

# Sustainability at the Next Generation DuPont



At DuPont, we are creating sustainable, renewable, innovative, market-driven solutions for some of the world's greatest challenges. Between now and 2050, the world's population will climb to 9 billion, placing growing demands on our planet's scarce resources. This means the world needs plentiful, healthier food, renewably sourced materials, ample energy, and better infrastructure and transportation. We are poised to deliver. In 2015, with the separation of Chemours, we ushered in a new era. Now, we are fully focused on our three strategic priorities - Agriculture & Nutrition, Bio-Based Industrials, and Advanced Materials — and using our world-class science and engineering to help make lives better, safer, and healthier for people everywhere.

# 2015 HEADLINES

#### **Integrating Sustainability and Innovation**

As a world leader in science and innovation, we are taking steps to further embed sustainability in our innovation process. That's why we are announcing a new goal to challenge all products in our pipeline to contribute to a safer, healthier and more sustainable world. This marks the next step in our sustainability journey and will enhance our efforts to deliver sustainable solutions to the markets that we serve.

To learn more, please see page 5.

#### Investing in the Food and Agricultural Leaders of Tomorrow

DuPont is preparing future generations of farmers, scientists and others in the food value chain to address feeding and nourishing the growing population. In 2014 we exceeded our goal to engage 2 million youth to build the skill and will to address the challenge.

To learn more, please see page 8.

#### **Making Sustainability Good Business**

We are constantly looking for opportunities to deliver more sustainable solutions for our customers. Approximately \$2.6 billion of the company's 2014 revenue was generated from sales of products that help customers improve energy efficiency and/or reduce greenhouse gas (GHG) emissions.

To learn more, please see page 4.

### **Launching New Emissions and Water Footprint Goals**

We reduced absolute GHG emissions by nearly 5% between 2013 and 2014 and cut our total water consumption by approximately 4% in the same period. We are also announcing a new set of environmental goals to transform our footprint for the future, including one to further reduce our GHG emissions intensity 7% by 2020.

To learn more, please see page 5.



\$2.6 BILLION IN 2014 REVENUE FROM PRODUCTS THAT HELP CUSTOMERS IMPROVE ENERGY EFFICIENCY AND/OR REDUCE GREENHOUSE GAS EMISSIONS



# Transformation. Innovation. Solutions.

At DuPont, we are transforming our company to meet tomorrow's challenges in some of the most critical areas facing the world. A rising global population and middle class, food insecurity, and energy demands are among the many factors placing unprecedented strains on our planet's scarce resources. We believe solutions lie in collaborative efforts involving people and institutions with a stake in building a safer, healthier and more prosperous world.

What we call the "Next Generation DuPont" is a part of this effort. We are building on our proud and storied 213 years of transformation and innovation to deal with one of the fundamental challenges facing our planet: how do we protect and extend the resources we have to meet our needs as well as those of future generations?

For answers we look to science as the pathway to sustainable solutions. Science drives the innovation that lies at the heart of our corporate purpose, and now more than ever we're directing that innovation toward products that can help build a safer, healthier and more sustainable future for all of us.

We are now focused on driving value in three strategic areas where our science intersects global opportunities - Agriculture & Nutrition, Bio-Based Industrials and Advanced Materials. For example, our agricultural products are enabling greater food security and providing healthier, more nutritious food. We are also pioneering transformative renewably sourced bio-based materials and fuels. And we are helping our customers do more with fewer resources through hyper-efficient, high-performance Advanced Materials.

Our goal is to deliver life-enhancing and sustainable benefits for people around the world. In fact, we are taking our commitment to sustainability to the next level by linking it to our strategy for innovation. This is a key aspect of our 2020 Sustainability Goals, which are described in more detail in this report. The Sustainable Innovation Goal commits us to further embedding sustainability in

our innovation process so that all the products in our innovation pipeline will contribute to a safer, healthier and more sustainable world. This is a big step for us, and we are excited about what it means for the future of our company.



Of course, we realize that any commitment to sustainability also has to encompass our operations as a company. So we have set new goals in emissions, water and waste as part of our 2020 Sustainability Goals. We also continue to move forward with our Food Security and energy goals.

One of the most exciting aspects of the Next Generation DuPont is that we are developing an energetic, new generation of committed employees. Many of our young scientists, engineers, and recent recruits have grown up learning about sustainability in the classroom. They are crucial to our future success and to achieving our new sustainability goals. We also highlight some of the ways our employees inspire our sustainability efforts in this report.

DuPont has come a long way since the 1970s when our focus was on environmental compliance. As one of the corporate pioneers in sustainability, we have taken the initiative to evolve a more integrated approach that sees sustainability as something essential to our being – as part of our "corporate DNA." In partnership with our customers, shareholders and other stakeholders we hope sustainability will become the centerpiece of a worldwide commitment to fundamentally transforming the way all of us live, think and act. I speak for everyone at DuPont when I say we intend to lead the way to that better future.

Edward D. Breen

Edwil D. Drew

Chair of the Board and Chief Executive Officer

# Sustainability is Integral to our Business Strategy



Rooted in science, driven by engineering, and united by purpose, DuPont exists to solve some of the world's greatest sustainability challenges. We are a science company with an extraordinary range of materials science, chemistry, biological science and engineering capabilities, and a corresponding breadth of products.

With a history well over 200 years old, we are continuously renewing and reinventing our company. Most recently we separated our Performance Chemicals business into a new company, Chemours. Today, as the Next Generation DuPont, we drive progress by blending our deep customer knowledge and unrivaled expertise in applied science and engineering to meet global challenges created by a rising population, growing middle class, and increasing demands on our planet's resources.

# **OUR THREE STRATEGIC PRIORITIES GUIDE OUR WORK**



### Agriculture & Nutrition

We lead the market with practical and sustainable solutions that yield ample and nutritious food supplies. We believe there is a science to feeding the world, and as a leader in Agriculture & Nutrition, we are committed to battling food insecurity, improving nutrition, increasing and protecting crop yields, and ensuring the safety of the food supply.



#### Bio-Based Industrials

We combine the biological and chemical sciences to help meet the needs of a growing population and mitigate the strain on our planet's resources. DuPont enzymes are used across a wide range of industries to improve products and make processes more sustainable and our bio-based materials employ renewable plant sources to reduce the use of petroleum-based inputs while improving performance at the same time.



#### Advanced Materials

We are dedicated to harnessing our legendary materials science capabilities to help solve the globe's most pressing challenges. Our lightweighting solutions increase fuel efficiency and lower emissions for the entire transportation sector. And our photovoltaic materials increase the efficiency of solar power cells.



These three strategic areas reinforce and complement each other. For example, our leadership in advanced materials stimulates breakthroughs in agronomy and transformative leaps in bio-based industrials.

Innovation is at the core of everything we do at DuPont. As a world leader in science and innovation, we use our expertise and collaborations to create sustainable solutions to meet pressing global needs. Now, as part of the Next Generation DuPont, we are further aligning our business and sustainability strategies by challenging all of the products in our pipeline to contribute to a safer, healthier and more sustainable world.

# **DuPont 2020 Sustainability Goals**



Through our 2020 sustainability goals, we aim to help create a safer, healthier, more sustainable world for all. Our 2020 Sustainability Goals focus on three strategic areas — innovation, food security, and our footprint.

#### Sustainable Innovation Goal

Create a Pipeline of Sustainable Innovation: We will further embed sustainability in our innovation process and challenge all products in our pipeline to contribute to a safer, healthier, more sustainable world. We will track our progress and measure and report the quantifiable safety, health, and sustainability benefits from major growth innovations.

# CHALLENGE

ALL PRODUCTS IN OUR PIPELINE TO CONTRIBUTE TO A SAFER, HEALTHIER. MORE SUSTAINABLE WORLD

### Food Security Goals

Innovate to Feed the World: We will continue to develop innovations that produce more food, enhance nutritional value, safety and agricultural sustainability, and boost availability and shelf life, while reducing waste.

#### We Will:

- Invest \$10 billion in R&D to help feed the world
- Develop 4,000 new products

Engage and Educate our Youth: We will facilitate 2 million engagements with young people around the world to foster sustainable food and agriculture knowledge.

Improve Rural Livelihoods: We will improve the livelihoods of at least 3 million farmers and their rural communities.

\$10B IN R&D TO HELP FEED THE WORLD

4,000 NEW PRODUCTS

2M ENGAGEMENTS WITH YOUNG PEOPLE AROUND THE WORLD

FARMERS AND THEIR RURAL COMMUNITIES

### Footprint Goals .....

Build a Smarter Energy DuPont: We will reduce our non-renewable energy use by 10% per price adjusted dollar revenue compared to a baseline of 2010.

Drive Greenhouse Gas Emissions Reductions: We will further reduce our greenhouse gas emissions intensity by 7% from a 2015 baseline.

Generate Less Waste: Each DuPont business will meet a 2020 waste goal appropriate to their operations in their respective businesses.

Advance Water Stewardship: All DuPont sites in locations evaluated as high or extremely high water-risk will establish water risk mitigation plans and complete priority implementation objectives by 2020.

REDUCTION IN GREENHOUSE GAS FMISSIONS INTENS

# Innovation for a Sustainable Future

As part of its new 2020 Sustainability Goals, DuPont has committed to further embed sustainability in its innovation process, which will have important implications for the company's business strategy as well as for global efforts to contribute to a safer, healthier and more sustainable world. Linda J. Fisher, **DuPont's Vice President of Safety, Health & Environment** and Chief Sustainability Officer, and Douglas Muzyka, Senior Vice President and Chief Science & Technology Officer, discuss the company's new 2020 Sustainable Innovation Goal and what it means for DuPont - and society at large - going forward.

#### Why is DuPont so explicitly linking innovation and sustainability?

Linda: This isn't something wholly new, but rather the logical evolution of a process we started several years ago when we began to more intentionally embed sustainability into our business strategy. We believed then — as we do now — that for a company as focused as ours is on harnessing the power of science to address global challenges, strengthening the linkages between innovation and sustainability makes good sense. That includes every step of the innovation process, including R&D.

# How does the 2020 Sustainable Innovation goal relate to the company's previous goals on making and providing sustainable solutions for its customers?

Linda: This builds on our previous goal to double our R&D investment in products with quantifiable environmental benefits. We exceeded that goal and since 2007 have invested approximately \$5 billion in R&D programs that will deliver environmental benefits. As a result, we challenged ourselves to set the bar higher and do even more to embed sustainability in our innovation portfolio. The result was this new Sustainable Innovation Goal that has as its ultimate aim to further guide our choices in favor of products that promote a healthier, safer and more sustainable world. We will track our progress and measure the quantifiable benefits of our major growth innovations. Of course, this is a goal, and we have to recognize that there may be products that offer societal value not directly related to safety, health or sustainability. But our aim is to challenge every innovation to consider what they can do to also contribute in these areas.

#### Practically-speaking, how will this goal be realized?

**Douglas:** For science-based companies like DuPont, innovations are the result of a complex, multi-stage process that starts with customer needs, continues through early stage discovery, development and ultimately through launch and commercialization.



Linda J. Fisher Vice President — DuPont Safety, Health & Environment and Chief Sustainability Officer



Douglas Muzyka, PhD Senior Vice President and Chief Science & Technology Officer

Throughout each of these steps, myriad decisions are made about allocation of resources, prioritization of projects and market viability. Now we will add to this mix the potential for our pipeline products to contribute to a safer, healthier and more sustainable world as an explicit criterion in our decision process for major growth innovations. We're embedding it in the hearts and minds of people all across our company, including those who are responsible for turning promising ideas into innovative solutions.

### How will you measure success in meeting this goal?

Douglas: Through 2020, we will track our progress and measure and report the quantifiable safety, health and sustainability benefits from major growth innovations. It will demonstrate that our commitment to sustainable innovation is rooted in a strong belief in the crucial role innovation can play in addressing some of our world's most pressing environmental and societal challenges.

# What do you mean by "safer, healthier and more sustainable" as your measurement criteria for your 2020 Sustainable *Innovation goal?*

**Linda:** These words have very direct application to this goal. For example, "safer" can translate to improved food safety and quality, as well as products that help protect people or have reduced toxicological risk. "Healthier" can mean improved nutrition as well as disease prevention and control — for people as well as animals. And "more sustainable" can cover a wide range of benefits, from reduced energy and water use, to lower pollution and waste, to more efficient resource and material use. We will report these benefits — and others — as we begin to roll the goal out within the company. We believe these terms are specific enough to allow meaningful measurement while being broad enough to encompass a wide array of benefits flowing from sustainable policies and actions.

# **Driving Sustainable Progress Around the World**

DuPont is helping to solve some of the world's greatest challenges created by a rising population, a growing middle class, and an increasing demand on our planet's scarce resources. Our products are driving sustainable progress and possibility in nearly every corner of the world — from the rural farm on the other side of the planet to our home and yours. Below are some examples of how our products are already helping to create a safer, healthier, and more sustainable world.

# **DUPONT SOLUTIONS FROM AROUND THE WORLD**



- United States: After more than a decade of R&D, DuPont launched the world's largest, most sophisticated commercial cellulosic biorefinery in Nevada, Iowa.
- 2 Brazil and Peru: DuPont provided Odebrecht with polymer science that helped it build a safer road and trade route across Peru and Brazil.
- 3 **Denmark, France, Belgium:** DuPont is partnering with CG Power Systems and successfully helping wind farms to generate sustainable energy around the world.

- Turkey: Turkish tomato processor Merko collaborated with DuPont to help advance sustainable farming practices using DuPont™ Evalio® Agrosystems.
- Malawi: Together with dedicated third-party distributors, DuPont is bringing Pioneer brand hybrid seed technology to local farmers, resulting in higher crop yields and an improved quality of life for Malawians.
- 6 **Abu Dhabi:** DuPont helped Masdar's goal of having a zero carbon footprint by providing crucial solar technology to the SunTech panels used in a 10MW solar field.

- **Hong Kong:** DuPont helped to create the largest-ever thin-film photovoltaic rooftop project in collaboration with the Hong Kong Electric Company.
- 8 China: Working to help improve nutrition for children in China, DuPont and New Hope Dairy Co., have developed a special formulated milk for China's National School Milk Program.

The innovations don't stop here.

To learn more about how DuPont solutions are helping solve some of the world's greatest challenges, visit dupont.com.

# Agriculture & Nutrition: The Science of Feeding the World



One of the most pressing challenges facing humanity is ensuring ample and nutritious food supplies for people everywhere. As a global leader in Agriculture & Nutrition, DuPont believes in innovating to help feed the world — and doing it in a responsible and sustainable way. We will continue to apply our extensive resources and know-how to battling food insecurity, improving nutrition, increasing crop yields, protecting crops and ensuring the safety of the food supply from farm to fork. Our 2020 Food Security goals are the cornerstone of this commitment.

# **DUPONT 2020 FOOD SECURITY GOALS**

### **Progress Against Food Security Goals**

### Innovating to Feed the World

This goal centers on the need to develop innovations that will produce more food, improve agricultural sustainability, enhance food security, extend food freshness and reduce waste. DuPont has pledged to invest \$10 billion in research and development (R&D) by the end of 2020, with the goal of introducing 4,000 new products by that year as well.

#### **Engaging and Educating Youth**

As agriculture becomes more complex – and the challenges facing farmers more demanding – education and engagement is vital to prepare future generations of farmers and agricultural professionals. In 2014, we exceeded our goal of facilitating 2 million engagements of youth around the world on educational opportunities. Programs ranged from a collaboration with 4-H in Africa to educate and encourage future farmers to promoting safe farming practices to interactive programs and computer donations for Brazilian third and fourth graders.



# Improving Smallholder Farmer Livelihoods and Their Rural Communities

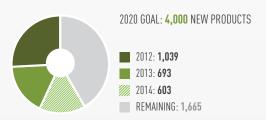
Globally, farmers and their families make up more than half of the 805 million people who are hungry. To feed the world and fuel economic development, we have to make sure farmers can feed their own families first and have enough remaining crop to sell at market. In 2012, we set a goal of improving the

livelihood of 3 million smallholder farmers and their rural communities by 2020. One of the efforts helping us achieve this goal is our Advanced Maize Seed Adoption Program (AMSAP). AMSAP provides agronomic training, improved inputs, and greater access to credit, markets, and grain storage. Given the success of the program, with over 8,500 demonstration plots, thousands of farmers trained directly and many more impacted to date, the program was extended for another three years to 2018, with the goal of directly reaching 100,000 farmers. The program was replicated in Ghana in 2014, and again in Zambia in 2015. To learn more, please visit foodsecurity.dupont.com.

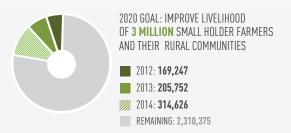
#### PROGRESS: R&D INNOVATION



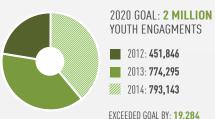
### PROGRESS: NEW PRODUCT INNOVATION



### PROGRESS: RURAL DEVELOPMENT



### PROGRESS: YOUTH ENGAGEMENT



# Agriculture & Nutrition: The Science of Feeding the World

# Global Perspective: Enabling a Smarter, More Sustainable Food System

Grocery stores or markets in the developed world can give the impression that we live in an age of unrivaled abundance. But in reality, worldwide food suppliers are under tremendous stress. Access to food for many is a daily struggle, and the situation is likely to become much more challenging – even dire – if we don't take action now.

By 2050, an estimated 9 billion people will inhabit our planet. Much of the population growth will occur in developing countries, many of which are already struggling to meet their current food needs. Another demographic trend is the rise of the middle class worldwide, who demand a more diverse and nutritious diet.

Environmental factors add to the food challenge. A changing climate, leading to more extreme weather events – variable precipitation, floods and droughts – and higher average temperatures are all expected to impact crop yields in many parts of the world.

Agriculture's environmental footprint is significant. The Food and Agriculture Organization of the United Nations (FAO) estimates that agriculture accounts for approximately 70% of all fresh water withdrawals and that farming and livestock activity could produce 30 percent more greenhouse gas emissions by 2050. And, it is estimated that up to 40% of all food grown is lost or wasted.

DuPont believes that to address a challenge of this scale

— and urgency — we need to work together with all
stakeholders to create a more sustainable food system
that incorporates key principles.

#### **Solutions Must Be:**

- Integrated and holistic: land use, water and energy efficiency, and ecosystems and biodiversity are all interrelated and need to be considered holistically in developing solutions.
- Focused on local impact: solutions must support local communities, enhance livelihoods and assure social and economic value to those connected to the food system.
- Collaborative: food and agriculture is a system, so we need to take a value network approach. Collaboration among all stakeholders, big and small, is essential if we are to bring sustainable, scalable solutions to the market.
- Innovative: product, technical, process and business model innovations will all be required to realize a more sustainable food and agriculture system.

One example of a more sustainable approach to food production is the concept of "smart farming", which is gaining traction. "Smart farming" uses a growing array of new tools that can assist in enhancing productivity and yields while reducing inputs, emissions and resource use. Data is used to drive precision farming and the results can be dramatic. These tools not only help boost productivity but can also extend to help reduce food loss and waste elsewhere in the food supply network.

Food security and sustainable food systems are closely intertwined. The actions we take to enhance the sustainability of the food supply must also assure better food security and access to nutritious food for all. Collaboration and creativity are imperative in this regard, but so is transparency. People want to understand how their food is grown and how it gets to them. Ultimately, our goal is to build an even stronger foundation for sustainably meeting one of humankind's most basic needs.



Evalio® AgroSystems is a free monitoring service for sustainable pest control in high value crops such as tomatoes, lettuce, corn, potatoes, and oilseed rape.

### Modern, Sustainable Pest Management.

Pests can significantly reduce agricultural yields and quality. Most farmers rely on inefficient calendar-spraying and other pre-established programs that produce mixed results. That's where Evalio® AgroSystems comes in. Utilizing a network that monitors pest populations and their movements, it offers real-time warnings to farmers, resulting in crop protection measures that are targeted for maximum benefit. Tested against conventional growing methods in Italy results included improved yield and crop quality, economic savings for farmers, and a reduction in water consumption and greenhouse gas emissions.

# Bio-Based Industrials: The Science of Transforming the World



At DuPont, we are turning our world-leading biotechnology capability into bio-based industrial products that offer long-term growth and sustainable solutions for our planet. We integrate our proven strengths in chemistry, materials science and engineering with cutting-edge biology, augmenting or replacing chemical transformations with renewable biological ones. DuPont works with nature to create transformational new products, businesses and industries in which sustainability plays a central role.

# **BIO-BASED INDUSTRIALS SUSTAINABLE INNOVATION HIGHLIGHTS**

### **Bringing Clean, Advanced Biofuels to Market**

DuPont has developed a process using corn stover — stalks, leaves and cobs that remain in fields after the corn harvest — as a feedstock to produce cellulosic ethanol. Cellulosic ethanol is one of the cleanest-burning fuels on the planet, reducing carbon emissions by 90% over traditional fossil fuels. DuPont is producing this renewable, cellulosic ethanol at the company's new biorefinery in Nevada, Iowa. Completed in 2015, this plant is the world's largest bioethanol refinery, producing 30 million gallons of cellulosic ethanol per year. To learn more, visit our website.

### **Using Enzymes to Sustainably Improve Animal Feed**

Phosphorus is important for animal feed but excessive use of it can harm water supplies. DuPont created a new enzyme for feed, Axtra® PHY, which can increase the phosphorous uptake by approximately 20%, resulting in less phosphorus required in animal diets and less phosphorous in their waste. Negative water quality impacts can be reduced by as much as 30% when manure used as fertilizer is applied to lands not requiring additional phosphorus.

### Innovating Along the Food Value Chain to Reduce Global Waste

DuPont is innovating along the food value chain to reduce global food waste. For example: DuPont Industrial Biosciences has developed a range of DuPont™ Danisco® enzymes that help reduce food waste from baked goods. Approximately 30 percent of bakery products go uneaten, often because they are considered to have gone bad or stale. DuPont's enzymes can extend product freshness. The longer an item stays on the shelf, the more likely it is to be eaten, the more efficiently we are consuming the food intended for our tables.



DuPont has pioneered a process using corn stover to produce cellulosic ethanol



DuPont created a new enzyme for feed, Axtra® PHY, which can increase the phosphorous uptake by approximately 20%



DuPont's enzymes can extend product freshness. The longer an item stays on the shelf, the more likely it is to be eaten

# Bio-Based Industrials: The Science of Transforming the World

### Global Perspective: Enabling the Global Bioeconomy

We must innovate to sustain a growing population. With 2 billion more people and nearly 1 billion more consumer vehicles on the road by 2050, demands for fossil-based materials and fuels will accelerate. Enter the bioeconomy. Today, biology is an increasingly competitive, renewable option to reduce dependence on fossil fuels in our global economy. Sustainable agriculture is the key — we can grow our raw materials instead of drilling for them, while balancing food and land stewardship needs. And bioprocesses are already replacing traditional chemical synthesis in many industrial processes. At DuPont, we're committed to enabling a sustainable bioeconomy, opening up new markets and creating new jobs. We're already using biotechnology to convert renewable raw materials derived from plants and crops into the energy and products needed by advanced societies. We're working together with farmers and the broader agricultural community and research institutions to explore how rural economies could benefit from feedstocks that can replace petrochemicals in industrial production.



With 2 billion more people and nearly 1 billion more consumer vehicles on the road by 2050, demands for fossil-based materials and fuels will accelerate.

# FEATURED CASE STUDY



DuPont developed a new enzyme for Tide's cold water laundry detergent that enables cold water washing with no sacrifice in performance.

# **Delivering Energy Efficient Cold Water Washing**

Up to 90% of the energy used to do our laundry is solely to heat the water. With an estimated 45 billion loads of laundry done each year in the United States alone, there is an opportunity to save money and energy by shifting more loads to cold water washing. The key is ensuring that the results are the same. By partnering with Procter & Gamble, DuPont developed a new enzyme for Tide's cold water laundry detergent that enables cold water washing with no sacrifice in performance. With Tide Coldwater Clean, everyone can wash their clothes in cold water effectively, saving money, reducing energy consumption, and mitigating their impact on the environment. The results are impressive. If all washes were done in cold water (at the cold temperature), the estimated energy savings would equivalent to the annual electricity expenditure of 3.7 million U.S. households. To learn more about this partnership and how DuPont is collaborating to help solve global challenges, please visit our website.

### **Stakeholder Perspective**

"At Procter & Gamble, we are working to make every day a little bit better. By designing products that delight our consumers and maximize the conservation of resources, we are doing just that. Our work is driven by a four-point long-term vision and 18 shorter term goals to ensure we are making progress against that vision. With the help of partners like DuPont, we're developing innovative solutions in cold water washing that conserve energy and reduce emissions while still delivering the same great product performance. We do this because it is the right thing to do, and we know consumers want quality products that are made sustainably."



Len Sauers, PhD Vice President for Global Sustainability Procter & Gamble

# Advanced Materials: The Science of Innovative Solutions



We produce essential, market-leading advanced materials that lead to collaborative breakthroughs and sustainable solutions for our customers. Our lightweighting solutions increase fuel efficiency and lower emissions from transportation to enable sustainable mobility. Our photovoltaic materials are helping realize the promise of renewable energy. And, our innovative materials solutions catalyze breakthroughs in agriculture and nutrition and transformative progress in bio-based industrials. As we work to create a safer, healthier, and more sustainable world through our 2020 sustainability goals, our leadership in advanced materials not only creates standalone opportunities but supports everything we do.

# ADVANCED MATERIALS SUSTAINABLE INNOVATION HIGHLIGHTS

### **Building a Better Solar Cell**

Global demand for energy could rise by as much as 50% by 2035 driven by the food, fuel, heat, and material needs of a growing population. This means we need ample, diverse, affordable, and environmentally sustainable global energy solutions, in addition to energy efficiency efforts. One way DuPont is creating solutions is by building of a better solar cell. We are a leading specialty material supplier to the photovoltaic (PV) industry, with a diverse portfolio of advanced materials designed to improve the performance, reliability, and cost competitiveness of solar energy. For example, our uniquely designed DuPont™ Innovalight™ Silicon inks enable superior Selective Emitter solar cells. As a result, manufacturers can produce solar cells that convert sunlight to usable energy at a higher efficiency than cells with conventional materials.

# **Protecting People and Our planet**

From 34 million miles above us to several miles below the earth's surface and every point in-between, our materials innovations are helping to keep people safe and deliver sustainable progress. For example, with five times the strength of steel based on an equal weight basis, DuPont™ Kevlar® is extending the useful life and enhancing the functionality of a wide variety of applications, from life-saving body and car armor to fuel hoses and cleaner refrigerants. Kevlar® fiber and filament come in a variety of types, each with its own unique set of properties and performance characteristics for different needs, but all delivering results that help ensure the protection of life and help safeguard our environment.



DuPont has helped design photovoltaic panels that provide reliable solar power to remote villages in northern India.



DuPont materials innovations are helping to keep people safe and deliver sustainable progress, including in space.

# **Advanced Materials: The Science of Innovative Solutions**

# GLOBAL PERSPECTIVE: KEEPING THE WORLD MOVING — SUSTAINABLY

It is estimated that by 2050, more than 2 billion light duty four-wheel vehicles will be on roads worldwide, more than double the number today. How can we mitigate the effect of this growth on the environment? One approach is to reduce the weight of vehicles. Reducing vehicle weight is directly linked to lower CO<sub>2</sub> emissions, improved fuel economy, and minimization of tire wear and tear. The benefits of even modest vehicle weight reduction are significant. Reducing an automobile's weight by a mere 10% improves fuel economy by 5% to 7%, and our products are a big part of achieving that.

To help drive a future of sustainable mobility, we are engineering lighter advanced materials that are both strong and durable and collaborating with vehicle makers to replace metal components with high performance polymers, without sacrificing performance. For example, lightweight DuPont™ Hytrel® TPC-ET thermoplastic elastomer has the flexibility of rubber, but the strength of plastic, and is ideal for replacing metal parts in air ducts. DuPont™ Crastin® PBT polyester resin and other DuPont Performance Polymers help automotive engineers achieve even more vehicle weight reduction.

Lightweight structures enable cost efficiency, energy savings, increased speed and distance potential, and its application extends beyond the automotive industry to other forms of transportation such as bicycles and airplanes. Our innovations such as DuPont™ Nomex®, Kevlar®, Tedlar®, Kalrez® and Vespel® are helping the aerospace industry drive fuel efficiency through lightweighting. For example, the Airbus A380, the world's largest passenger jetliner, carries 40% more passengers than its largest competitor, yet uses 15% to 20% less fuel, flies farther and emits less CO<sub>2</sub> per passenger, all due to lightweight composite materials, including Kevlar® and Nomex®.

To learn more about how DuPont is developing Advanced Materials to help solve global challenges, please visit our website.



DuPont Advanced Materials are helping the aerospace industry drive fuel efficiency of the Airbus A380 through lightweighting



It is estimated that by 2050, more than 2 billion light duty four-wheel vehicles will be on roads worldwide, more than double the number today.



Robert Townsend Director, Safety, Health and Environment, External Affairs DENSO International America, Inc.

### Stakeholder Perspective

"A rising world population and rapid urbanization is stoking increased demand for automobiles — resulting in more air pollution, congestion and road safety concerns. As a leading supplier of advanced automotive technology, systems and components for major automakers, DENSO understands the importance of making cars safer and smarter, with lower negative impact on the environment. That's why we have been collaborating with our customers and other stakeholders – including partners like DuPont — to create innovative products and technologies incorporating lightweight and bio-based materials, electrification and our world's unprecedented connectivity. Our goal is to help build an 'advanced automotive society' in which automobiles can co-exist in harmony with the environment, and be a positive part of a cleaner, safer and more sustainable future for all."

# **Our Sustainability Champions**



With over two centuries of experience, we understand that our employees are not only the engine driving our performance but also the inspiration behind our commitment to sustainability.

The people of DuPont are continually finding innovative ways to make our company more sustainable, as well as donating their time, money and expertise to enhance the vitality of the global communities we call home.



DuPont Employee Nature Walk

# **Partnering for Impact with United Way**

At DuPont, we believe it's important to give back to the communities in which we live and work, as part of our commitment to improve the vitality, sustainability and quality of life around the world. One of the principle ways we do this is through our decades' long commitment to the United Way, including financial contributions as well as active volunteerism by employees.



500 Acts of Green

### **Celebrating Earth Day**

In 2015, our people celebrated Earth Day by contributing to 500 "acts of green", a campaign enabling individuals to demonstrate their commitment to environmental stewardship on social media as well as in person at our employee sites. For each completed "act of green," we planted a tree through the Canopy Project.

# CHAMPIONING SUSTAINABILITY AROUND THE WORLD

In addition to company-led efforts, our people are taking the initiative and championing sustainability in our regions and at our plants.

#### Examples include:

Spain: Through a habitat collaboration program with the University of Oviedo, our DuPont Asturias site has become a favorite breeding ground for brown jug ducks and



25 Years DuPont Asturias Wildlife Habitats

home to one of the largest private herds of Asturian horses in the region. Each month, organized employee groups also spend their lunchtime hour walking around these habitat areas and learning from an environmental expert.

Japan: DuPont was recently recognized with a Responsible Care® Award sponsored by the Japan Chemical Industry Association for our three-year, employee-led sustainability campaign in Japan. During the campaign, more than 700 employee actions in three categories - environmental stewardship, social responsibility and sustainable growth were accomplished.

China: In 2014, our Crop Protection employees in China launched a waste package recycling campaign to raise farmers' environmental awareness and promote waste reduction. The result: more than 400 conversations and more than 21 million pieces of waste packaging collected for non-toxic disposal.

India: To help promote safe drinking water and hygiene practices for local children, DuPont employees worked with the local rotary club to implement a sanitation and water purification system at a primary school in Chennai.

The Philippines: In collaboration with local partners in the Philippines, DuPont employees have planted more than 10,000 trees over 15 years.

Canada: When building its new headquarters, DuPont Canada wanted to embed sustainability from start to finish. During construction, 40% of building materials were regionally sourced and more than 75% of the waste was diverted. Automated lighting controls, reuse of furniture, and access to bicycle facilities were also a few of the final sustainable features. As a result, the site received a Gold Certification from The Canada Green Building Council LEED program.

To learn more about how our people are championing sustainability, please visit our employee engagement website.

# **Solving Global Challenges through Collaboration**



### We Believe in Inclusive Innovation.

This means we collaborate with customers, suppliers, governments, academic institutions and others to develop innovative solutions for an ample and nutritious food supply; abundant and sustainable energy; and protection for people and the planet. Now in our third century of operation, DuPont also understands that global companies must extend their commitments beyond the markets they serve to reach the broad worldwide community in which they operate. With our planet growing by 150,000 people each day, we renew our commitment to collaboration and stand ready to help advance the next generation of sustainability goals.

# **Expectations are Higher than Ever for Global** Companies.

And, we are committed to meeting them. Our first environmental responsibility statement was adopted in 1938, when the cost of a gallon of gas was 10 cents. Decades later, we became a founding member of the World Business Council on Sustainable Development (WBCSD), a leading collaboration of 200 companies seeking to answer the most crucial question of our time: how do we provide a more economically inclusive and sustainable future for a world with 9 billion people, without compromising our planet's scarce resources? We were also the first publicly traded company to name a Chief Sustainability Officer, in 2004, and have been and continue to be a vocal proponent of efforts to mitigate climate change.

# This Year, We took the Next Step in Our Sustainability Journey.

Our 2020 Sustainability Goals now include a commitment to embed sustainability deep in our innovation process, putting safety, health, and sustainability front and center for our researchers and engineers. Beyond focusing just on our company goals, we will continue to help advance the world's goals in building a more sustainable future for all.

### We Support the UN Sustainable Development Goals.

The SDGs provide a useful framework for bringing focus and resources to the greatest challenges facing the world today. Finalized in 2015, the SDGs build upon the Millennium Development Goals, which were the eight original international development goals adopted by UN member states in 2000. The SDGs comprise a set of global goals for 2030 that touch on economic empowerment, human rights, health, and the human and natural environment. They represent a consolidated articulation of the future that we all want. Many stakeholders have a role in driving the SDGs, including national governments, NGOs, academia, private enterprise and others.

# We Remain Committed to Helping Solve **Global Challenges.**

As always, DuPont stands ready to collaborate and engage with many different stakeholders on efforts such as the SDGs. For example, our science and innovation is already supporting the goal to end hunger, by enabling farmers to improve agricultural productivity, ensuring sustainable and resilient food systems, and enhancing food security. Ensuring energy for all is also a goal where we can make a difference. At DuPont, we are pioneering revolutionary new bio-based fuels and developing materials to help realize the potential of solar energy and improve the energy efficiency of products and systems. We understand that scarce resources and population growth are compelling companies not only to produce their goods more sustainably, but to help meet the goal of ensuring sustainable consumption patterns. DuPont is doing this by innovating along the food value chain to reduce food waste and promote more efficient use of natural resources

> Over the next year we will seek to more fully understand how our unique science and innovation capabilities can further the realization of the SDGs. how we can better collaborate to ensure strong private sector support, and how we will report on our progress advancing the goals we can impact.

Linda J. Fisher Vice President — DuPont Safety, Health & Environment and Chief Sustainability Officer

# **DUPONT 2014 SUSTAINABILITY PERFORMANCE HIGHLIGHTS**

**Our Purpose:** DuPont is a science company. We work collaboratively to find sustainable, innovative, market-driven solutions to solve some of the world's biggest challenges, making lives better, safer, and healthier for people everywhere.

5%

Reduction in Greenhouse Gas Emissions 4% \( \)

Reduction in Total
Water Consumption

11% (%)

Reduction in Non-Renewable Energy Use per Price Adjusted Dollar Revenue Versus Baseline (2020 Energy Goal)

32M CO26

Cumulative Greenhouse Gas Emissions Reduced by Customers and Consumers (2007–2014)

\$2.6 BILLION



Annual Revenue from Products that Create Energy Efficiency and/or Significantly Reduce Greenhouse Gas Emissions

To view this and other DuPont publications online, visit us at <u>sustainability.dupont.com</u> and <u>investors.dupont.com</u>

We welcome feedback from all our stakeholders.

Please contact us at <a href="http://www2.dupont.com/Contact/en\_US/corp/index.html">http://www2.dupont.com/Contact/en\_US/corp/index.html</a>
or connect with us on <a href="mailto:twitter@dupont\_ability">twitter@dupont\_ability</a>



Responsible Care is a registered trademark of the American Chemistry Council, Inc.

Copyright © 2015 DuPont. The DuPont Oval Logo, DuPont<sup>™</sup>, and all products denoted with <sup>™</sup> or ® are trademarks or registered trademarks of E.I. du Pont de Nemours and Company or its affiliates. All rights reserved. K-27969 (11/15)



