2010 DuPont Excellence Awards
Sustainable Growth
2010 Sustainable Growth Excellence Awards
Contents

DEVELOPMENT OF HFO-1234yf AS THE NEXT GENERATION REFRIGERANT FOR THE AUTOMOTIVE INDUSTRY ................................................................. 3
Next Generation • DuPont Chemicals & Fluoroproducts • North America

DISCOVERY AND DEVELOPMENT OF AMINOCYCLOPYRACHLOR ......................... 4
Next Generation • DuPont Agriculture & Nutrition • Global

GROWING A BETTER SOCIETY FOR ALL — IMPROVING MAZAHUA-OTOMÍ COMMUNITY .......... 5
Stakeholder Engagement • DuPont Corporate SHE • Latin America

DEVELOPMENT AND COMMERCIALIZATION OF RENEWABLE HYTREL® RS RESINS BASED ON NON-FOOD BIO-MASS.................................................. 6
Serving the Marketplace • DuPont P&IP • Global

REVENUE GROWTH FROM 100% RECYCLED BUTACITE® G......................................... 7
Reducing the DuPont Footprint • DuPont Performance Materials • EMEA

WORLD CLASS ENERGY MANAGEMENT SYSTEM ENABLES OPTIMUM ENERGY CONSUMPTION DECISIONS AND SAVES $7,500,000 ........................................ 8
Reducing the DuPont Footprint • DuPont Titanium Technologies • Global
The DuPont Sustainable Growth Excellence Awards

The 2010 Sustainable Growth Excellence Awards recognize the remarkable accomplishments of DuPont teams around the world – teams that demonstrate what our mission of sustainable growth means. They have created shareholder and societal value while reducing the environmental footprint along our value chains. And most impressively, all of these accomplishments were made as the world struggled with a major recession.

Since 1990 when DuPont announced their first set of voluntary goals, employees globally have demonstrated leadership and persistence in finding ways to make progress on the goals in a way that makes business sense. Our current 2015 Sustainability goals include a number of traditional footprint reduction goals as well as four market facing goals, which are targeted at driving innovation and new product and service offerings to reduce the footprint of our value chains.

In mid-October a panel of 12 people representing key stakeholder groups (employees, academia, non-profit conservation, and other companies) reviewed 29 nominations submitted from around the world. The committee ultimately had to choose 6 winners, but all 29 nominations represent significant advances in our sustainable growth mission.

This year’s 6 recipients accomplished developing new products that will reduce environmental footprints and are based on renewable resources, using business management processes to drive real change in a poor community in Mexico, using a recycled product to gain a competitive advantage, and developing an energy management system to decrease energy consumption.

Thank you to everyone who was involved in the 2010 Sustainable Growth Excellence Awards process. These are the best practices of today that have set the standard for how we will work in the future. Congratulations to not only the winners but to all those that were part of the teams whose accomplishments were submitted but were not chosen this year. Keep up the great work.

Linda J. Fisher
Vice President of DuPont SHE and Chief Sustainability Officer
2010 Sustainable Growth Excellence Awards Judges

**External**

- **Michael D. Fernandez, Ph.D.**
  Director of Public Policy and Global Partnerships
  MARS, Incorporated
  USA

- **Duncan Pollard**
  Director, Conservation Practice & Policy
  WWF International
  Europe

- **Xiaoxia Lu, Ph.D.**
  Associate Professor
  College of Urban and Environmental Science
  Peking University
  China

- **Galit A. Sarfaty**
  Assistant Professor
  Legal Studies and Business Ethics Department
  The Wharton School
  University of Pennsylvania
  USA

- **Steve Caldwell**
  Senior Solutions Fellow
  Pew Center on Global Climate Change
  USA

- **Roberto Delgado Gallart, Ph.D.**
  Centro Latinoamericano de Responsabilidad Social
  Universidad Anahuac
  Latin America

**DuPont**

- **Nélio Bento**
  Regional Product Stewardship Manager and DC&F Regional Product Stewardship Leader
  Latin America

- **Adrien Schrobiltgen**
  Global Business Manager
  DuPont Building Innovations
  Europe

- **Derek Jon Nelson**
  Sustainability Coordinator for Pioneer
  USA

- **Byron H. Sun**
  SHE Manager
  China

- **Francine Shaw**
  President & CEO, Elastomers
  USA

- **Tara Stewart**
  Public Affairs
  USA
Development of HFO-1234yf as the Next Generation Refrigerant for the Automotive Industry

The team developed a next generation refrigerant. Today HFC-134a is used globally as the standard air conditioning refrigerant in automobiles. It is a good refrigerant, but it has a global warming potential (GWP) of 1430, and an atmospheric lifetime of 14 years. Recently, an F-gas directive was issued by the European Union (EU) requiring the use of a refrigerant having a GWP less than 150 in new platform cars beginning in 2011, with full conversion by 2017. This team, working jointly with Honeywell under a Joint Development Agreement, was successful in developing a new product, HFO-1234yf, and was also successful in getting market-place adoption for commercialization in a short period of time. HFO-1234yf has a significantly lower GWP (4 vs. 1430) and a lower atmospheric lifetime (11 days vs. 14 years). Cradle-to-grave life cycle studies show that HFO-1234yf has a better footprint due to higher energy efficiency over a range of temperature and humidity conditions. The onset of sales in the fourth quarter of 2011 will result in new sales with profit margins better than the existing products.

Key learning: Working in collaboration with another organization and taking a long term view to deliver significant benefits from an environmental and economic perspective.

Grant Recipient: This team has chosen the Partnership for the Delaware Estuary. Its staff works with partners in three states to increase awareness, understanding, and scientific knowledge about the Delaware Estuary.
The team developed aminocyclopyrachlor, an exciting new broadleaf and brush herbicide that will be used in a new generation of products designed to help land managers protect both public safety and the natural environment. These products will help land managers control weeds and brush that pose fire risks or can interfere with critical transportation and utility corridors. Other aminocyclopyrachlor offerings in this new generation of products will help provide a desirable environment for people and wildlife by eliminating invasive and noxious weed species to allow native grasses and plants to flourish.

With a unique combination of low use rates, a favorable environmental profile and excellent weed control, new products containing aminocyclopyrachlor will give DuPont customers the opportunity to reduce environmental impact by replacing more than 1 million pounds of older, less desirable products. The product design also will reduce potential worker exposure. In addition, the new products will help reduce mechanical weed control practices, such as mowing and hand cutting, which can be hazardous to workers and the environment.

**Key learning:** Understanding key societal needs can lead to significant new product developments and business growth. In this case, understanding the need to manage invasive weed species and brush to protect biodiversity and public safety enabled the team to deliver new products that offer benefits to users, the public and the environment.

**Grant Recipient:** This team has chosen the National Multiple Sclerosis Society. The Society's mission is to mobilize people and resources to drive research for a cure and to address the challenges of everyone affected by multiple sclerosis.
Growing a Better Society for All – Improving Mazahua-Otomí Community

The community of Bobashi de Guadalupe, is a settlement of 480 families, 100% of them belonging to the Mazahua-Otomí ethnic group. In 2008, volunteers aware of problems faced by the community, and recognizing that support received so far was not enough, reached out to find people, including DuPont, with experience to develop a long-term project. A team from DuPont Mexico and volunteers from Bobashi designed different programs addressing issues such has malnutrition, environmental restoration, family harmony and gender equality. The first community planting project was conducted in 2008, with 18 women in the pilot group who planted 1,325 square meters. They harvested three crops that year and every orchard yielded on average 1.5 tons for self-consumption. Since 2008 over 2,000 people have participated in the program, planting over 8,000 square meters and harvesting over 12 tons among six communities. In 2009 and 2010, these programs generated income for 5,000 families. Another relevant result of this project is the reduction of the malnutrition index from 60% to 15%.

Key Learning: Accomplishment of living the DuPont vision - a “better, safer, healthier life for people everywhere” in a culturally appropriate way.

Grant Recipient: This team has chosen the Cinco Panes y Dos Peces A.C. The funding will be used to acquire new furniture, tables and chairs to improve the studying conditions at the community school in Chignahuapan, Puebla. The intent of this acquisition is to positively impact children motivation in a safe and well equipped facility for their education.
Development and Commercialization of Renewable Hytrel® RS Resins Based on Non-Food Bio-Mass

The team developed and commercialized Hytrel® RS, a line of renewably sourced thermoplastic polyester elastomers, that deliver equivalent performance and functionality versus our standard petroleum-based Hytrel® while delivering a significantly better environmental footprint. In this new line of Hytrel® RS resins, the traditional petroleum-based “soft segment” raw material which gives this polymer its elastomeric functionality is replaced with a renewably sourced “soft segment” made from non-food bio-mass (from plant waste such as corn cobs). The renewable content of the final Hytrel® RS resin ranges from 20% to 60%+ depending on the grade. The first large-scale commercial application for Hytrel® RS was with our customer Carpenter Co. in a renewably sourced “breathable” moisture barrier film for Carpenter’s EnviroStep™ carpet cushion technology. The 2009 revenues for this Hytrel® RS resin family were over $1 million and will deliver over $4 million in revenue in 2010.

Key Learning: Setting out a vision to transform the business can lead to significant accomplishments.

Grant Recipient:
This team has chosen the Habitat for Humanity of New Castle County in Delaware. The organization is working to recover neighborhoods and eliminate blight. Housing developed through this effort will provide safer and healthier living conditions for partner families.
Reducing the DuPont Footprint • DuPont P&IP • EMEA

The team utilized a 2004 acquisition of Retrim-Cz assets to create a new product offering that allows DuPont to be the only supplier of high quality PVB sheet made 100% from recycled ingredients. This reduced burning waste PVB by 75% in 2006. In addition, the facility allows the use of reclaimed PVB from car windshields. The team grew the business revenue 250% between 2004 and 2008. The team has accomplished this by careful positioning of the 100% recycled product versus the competition and other DuPont product offerings. Excellence in marketing, sales and product quality improvement now allow for broader use of the product. Operational excellence resulting in a low cost operation was also a critical component of this success. The Retrim plant provides about 60 jobs in the eastern part of the Czech Republic.

**Key Learning:** Demonstrates creativity in creating a new product that closes the loop (waste to product) in a way that creates jobs and offers customers a product that they value.

---

**Grant Recipient:**
This team has chosen the Tomas Bata University in Zlin, Department of Polymer Engineering. The University is a leading institution in the Czech Republic for providing polymeric materials and technologies and polymer engineering. The proposed project is to create an interactive mobile exhibition entitled Play with Plastics! which will provide promising materials and technologies to youth. Play with Plastics! will be presented at high schools to introduce plastics with a focus on sustainability.
World Class Energy Management System Enables Optimum Energy Consumption Decisions and Saves $7,500,000

The team developed a program focused on improving energy efficiency as one component of the overall growth strategy for the business. The program included implementation of a World Class Energy Management System that continuously monitors energy consumption. Implementation was a 3 year collaboration between DuPont and Aspentech. The energy management system continuously monitors energy performance versus target, alerts when there is an out of limits condition and advises regarding likely corrective action. The system includes a high level “traffic light” dashboard that displays summary performance by plant area, making it straightforward to identify the area where an energy excursion is occurring. There is also an energy cost summary chart that summarizes actual vs. target energy costs by utility for the entire site. Savings in 2009 were $7,500,000 and since inception the project has saved the business over $13,500,000.

Key Learning: The value of persistence, engaging the entire organization and providing the information that people need to be able to make the right decisions in a timely manner.

Grant Recipient: This team has chosen the Tennessee Technological University, College of Engineering Center for Energy Systems Research. The Center specializes in energy conservation education at the undergraduate and graduate levels.
2010 Sustainable Growth Excellence Awards Nominations

**Next Generation**
- Development of HFO-1234yf as the Next Generation Refrigerant for the Automotive Industry
- Discovery and Development of Aminocyclopyrachlor
- Reuse of Flexographic Printing Plate Waste and Printed Plate Waste
- New Electrical Insulation System for High Performance Wind Turbines
- Pioneer North America Supply Chain Transformation

**Reducing the DuPont Footprint**
- World Class Energy Management System Saves $7,500,000
- Hexafluoroisopropanol Expansion Project – A Concerted Sustainable Development Effort
- Revenue Growth from 100% Recycled Butacite® G
- Vinyl Fluoride (VF) Air Emission Reductions at Fayetteville Works
- Reduction and Reuse of Solvent/Aqueous Waste at DACI
- Wet Color Testing as Replacement for Conventional Paint Spray-Out
- “Energy Dashboard” for Delrin®
- Environmental Improvement by Reducing Kevlar® Polymer Sodium Chloride Fouling
- Reduction of Organic Solvent Use in Resin Production
- On-site Treatment of the Picoxystrobin Manufacturing Process Aqueous Waste
- Dynamic Manufacturing Transformation and Sustainable SHE Progress
- Reduction of Acetone, Reduction in Water & Wastewater Usage, and Product Loss

**Serving the Marketplace**
- Development and Commercialization of Renewable Hytrel® RS Resins Based on Bio-Mass
- Sorona® Polymer Capacity Expansion while Reducing Environmental Footprint
- Development and Introduction of Zemea® - Select to Serve the Asian Cosmetics Industry
- DuPont helps Pride to Become the Most Sustainable Worldwide Offshore Drilling Company
- DuPont Building Innovations for Energy-Saving Housing Project in Mt. Everest Area
- DuPont Helps Make Windows “Greener” in China
- DuPont Dermacor® X-100 Rice Seed Treatment Launch – DuPont’s First Seed Treatment
- Nomex® in Sustainable Energy Solutions through Wind and Electric Vehicles
- Enabling Packaged Goods Companies to Reduce Environmental Footprint

**Stakeholder Engagement**
- Growing a Better Society For All–Improving Mazahua-Otomi Community
- Stakeholder Engagement Turns Non-operating Site into Sustainable Community Asset
- Promotion of Core Values to Build Sustainability in Arica, Chile
The DuPont Commitment
Safety, Health and the Environment

The core direction of DuPont is Sustainable Growth – the creation of shareholder and societal value while we reduce our environmental footprint along the value chains in which we operate. Through this Commitment to safety, health and environmental excellence, we affirm to all our stakeholders, including our employees, customers, shareholders and the public, that we will conduct our business with respect and care for the environment. We will implement those strategies that build successful businesses and achieve the greatest benefit for all our stakeholders without compromising the ability of future generations to meet their needs.

We will continuously improve our practices in light of advances in technology and new understandings in safety, health and environmental science. We will make consistent, measurable progress in implementing this Commitment throughout our worldwide operations and support Responsible Care® as a key program to achieve this Commitment.

**Highest Standards of Performance, Business Excellence**

We will adhere to the highest standards for the safe operation of facilities and the protection of our environment, our employees, our customers and the people of the communities in which we do business. We will manage security as we do safety.

We will strengthen our businesses by making safety, health and environmental issues an integral part of all business activities and by continuously striving to align our businesses with public expectations.

**Goal of Zero Injuries, Illnesses and Incidents**

We believe that all injuries and occupational illnesses, as well as safety and environmental incidents, are preventable, and our goal for all of them is zero. We will promote off-the-job safety for our employees.

We will assess the environmental impact of each facility we propose to construct or acquire and will design, build, operate and maintain all our facilities and transportation equipment so they are safe, secure and acceptable to local communities and protect the environment.

We will be prepared for emergencies and will provide leadership to assist our local communities to improve their emergency preparedness.

**Goal of Zero Waste and Emissions**

We will drive toward zero waste generation at the source. Materials will be reused and recycled to minimize the need for treatment or disposal and to conserve resources. Where waste is generated, it will be handled and disposed of safely and responsibly.

We will drive toward zero emissions, giving priority to those that may present the greatest potential risk to health or the environment.

Where past practices have created conditions that require correction, we will responsibly correct them.

**Conservation of Natural Resources, Energy and Biodiversity**

We will excel in the efficient use of fossil fuels and feedstocks, land, water, minerals and other natural resources and transition toward the greater use of renewable energy and feedstocks. We will seek to conserve and protect natural resource biodiversity and will manage our land to enhance habitats for wildlife.

We will also work with our customers and suppliers to reduce impacts and improve efficiencies along the value chain.

**Continuous Improving Processes, Practices and Products**

We will extract, make, use, handle, package, transport and dispose of our materials safely and in an environmentally responsible manner.

We will continuously analyze and improve our practices, processes and products to reduce their risk and impact throughout the product life cycle. We will develop new products and processes that have increasing margins of safety for both human health and the environment. We will seek opportunities to make our new and existing facilities inherently safer.

We will work with our suppliers, carriers, distributors and customers to achieve similar product stewardship, and we will provide information and assistance to support their efforts to do so.

**Open and Public Discussion, Influence on Public Policy**

We will promote open discussion with our stakeholders about the materials we make, use and transport and the impact of our activities on their safety, health and environments.

We will build alliances with governments, policy makers, businesses and advocacy groups to develop sound policies, laws, regulations and practices that improve safety, health and the environment.

**Management and Employee Commitment, Accountability**

The Board of Directors, including the Chief Executive Officer, will be informed about pertinent safety, health and environmental issues and will ensure that policies are in place and actions taken to achieve this Commitment.

Compliance with this Commitment and applicable laws is the responsibility of every employee and contractor acting on our behalf and a condition of their employment or contract. Management in each business is responsible to educate, train and motivate employees to understand and comply with this Commitment and applicable laws.

We will deploy our resources, including research, development and capital, to meet this Commitment and will do so in a manner that strengthens our businesses.

We will measure and regularly report to the public our global progress in meeting this Commitment.