

## **Statement of Chad Holliday**

**Chairman**

**E.I. DuPont de Nemours and Company, Inc**

**before the Senate Environment and Public Works Committee**

May 19, 2009

Thank you, Chairman Boxer and Ranking Member Inhofe, for convening a hearing today on this important topic. I am pleased to be here as Chairman of DuPont. I appreciate your holding this hearing about the opportunities that arise from addressing climate change. It is easy to identify the challenges, and not enough attention has been paid to the very real opportunities. It is these opportunities that will help American companies grow, invest and add jobs. They will drive innovation in large established companies like DuPont and in startups across the US. And these innovations can form the basis for a green export flow to other countries

In fact, I believe that addressing climate change may be the single greatest opportunity to reinvent American industry, putting us on a more sustainable path forward. A federal climate program has the potential to create real economic growth by providing the certainty companies need to increase their investment and accelerate the development and deployment of low carbon solutions. And to do so in a profitable manner that provides good jobs for American workers.

At DuPont our goal is sustainable growth, which we define as the creation of shareholder and societal value while reducing our environmental footprint along the value chains in which we operate. Our sustainable approach to climate change is informed, in part, by our experience with chlorofluorocarbons in the 1980s. When atmospheric research on ozone depletion led to the realization of the role of CFCs, we actively engaged in the development of the Montreal Protocol and an international agreement to phase out the use of CFCs. Our experience with the Montreal Protocol showed us the vital role for policy in creating a predictable pathway for change. With the Protocol in place we knew where we were headed and we put our science to work to phase out CFCs and develop better replacement materials. Those efforts not only had benefits for stratospheric ozone but also produced almost six times the greenhouse gas emissions reductions that the Kyoto Protocol would have achieved if it had been fully implemented. I am proud that DuPont and the US could be leaders in that effort.

That experience helps inform our efforts today. DuPont believes that the science on climate is sufficient to compel action. As you know, we are a founding member of the

US Climate Action Partnership, and with our USCAP partners are actively engaged to push forward on responsible climate legislation.

Over the last twenty years, as DuPont has become more aware of the potential business and environmental implications of climate change, we have looked for ways to contribute to solutions. In 1994 we publicly committed to voluntary global greenhouse gas reduction goals. Between 1990 and 2004 we reduced our own greenhouse gas emissions by 72% globally through a variety of efforts. By 2015, we will further reduce our greenhouse gas emissions by 15% from a base year of 2004. We have also committed to help our customers reduce their greenhouse gas emissions by providing products that help them do so, such as with our new automobile air conditioning refrigerant. This new product has one quarter of one percent the global warming potential of the current product in use. That is a 350 times improvement. And so the path we began many years ago with the Montreal Protocol of using science to deliver better solutions continues. It also demonstrates the opportunities that lie ahead.

DuPont will continue to do its part, working not only to further reduce our own footprint, but also by using our science to bring new products to market that help others reduce their emissions. In doing this we will create revenues and growth for our employees and our shareholders, and benefits for our communities and customers. Let me provide a few examples of opportunities from the DuPont portfolio. I think this will give you a sense for the range of markets that DuPont serves where we could anticipate greater demand in a low-carbon economy.

We provide many of the advanced materials that make up photovoltaic solar cells. We are also actively engaged in research to enhance the efficiency of PV. This is a strong business, with good growth in recent years, such that even in the current economic conditions we are looking at expanding production in some materials. Globally, DuPont's photovoltaics businesses sell about \$400 million of materials today, and we expect to nearly triple these sales to more than \$1 billion by 2012, under current market conditions. This market is particularly strong in places where governments have made sustained commitments, like Germany, Japan and California. Imagine the opportunities when cap and trade creates a broad demand for effective renewable energy technologies like photovoltaics. I'd also like to note that elements of the American Recovery and Reinvestment Act make the U.S. a great candidate for additional renewable energy manufacturing investments.

Another alternative energy technology where we expect to see expanding demand is wind. We manufacture a number of materials for wind turbine construction, such as Nomex® insulation for the generators and transformers which improve their reliability, and specialty coatings for the blades that make them "slipperier" and more efficient. This market is another tremendous growth opportunity.

A federal climate program would also expand markets for next-generation low global warming potential (GWP) refrigerants, where we are a leader. A cap would expand demand for products such as the HFO-1234yf I mentioned earlier, which has a 350 times

lower global warming potential than current refrigerants. Currently we see growing market demand in places like the EU, where limits are being placed on greenhouse gas emissions. Use of this product will have significant climate benefits, providing. We are developing other very low-GWP materials for applications such as air conditioning, refrigeration and the production of energy efficient insulating foams for residential & commercial construction and home appliances.

DuPont is also actively engaged in developing technologies to produce valuable products from biomass, rather than hydrocarbons. We are nearing market readiness for our two next generation biofuels. We are developing cellulosic ethanol from switchgrass and corn cobs through our joint venture with Danisco. This is a biofuel with an extremely low life cycle greenhouse gas profile produced from on non-food feedstocks. Our high performance fuel biobutanol, under development with BP, is designed specifically to expand the performance of biofuels.

But it is not just fuels. We create other value-adding materials from biomass feedstocks, like Bio-PDO™. Bio-PDO™ has spawned an array of products that are displacing hydrocarbon based materials in the market, including our DuPont™ Sorona® polymers and fibers, which you can find in Mohawk's SmartStrand carpet; renewably sourced airplane de-icing fluids and bio-based ingredients for cosmetics and household cleaners. Making Bio-PDO™ from renewable, farm-grown sources results in 60% fewer greenhouse gas emissions than comparable products made from hydrocarbons. Delivering high quality products that are environmentally responsible makes great business sense. Customer demand for these products has nearly doubled since the opening of the first bio-based production lines in 2006 and this portfolio represents a \$14 billion market opportunity.

Our seed company Pioneer Hi-Bred provides farmers with seeds that are increasingly resistant to adverse weather conditions, pest resistant, fertilizer efficient and high yielding, allowing farmers to continually produce more food and fuel per acre with fewer inputs. Under cap and trade we expect to see an increase in demand for agricultural practices like no-till that can help sequester enormous amounts of carbon across hundreds of millions of acres. This in turn will expand demand for seeds and related agricultural products that can expand yield while enabling low-carbon growing practices, and Pioneer provides those products. Additionally, Pioneer seeds can help farmers adapt to agricultural challenges related to climate change.

Of course, one of the smartest and most cost effective means to reduce greenhouse gas emissions is through more efficient use of energy. We make products that enable greater energy efficiency, such as refrigerants that reduce energy use in refrigeration and air conditioning and the DuPont™ Tyvek® HomeWrap® you see when you drive past building construction and renovation. For example, in a typical 2-story house in the Midwest, the use of Tyvek® can reduce the CO2 footprint of the house by 32,000 tons per year, a 20% improvement in energy efficiency. Considering the long lifespan of a home, investing in materials that enable greater energy efficiency can add up to impressive numbers in avoided greenhouse gas emissions over time. A federal climate

change program will focus a great deal of attention on improving the energy efficiency of our built infrastructure. DuPont believes we can provide many of the products and technologies to fill this need.

We also produce the materials that make fuel cells and advanced batteries work, and anticipate that these will be increasingly important technologies as the U.S. is likely to use more electricity in transportation and have a greater need for renewable energy storage as we make reductions in greenhouse gas emissions. Hybrid automobiles that rely on hydrogen fuel cells and advanced batteries are just one example of innovations that rely on work that scientists and engineers at DuPont are advancing.

There is a growing global demand for electronic goods, and a growing recognition of their energy consumption. For example, display screens are used in a wide range of applications - mobile phones, personal computers, and televisions to name a few. Under cap and trade there will be increasing demand for energy efficient electronics and communications technologies. DuPont's Organic Light Emitting Diode (OLED) technology offers significant energy savings in both displays and in lighting. DuPont has developed a unique low-cost technology for manufacturing OLEDs. Our initial target for OLED technology is in mobile displays. We are also planning to introduce OLED technology for flat-panel televisions and for general lighting, both markets where adoption of our technology would result in significant power savings.

I've mentioned the low-carbon biofuels that we are bringing to market. The use of low-carbon fuels, coupled with improved vehicle efficiency has the potential to provide significant reductions in the greenhouse gas emissions from automobile travel. Reducing vehicle weight and enhancing engine efficiency help us get there, and DuPont provides a range of specialty plastics that contribute to lightweighting and reducing friction in moving parts, all while maintaining safety. Again, in a cap and trade scenario these markets should expand.

While that may seem like a long list, these are all products and markets in our current portfolio. Reducing greenhouse gas emissions will also create new markets that demand new technologies, and we will be there to serve those markets with our innovations. In the first quarter of this year we introduced 500 new products, twice the number of new products we introduced in the first quarter of the previous year, despite current economic conditions. Think what new markets will unleash.

I started by noting that there are both economic challenges and opportunities associated with taking action. I think we are realistic about both. We also believe that it is possible to develop legislation that is, as USCAP has called for, environmentally effective and economically sustainable. The USCAP Blueprint provides a roadmap for such legislation. Effective climate legislation will encourage markets to turn increasingly to greater energy efficiency, low carbon energy forms and bio-based products. This will provide companies like DuPont the certainty we need to increase our investment and accelerate development and deployment of technologies that will be critical to a low-carbon economy. DuPont will thrive and innovate whether there is cap and trade or not.

However, climate change is a very real challenge, with very real solutions, and I think applying DuPont's innovations to those challenges would truly be sustainable growth.

In closing, DuPont has taken these actions and policy positions because they are the right things to do, both for business and the environment. We will continue to work hard to bring new products and technologies to market that will help address the global climate challenge. But business cannot solve the problem alone. Federal legislation will help create the marketplace that will drive innovation, economic growth, and environmental progress. DuPont is proud to be part of the US Climate Action Partnership, which reflects both a growing group of businesses who believe that it is time for the US to take action on climate change and diverse NGOs working hand in hand to address this challenge. I appreciate this opportunity to exchange views with you, and look forward to working with you to enact effective legislation.