacturing Processes and Products).

+ **LEED® (Leadership in Energy and Environmental Design)** CI 2.0 Silver certification for the Knoll Philadelphia Showroom.

In 2007, LEED (recycled content) databases were created for KnollStudio products, including the Barcelona and Bertoia Collections. Ongoing effort identifies all suppliers of components used in KnollStudio products. Hundreds of suppliers in six countries on three continents are required to submit detailed information on materials used in manufacturing KnollStudio products. Completion expected in 2008.

Knoll continued to provide documentation for products included in client LEED project applications. In 2007, the following projects were among those containing Knoll products that achieved LEED certification:

- **Bank of America**, CC Pilot 19 & 21, Charlotte, NC, LEED CI 2.0 Gold (AutoStrada, Calibre, Life, Saarinen, Brno, Copeland)
- **Bank of America**, Kenton Place, Huntersville, NC, LEED CI 2.0 (AutoStrada, Calibre, Life, Saarinen, Brno, Copeland)
- **Chicago Transit Authority Headquarters**, Chicago, IL, LEED EB 2.0 Gold (Currents, Equity, Dividends, Life, RPM, Propeller)
- **Bowman and Brooke LLP**, Minneapolis, MN, LEED CI 2.0 (AutoStrada, Reff, Life)
- **CalPERS**, Sacramento, CA, LEED CI 2.0 Gold (Morrison, Life, Series 2, Copeland)
- **SMUD Customer Service Center**, Sacramento, CA, LEED EB 2.0 Platinum (Equity, Reuter)
- **U.S. Green Building Council**, Washington, DC, LEED CI 2.0 Platinum (The Graham Collection, Chadwick, Florence Knoll, Saarinen)
- **Vail Resorts**, Denver, CO, LEED CI 2.0 (Reff, Life, Chadwick, Calibre, KnollStudio)

Third-Party Certification

We are a leading advocate for independent third-party certification because it provides the most impartial and trustworthy foundation for industry-wide compliance. Certification by well-established and respected third parties ensures that all manufacturers are held to stringent, uniform environmental standards. It tells customers that they can trust a manufacturer’s claims about the environmental attributes of its products.
Morrison, top, and AutoStrada® above, are manufactured using clean technologies, including water-based adhesives and VOC-free powder coating.

Monarch upholstery, right, by KnollTextiles is made with eco-intelligent polyester.

The Florence Knoll bench, far right, reflects the KnollStudio commitment to timeless, enduring design. All KnollStudio seating is GREENGUARD certified.

“Each year Knoll sets key initiatives in our journey to sustainability and takes a leadership position in establishing universal environmental standards for our industry.”

Lou Newett
Environmental, Health and Safety Manager
Knoll, Inc.
The LEED Silver certified Philadelphia showroom underscores the Knoll commitment to high performance green building. All new showrooms are targeted for LEED certification.
In March 2007, Knoll opened the doors of its new Philadelphia showroom and sales office: an 11,633 square-foot space with high ceilings, tall windows and bird’s eye views of the city. The rehabbed space in the same building Knoll has occupied for more than 20 years is larger and more open, making it possible to display the complete Knoll offering of systems products under one roof. The showroom is flooded with natural light. “We have personal lights at each workstation,” explains Heidi Azar, Knoll Architecture and Design Manager, “but only about 5% are used because there is such beautiful natural light in the space.” The showroom earned LEED certification through the careful application of sustainable practices and materials, including:

- Maximal use of natural light
- Fluorescent fixtures with optimized energy performance
- Floor carpeting with backing containing 76% post-consumer materials
- Eco-Spec low VOC paints
- KnollTextiles wallcoverings with high recycled content
- Energy Star-rated appliances
- FSC-certified wood on Knoll workstations
- GREENGUARD-certified furnishings and textiles
- Recycled building materials

### Site Selection
- Knoll Philadelphia is located in a building within one half mile of a residential zone or neighborhood and has pedestrian access to at least 10 basic services within one half mile.
- The showroom has arrangements with a gym and shower in the Knoll dealership space which is within 200 yards of the building.
- The showroom is located within one half mile of three subway stations.

### Materials and Resources
- Knoll has signed a 10-year lease ensuring a long-term commitment to the space.
- 25% of the new design incorporates existing furniture and elements to achieve suggested Resource Reuse.
- 62.89% of the building materials and products used are manufactured regionally within a 500-mile radius.
- 55.32% of the wood-based materials and products are FSC-certified.

### Energy and Atmosphere
- Optimized Energy Performance lighting and 97% Energy Star equipment and appliances are used. HVAC system’s energy consumption is 57.57% lower than the standard.
- 17.82% reduction in connected lighting power density, using the space-by-space method.
- Showroom has a reduced lighting power density that is 15%-24% below the standard.

### Indoor Environmental Quality
- Increased ventilation: outdoor air ventilation rates at the breathing zone of all occupied spaces are at least 30% above the minimum rates required.
- Low VOC adhesives, sealants, paints, coatings and carpet are used.
- 95% of regularly occupied seated spaces have direct lines of sight to the windows surrounding the perimeter.
- There is a minimum daylight factor of 2% in 100% of all occupied spaces.

The Philadelphia LEED-certified showroom is a working example of environmentally responsible products and practices and an important teaching tool, as well as sales tool, for use with designers and end users alike. “The A&D community has been on the environmental bandwagon for a while now,” says Ti Schulze, Knoll Regional Sales Manager. “The key difference is that end users are now paying close attention. This is becoming important for them, and the showroom is a great resource for demonstrating how sustainable design can be achieved.”
Environmentally Responsible Materials, Manufacturing Processes and Products

Materials and Manufacturing Processes: Clean Technology

Knoll has been developing and implementing clean technology for more than 25 years. Key Knoll innovations that have changed manufacturing practices in the contract furniture industry include replacing contact cement with non-VOC emitting hot melt adhesives and developing the spray equipment for their application; developing water-based finishes to replace HAP – and VOC – emitting solvent-based finishes; and formaldehyde-free backing materials for wood products. The non-formaldehyde-emitting urethane coating for wood introduced by Knoll in 2006 is currently being used in the residential furniture and kitchen cabinet industries as well as the contract furniture industry.

Waste and energy reduction are also important aspects of clean technology. Since the early 1980s Knoll has recognized this synergy and focused on reductions in these areas through the application of Activity-Based Costing. This accounting practice, which looks at the costs of energy consumption and waste as well as materials and labor, has helped Knoll better understand the real costs of its operations and make the investments in clean technology that improve the environment and the bottom line.

In 2007, Knoll pursued the following clean technology initiatives:

+ Developed and implemented a Low-Heat Phosphate Process for metal coating. This new technique reduces energy consumption by eliminating the need to heat water used to prepare metal surfaces for paint finishes. The process has resulted in savings of 698 MCF of gas per year (38 tons of CO2 per year) at the Muskegon facility and 4,320 MCF of gas per year (234 tons of CO2 per year) at the Toronto metals plant.

+ Implemented lighting upgrades at facilities that will save 690,274 kwh per year (421 tons of CO2 per year) in East Greenville and 155,300 kwh per year (95 tons CO2 per year) in Grand Rapids. Capital expenses for lighting upgrades to high-efficiency fixtures and bulbs recovered through savings in less than a year.

+ Established a program to eliminate PVC from Knoll products. The search for substitute materials was initiated and testing commenced on alternative materials. The critical issue is finding materials that provide desired physical attributes in products and perform to standard in processing. The Knoll goal is to be PVC-free by 2012.

+ Sourced Bio-Based Foam made from rapidly renewable materials. Foams made from several...
different feed stocks, including soy, have been identified and are being tested for fire retardance and odor emissions. The second stage of testing will assess attributes including comfort and durability.

+ Adopted California Air Resources Board (CARB) goals for Low Formaldehyde MDF and particleboard and was successful in sourcing particleboard that meets the 2009 CARB standard of .18 parts formaldehyde per million. MDF sourcing is ongoing. Knoll has committed to meeting further-reduced CARB standards of .05 parts formaldehyde per million by 2011.

+ Secured sourcing for FSC-certified particleboard.

+ As part of its commitment to addressing climate change, Knoll implemented a comprehensive controlled wood policy that ensures that the wood used in its products comes from sustainable forests. (See section on Climate Change for details).

**Products: Design for the Environment**

In 2007, Knoll continued to follow Design for the Environment Guidelines in the design of its products, which mandate:

**Design for Durability** (Ease of disassembly for part replacement; ease of refurbishment; reuse of components that are structurally sound)

**Minimum Materials** (Use of minimum materials in construction)

**Material Selection** (Use of low-embodied energy, non-toxic, recyclable and rapidly renewable materials)

**Life Cycle Analysis (LCA)**

Knoll believes that performing an LCA is critical in understanding the environmental impacts of a product. Life Cycle Analysis is a science-based measurement of a product’s environmental impacts throughout its life cycle, from raw materials sourcing through manufacture, shipping, use, and re-use or end of life. LCA has great potential for positive impacts on climate change, conservation of natural resources, design innovation and the sustainability triple bottom line: environment, economics and social equity.

In 2007, Knoll continued to collaborate with The Green Standard as it developed a system to support manufacturers in creating and using product LCAs. Gregory Norris of Harvard University and Sylvatica Consultants were engaged to design a software bridge between the software used for collecting data for a product Life Cycle Inventory (LCI) and the software required to convert a product LCI into a product LCA for use with product standards like SMaRT. By the end of 2008, The Green Standard expects to complete development of a web-based tool that will support manufacturers, including Knoll, in creating ISO-compliant Environmental Product Declarations (EPDs), a key component of the emerging Global Product Information System.

**Education**

Knoll has always made education part of its sustainability efforts. Learning about new opportunities and spreading the word on what we have learned is part of our mission. In 2007, Lou Newett, Knoll Environmental, Health and Safety Manager, participated in several important initiatives, including:

+ A webcast with Michael Italiano, MTS President, on Environmental Design and Construction sponsored by Interiors & Sources magazine and targeted to architects, designers and product manufacturers.

+ Training on Sustainable Products for A&D firms across the country that awarded AIA and IIDA CEU credits.

+ Developed sustainable Product and LCA training for design professionals with Debra Dunning, President, The Green Standard, and Michael Italiano, MTS President.

+ A Green Building Products Summit held in Pittsburgh and sponsored by The Green Building Alliance, a Pennsylvania-based organization that focuses on green building at the regional level. Knoll participated in a panel discussion with Forbo and Home Depot on “Green Building Products: A Manufacturer and Retail Perspective.”

+ Internal training of Knoll EHS and Sourcing Department associates on forestry issues and LEED-related (recycled content) sourcing programs.
Knoll Life Chair Awarded SMaRT® Gold Certification

SMaRT Gold certification of the Life® chair makes Knoll the first manufacturer in the contract furniture industry to achieve SMaRT product certification. Knoll joins other vanguard companies in the flooring, lighting and wood building products industries in adopting stringent SMaRT certification standards for products they manufacture and sell.

What is SMaRT?

SMaRT (Sustainable Materials Rating Technology) certification from MTS (Market Transformation to Sustainability) is a comprehensive sustainability standard covering more than 157 credits in areas including Public Health and Environment; Renewable Energy and Energy Efficiency; Bio-Based or Recycled Materials; and Innovation in Manufacturing. SMaRT addresses 80% of the world’s products (the only areas it does not certify are vehicles and airplanes) and social equity as well as environmental concerns. It mandates ISO-compliant LCA (Life Cycle Analysis) and GREENGUARD for Children & Schools®, a more stringent GREENGUARD standard for sensitive populations.

SMaRT has been adopted by more entities than any other product certification. Adopters include AIA, LEED (which offers an Innovation credit for SMaRT certification), Sustainable Furniture Council, Fireman’s Fund, Wall Street’s Capital Markets Partnership and thebiggreenpurse.com, a leading media blog on sustainable products.

KnollTextiles Adds Environmentally Responsible Fabrics and Finishes

Recycled Content/ Rapidly Renewable Materials

KnollTextiles collections include fabrics made with recycled polyester and with rapidly renewable materials, such as wool, which can be replenished at a rate equal to or greater than its rate of depletion.

Green Bar

Knoll offers over seventy fabrics with the “Green Bar” designation, indicating that the fabric contains a minimum of 49% recycled content, 75% natural fiber or 100% eco-intelligent polyester. Green Bar fabrics can help companies, healthcare organizations and educational institutions achieve LEED certification.

In 2007, KnollTextiles added 14 new Green Bar fabrics (135 skus) to its collections.

Terratex™

KnollTextiles offers fabrics bearing the Terratex name, which are made from 100% recycled polyester and are recyclable. In 2007, all Terratex fabrics were certified Green-e, which means that 100% of the electricity used to make those products is matched by Green-e certified renewable energy certificates that support clean wind energy.

Environmentally-Sensitive Finishes

Crypton Green

In 2007, KnollTextiles introduced Crypton Green fabrics, which combine post-consumer recycled polyester fibers with an optimized chemistry for reduced environmental and indoor air quality impact. The Crypton Green formula provides moisture, stain, odor and bacteria resistance with low VOC emissions.

Crypton Green is Cradle-to-Cradle Silver and SCS Gold Indoor Advantage™ certified. Green-e energy certificates purchased for every yard of fabric produced fund the expansion of renewable energy resources.

Nano-Tex®/Nano-Tex® with Durablock

Knoll offers both of these environmentally-sensitive finishes on its products. Nano-Tex provides long-lasting spill resistance. Durablock is a moisture barrier that can be combined with Nano-Tex for added performance benefits. The fabric system is recyclable when used on a 100% polyester product.

In 2007, Nano-Tex and Nano-Tex with Durablock were Cradle-to-Cradle certified for reduced environmental impact and human safety by McDonough Braungart Design Chemistry (MBDC).
Knoll is the sustainable furniture market leader. And the market is shifting. The Federal Trade Commission has started hearings on ‘greenwash,’ customers are demanding proof of environmental claims, and manufacturers are understanding that they will need certifications like this one. The Knoll SMaRT certification is very timely.

Michael Italiano
Founder and President
MTS (Market Transformation to Sustainability)

“I think that communication with the client is of absolute importance. It’s important to know the client and to understand his problems, and if he or she doesn’t understand the problem, to teach them what the problem is.”

Florence Knoll
The Knoll 8

Knoll has established a set of ambitious standards for guiding and reporting on our progress toward becoming a more sustainable company. They are mandated in a comprehensive Environmental, Health and Safety Plan and are defined under Eight Principles that are the foundation of this report: (1) Protection of the Biosphere (2) Sustainable Use of Natural Resources (3) Waste Reduction and Disposal (4) Conservation (5) Risk Reduction (6) Safe Products and Services (7) Environmental Restoration (8) Informing the Public

1. Protection of the Biosphere
We will strive to make continued progress toward reducing or eliminating the release of any hazardous substance in an effort to safeguard all habitats affected by our operations.

We will continue to reduce the use and/or emissions of hazardous air pollutants and volatile organic compounds from our manufacturing operations through the introduction of clean technologies.
+ In 2007, Knoll U.S. manufacturing facilities were more than 95% hazardous air pollutants (HAP) and VOC (Volatile Organic Compound) free.

We will provide water treatment facilities that meet or exceed discharge criteria.
+ In 2007, the state-of-the-art water treatment facility in East Greenville treated 6,803,997 gallons of wastewater.

We will monitor storm water, conserve water use and develop processes to minimize water pollution.

2. Sustainable Use of Natural Resources
We strive to make the best use of renewable resources, such as water, soil and forests, and conserve non-renewable natural resources.

We will make sustainable use of renewable natural resources through efficient use and careful planning.
+ In 2007, KnollTextiles offered fabrics made with natural fibers (e.g., linen, cotton, wool) from rapidly renewable sources.

We will continue to seek opportunities to use wood from sustainable forests in our products.
+ In 2007, Knoll implemented a Sustainable Wood Policy that mandates the use of controlled wood from monitored sources in all Knoll products. (See discussion under Climate Change).
+ Knoll continued in 2007 to offer wood products manufactured with FSC-certified wood.

We will minimize the use of wooden pallets.
+ Knoll continued to repair, reuse and recycle pallets at all facilities. In 2007, 3,374 wood pallets were recycled.
+ In 2007, our East Greenville facility continued to use long-lasting fiberglass skids to reduce dependence on wood.
+ In Muskegon, reducing the number of pallets used in 2007 by 4000+ resulted in less waste and a savings of $27,000.

We will attempt to recycle or make beneficial use of wood scrap generated in our manufacturing operations.
+ Knoll facilities recycled 406.17 tons of wood scrap and 4,196.53 tons of sawdust in 2007. Recycled wood scrap was used for animal bedding and as fuel. Sawdust was used as fuel for industrial boilers.
+ The Toronto facility continued to burn wood scrap as heating fuel in the winter and used excess heating capacity to provide hot water for finishing processes in the warmer months. Burning wood scrap in place of natural gas reduced total gas consumption.
We will continue to recycle steel, aluminum and other metal components.
+ In 2007, Knoll facilities recycled 5,079.12 tons of steel and 157.41 tons of aluminum.

We will continue to seek recycling opportunities for scrap generated in our manufacturing operations.
+ In 2007, Knoll facilities recycled a total of more than 891.25 tons of corrugated cardboard, 73.86 tons of paper, 148.52 tons of textiles and 7,370 gallons of waste oil.
+ The East Greenville facility recycled plastic wrapping from incoming shipments.

We will continue to utilize post-consumer and post-industrial materials in our products where practical.
+ In 2007, the majority of the wood used to make composite board products at the Knoll Toronto, East Greenville and Grand Rapids facilities contained an average of 97% post-industrial material.
+ KnollTextiles fabrics include products made of 100% post-consumer recycled content.
+ In 2007, more than 70 KnollTextiles patterns carried a “Green Bar” on their label, indicating 49%+ recycled content or 75%+ natural fiber.

We will be environmentally responsible in our purchase of materials.
+ In 2007, Knoll implemented a Sustainable Wood Policy for control of non-FSC certified wood sources that monitors purchase of wood materials used in our products to ensure that it comes from environmentally responsible sources.
+ In 2007, all Knoll leather goods were obtained as by-products of the meat packing industry. No hides or skins from endangered species were used.

3. Waste Reduction and Disposal
We will reduce, recycle, and where possible, eliminate waste and will dispose of all waste using safe and responsible methods.

We will seek opportunities to reduce waste and recycle process scrap from our operations.
+ In 2007, Knoll facilities recycled virtually 100% of all aluminum and steel scrap generated in manufacturing. In addition, wood, leather and fabric scrap was recycled for beneficial use wherever possible. (For example, our Grand Rapids facility used fabric scraps for packing, reducing the use of paper for this purpose).
+ Knoll facilities also recycled 525 pounds of batteries, one ton of fluorescent lights and 48.01 tons of fiberglass in 2007.
+ In 2007, the Toronto facility continued to reduce waste solvents at its metals plant, keeping 1,400 gallons of solvent out of the waste system.
+ At the Toronto plant, recovery and recycling of paint line wash water saved 528,000 gallons of water per month in 2007.
+ Our Grand Rapids facility recycled cell phones through the YMCA, which used money refunded from manufacturers to fund programs, and through local police departments, which reprogrammed them for 911 access and distributed them to women in shelters.

The Copeland™ light features a compact fluorescent bulb that uses less electricity, lasts longer and emits less heat. In addition, Copeland is manufactured with 75% recycled materials and can help achieve LEED credits.
The Knoll 8

East Greenville, Grand Rapids and Muskegon facilities recycled printer cartridges. East Greenville and Grand Rapids recycled through the local Humane Society, which used manufacturers’ refunds to support Adopt-A-Pet programs.

We will dispose of our waste only in well-operated, permitted facilities.

+ All Knoll manufacturing facilities adhered to stringent mandates for disposal of waste in approved and monitored facilities.

4. Conservation

We will conserve energy by improving the efficiency of our internal operations and the goods and services we sell. We will make every effort to use environmentally safe and sustainable energy sources.

We will conserve energy and improve energy efficiency.

+ Recovering and recycling water from the three-stage wash process at the Knoll Toronto facility reduced natural gas consumption by 120,000 cubic meters and resulted in energy savings of $60,000 in 2007.

+ In 2007, the Toronto facility developed a Low-Heat Phosphate Process for metal coating that reduces energy consumption by eliminating the need to heat water used to prepare metal surfaces for paint finishes.

+ The Low Temperature Phosphate Cleaning Process implemented at the Toronto metals plant will save 4,320 MCF of gas per year (234 tons of CO₂ per year).

+ The Low Temperature Phosphate Cleaning Process implemented in Muskegon will save 698 MCF of gas per year (38 tons of CO₂ per year).

**Paper recycling:**

+ 16,542 trees saved.

+ 394,182 gallons of oil saved in processing.

Recycling paper vs. using new paper reduces air pollution by 74% and water pollution by 35%.

**Steel recycling:**

+ 12,697,800 pounds of iron ore saved.

+ 609,494 pounds of limestone saved.

Recycling steel vs. using new steel reduces air pollution by 86% and water pollution by 76%.

**Aluminum recycling:**

+ 4,029 kwh of electricity saved.

Recycling aluminum vs. using new aluminum reduces air pollution by 95%.

We will implement a program to upgrade existing low-efficiency motors to higher efficiency motors.

+ In 2007, Knoll continued to specify high-efficiency motors on all equipment purchases at all North American facilities.

+ Total Preventive Maintenance (TPM) at manufacturing facilities involves machine operators in monitoring and maintaining motors to optimize energy efficiency.

Ross Lovegrove has built a reputation for forward-thinking, organically-inspired products made from both traditional and innovative materials. Panelite™ table tops for his latest collection are produced without the use of fuel-based energy and consist of inner cores made from up to 80% post-consumer recycled plastic.
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the paint line to protect against lacerations and reduce weight loads. A weight reduction of 4 pounds per hook resulted in an average of 1600 fewer pounds handled per shift.

The East Greenville and Grand Rapids facilities conducted continuous ergonomic reviews at workstations under the Knoll Employee Health and Safety Analysis program. This practice identifies how work processes might be redesigned and what additional working aids are required.

In 2007, Knoll continued to offer a voluntary stretching program that includes instruction and 10 minutes of free time at the start of each shift for stretching exercises. East Greenville instituted a program for “micro stretching” on the job, employing techniques similar to those used by golfers and drivers.

Grand Rapids instituted a program called “Exercise Bucks” as a complement to “Safety Bucks.” Employees are rewarded for participating in exercise programs in health clubs and gyms with credits they can use to purchase items such as tee shirts and mugs.

We will develop and implement health and wellness awareness and illness prevention programs.

Knoll manufacturing facilities continued the hearing conservation program, which includes testing of all workers in in-house hearing booths with physician review of test results, provision of hearing protection and education.

In 2007, Knoll provided free flu shots to associates and their families. Additional nurses were brought in to administer the program.

5. Risk Reduction

We will strive to minimize the environmental health and safety risks to our associates and the communities in which we operate through safe technologies, sound transportation practices, safe facilities and operating procedures, and preparing for emergencies.

We will design our processes to prevent injury to the health and welfare of Knoll associates, the community and the environment.

Knoll facilities overall incident rate in 2007 was 3.29, which is 54% below the industry average.

In 2007, the Grand Rapids facilities posted an incidence rate of 2.71, the lowest in its history.

The Grand Rapids facilities installed new woodworking machines that eliminate potentially injurious manual operations requiring power tools. No jobs were lost in the transition as workers were retrained to operate new equipment.

The Muskegon facility introduced cut-resistant sleeves made of Dyneema™ thread, a material 10 times stronger than Kevlar, to reduce lacerations in workers who handle raw steel.

In 2007, the Muskegon facility made ergonomic improvements, including the installation of height adjustment lifts on trim lines, a hydraulic lift to eliminate manual lifting of finished boxes and new shelving that reduces worker bending and twisting. And it implemented use of an Ergo Wheel by plant engineers that provides guidelines for maximum frequent arm elevation, enabling adjustment of processes to meet needs of the largest number of workers on the floor.

The East Greenville facility made ergonomic improvements, including installation of a lift developed by the auto industry for taking chairs from conveyor to box; scissor-lift tables that bring raw materials into the worker’s “neutral zone;” special tables and screw guns developed by in-house engineers; and a “Meg Liner” for the paint line that moves heavy raw materials onto the production floor, reducing the need for heavy lifting and carrying.

We will develop and implement health and safety policies and programs to help prevent injury and illnesses to our associates.

The Muskegon facility instituted a new Incidence Prevention Guide and trained supervisors in working with employees to identify safety risks.

In 2007, the Muskegon facility improved a conveyor system to eliminate the need for walking on conveyors, implemented a vice system to hold boards for stapling to reduce staple injuries, and reengineered a hook on the paint line to protect against lacerations and reduce weight loads. A weight reduction of 4 pounds per hook resulted in an average of 1600 fewer pounds handled per shift.

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2007 Lighting Upgrades in Grand Rapids will save 155,300 kwh per year (95 tons of CO₂ per year).

2007 Lighting Upgrades in East Greenville will save 690,274 kwh per year (421 tons of CO₂ per year).

We will implement a program to upgrade existing lighting, where practical, at each facility.

In 2007, Knoll continued its participation in the Green Lights Initiatives at its U.S. facilities and participated in a comparable Canadian government-sponsored program at the Toronto facility.

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The Knoll East Greenville and Muskegon facilities conducted successful blood drives.

The Grand Rapids facility creates and distributes a monthly newsletter containing safety and health/medical tips.

We will design and develop training programs to provide Knoll associates with the necessary skills and knowledge to fulfill the objectives of the Environmental, Health and Safety Plan.

In 2007, Knoll U.S. facilities conducted regular safety meetings, showed safety videos, trained volunteer safety observers and created safety posters and newsletters.

Knoll facilities continued to train employee First Responder volunteers in CPR and first aid.

In 2007, Knoll EHS teams reviewed procedures for ISO/OSHA compliance and, using best practices from the various facilities, wrote uniform procedures for use in all facilities.

6. Safe Products and Services

We will reduce and, where possible, eliminate the use, manufacture or sale of products and services that cause environmental damage or health or safety hazards. We will inform our customers of the environmental impacts of our product or services in an effort to prevent unsafe use.

We will design and engineer durable products; investigate using recycled materials in the design of our products; and design safety features and ergonomics into our products.

In 2007, the Knoll Life chair was awarded SMaRT Gold certification. SMaRT certification from MTS is the world’s most comprehensive standard for product certification that addresses environmental and social equity. The Life chair is the first contract furniture product to achieve this milestone.

Knoll continued in 2007 to design and engineer durable products that use recycled materials in their manufacture, have high recyclability and include ergonomic and safety features.

Knoll Environmental Design Guidelines were followed in the design and development of new products in the pipeline. Guideline principles include economy of materials, recycled content, clean technology, ergonomics, durability and ease of assembly and disassembly.

In 2007, KnollTextiles introduced 14 new “Green Bar” fabrics, containing a minimum of 49% recycled content or 75% natural fiber, and two new environmentally-friendly fabric finishes. Terratex™ fabrics and Crypton Green finishes were awarded Green-e certification, earning energy credits to support sustainable energy sources.

We will provide independent testing to help assure the safety of our products.

All Knoll systems, seating, KnollTextiles fabrics, KnollStudio seating and non-wood conference and training tables, and all KnollExtra accessory products (except poster boards), are GREENGUARD certified.

Knoll performs structural testing of our products using ANSI/BIFMA protocols. Products are tested in our Quality Assurance Laboratory and independently at outside labs certified by the Canadian General Standards Board (CGSB).

All Knoll urethane foam cushioning on seating products meets or exceeds requirements of California Technical Bulletin 117 (CAL 117).

Most Knoll seating products include upholstery options that comply with California Technical Bulletin 133 (CAL 133), the most stringent flammability test protocol in the industry.

All Knoll systems are listed products with Underwriter’s Laboratories. Listing includes periodic testing of upholstered vertical panels and UL audits of Knoll and component suppliers’ factories four times per calendar year.

7. Environmental Restoration

We will comply responsibly with the law to address conditions we have caused that endanger health, safety or the environment.

In 2007, Knoll caused no conditions that endangered health, safety or the environment.

8. Informing the Public

We will comply with the law to inform in a timely manner those who may be affected by conditions caused by our operations that might endanger health, safety or the environment and will encourage associates to report dangerous incidents or conditions to management.

There were no pollution incidents at any Knoll facility in North America in 2007 that either affected the surrounding community or required public notification.
In 2007, Knoll once again sponsored the Annual Environmental, Health and Safety Art Contest for school children. Some of the winning entries, chosen by professional artists, are featured in this report.