

# **Energy Efficiency: DuPont experience**

**Moscow, September, 29, 2009**

**Implementation of Kyoto Protocol in Russia:  
Business Approaches.  
AEB conference.**

**Andrey Glinsky,  
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DuPont Science and Technologies**



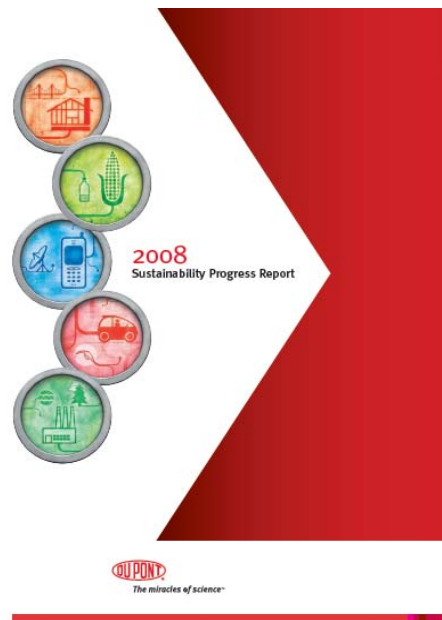
*The miracles of science™*

## DUPONT, THE MIRACLES OF SCIENCE



DuPont is a science-based products and services company.

Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere

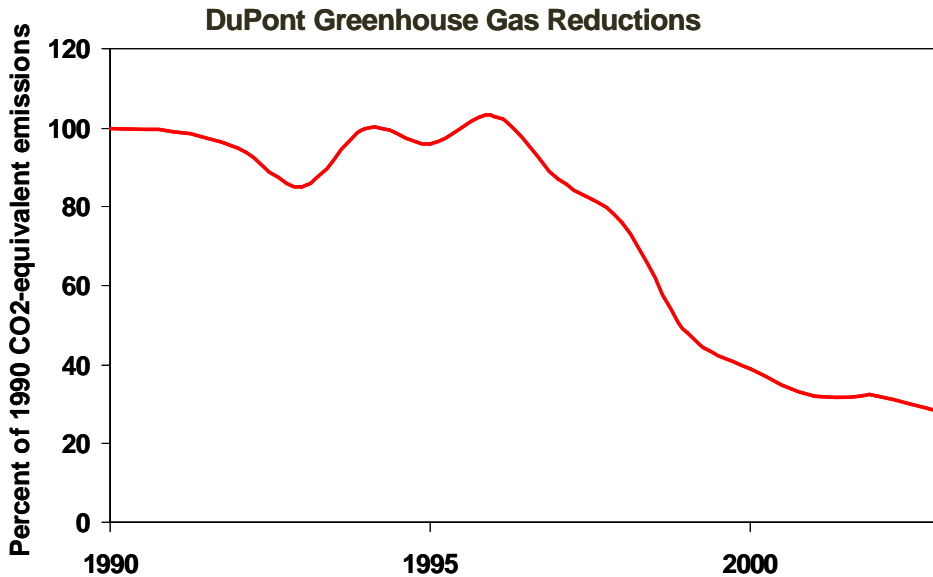


- 2008 revenues: \$30.5 billion
- Employees: ~60,000 worldwide
- Global: Operating in more than 70 countries worldwide
- R&D: More than 40 research and development and customer service labs in the United States, and more than 35 labs in 11 other countries.

Source: DuPont's 2008 Sustainability Report



## DuPont announced its first Environmental Footprint Goals in 1989



- Globally, DuPont has reduced greenhouse gas emissions by 60%\* since 1990
- This drove \$3 Billion (USD) in cost savings, mainly in the areas of:
  - Optimisation of energy generation and distribution
  - New technologies using less energy
  - Improved yields from manufacturing processes
- Since 1990:
  - Energy Consumption has DECREASED 7%
  - Production volumes have GROWN by 41%
- DuPont has moved from industry “Laggard” to “Leader.”



**CERES REPORT RANKS DUPONT #1  
IN US, #2 GLOBALLY, ON CLIMATE  
CHANGE (2006)**



**US BUSINESS WEEK RANKS DUPONT  
#1 OF THE “TOP GREEN COMPANIES”  
(2006)**

\* Reduction was 72% prior to divestiture of INVISTA in 2004

## Progress to Date - Reduced Environmental Footprint

	<u>1990 to Present</u>
Safety & Health	World Leader
Major Incidents	90% Reduction
Air Toxics	75% Reduction
Air Carcinogens	92% Reduction
Hazardous Waste (Dry)	42% Reduction
U.S. TRI "Releases"	77% Reduction
Greenhouse Gas Emissions	60%* Reduction

**In addition to practicing DuPont methodologies in their own plants, we have shared our expertise and experience with over 300 client facilities worldwide over the past three decades. These clients represent virtually every industry class and most have reduced their energy cost by an average of 20 percent through engagements with DuPont.**

\* Reduction was 72% prior to divestiture of INVISTA in 2004

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## DuPont Energy Management Capsule History

- **DuPont has had corporate engineering expertise >100 yrs.— including energy technology**
- **Energy management spurred over time by...**
  - Environmental concerns (emissions, refrigerants transitions, life sciences strategy)
  - Price hikes (70s thru early 80s, '90, '96-'97, current) and corporate cost reduction/productivity programs
  - Energy deregulation in Europe and the USA
- **1990's effort was...**
  - corporate network-based
  - sponsored by strong corporate environmental leaders
- **Current effort sponsored by operations leadership team**
  - Annual goals @ the site level
  - Detailed tracking of projects (status, savings delivered)
  - Increasing linkage to business unit objectives
  - Heavy utilization of web tools for collaboration and training

## Business case: energy management @ DuPont

DuPont's goal is "Sustainable Growth"

We spend **\$1Billion+ annually** on energy

**Bottom line: We cannot remain competitive** or meet our corporate sustainability goals **unless our plants become highly energy efficient**

### 3-Year Plan

- Annual site energy plans with specific goals
- Overall target of 15% reduction in energy use (3 years)
- Capital made available for energy projects having >25% IRR

**Sites delivered \$48MM in energy savings in '08...~5%**

**Mostly low cost "fix up/tune up" kinds of improvements**

**Very attractive financials, overall.**

## IT CAN BE A TOUGH JOB.....



- Energy use is dispersed among hundreds of discrete devices
- Inefficiencies are frequently invisible
- Data required to pinpoint losses is frequently unavailable
- Expertise to identify and make improvements is limited
- Energy efficiency is not a product quality variable

Conclusion: Opportunities tend to be apparent only to those with fairly specific training or experience...such as operators, technicians, key contractors, etc. An effective program must:

- build or bring in key knowledge
- reach out to the entire organization

## ....BUT FOOTPRINT REDUCTION IS GOOD FOR BUSINESS

Total Environmental costs reduced >\$250 Million per year

- Energy costs saved > \$3.0 Billion
- Renewable energy saves more than \$10 Million/yr
- Waste reduced = product sold

“Hidden” Capacity = hundreds of \$ Millions in reduced investment

Green House Gas Credits sold on Chicago Climate Exchange

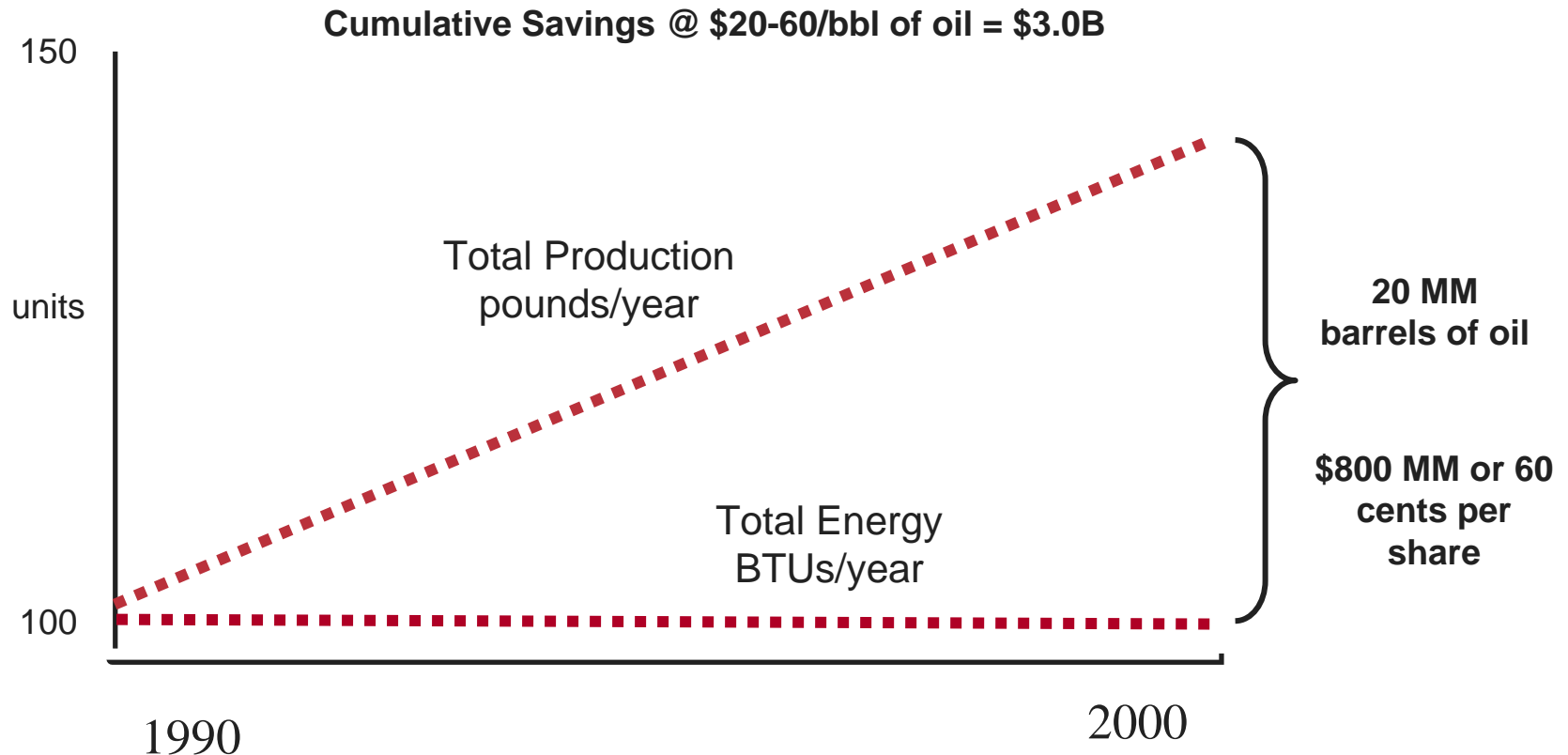
DuPont reputation transformed



# DUPONT'S ENERGY PERFORMANCE

## "Flat" Energy has Saved Real Money

Since 1990, production volume grew by 40% while energy use remained flat



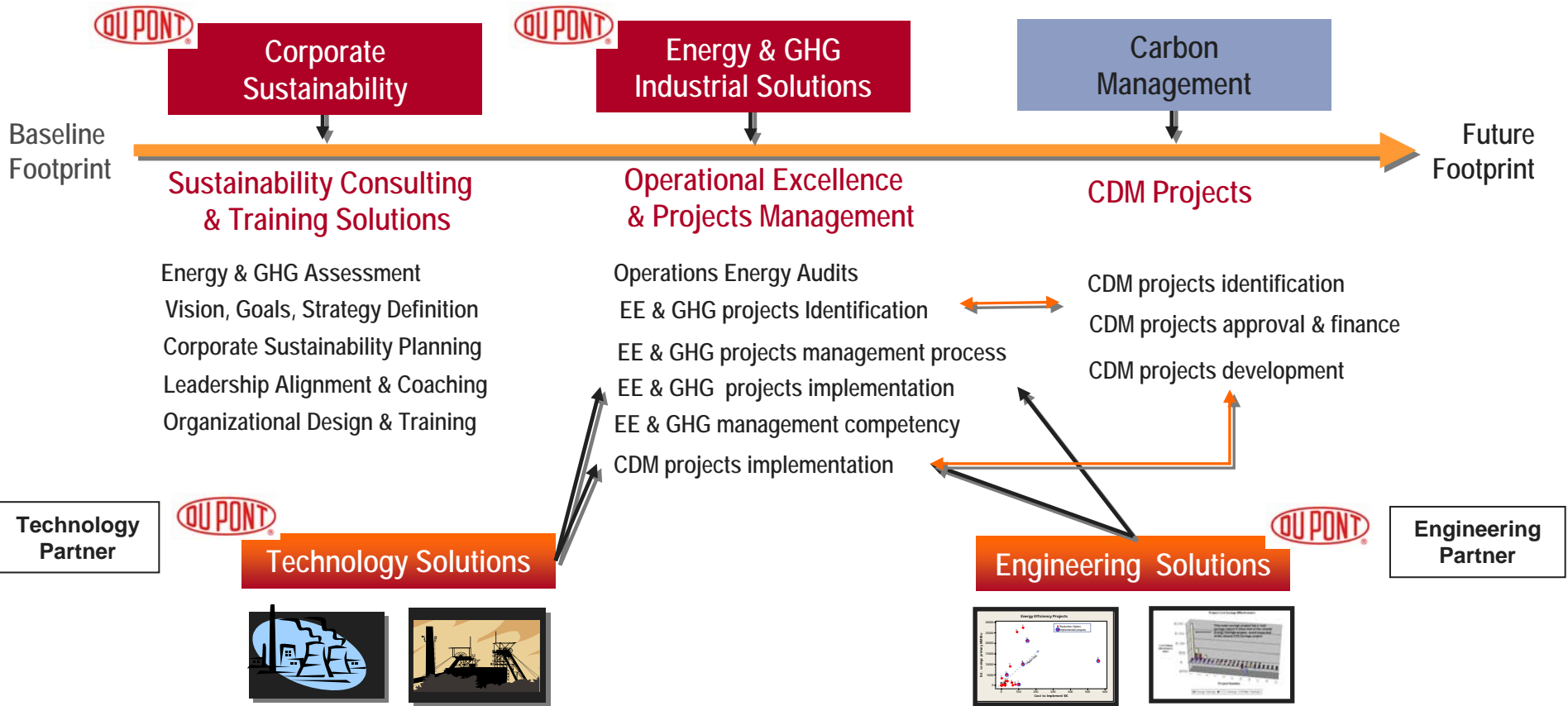
## Energy Management System

DuPont takes a strategic approach to energy management as part of overall Asset Productivity improvement and Corporate Environmental Planning.

The three-stage methodology helps realizing immediate savings opportunities and extends to long-term process energy optimization.

- “Quick Hits” / Operational Improvements
  - 2-5% purchased energy savings target
- Equipment & System Optimization
  - 5-10% purchased energy savings target
- Long-term Strategies / Portfolio Modifications
  - Opportunities with significant ROI target

# Some of the Equipment & System Optimization options can be developed as CDM projects





# ANNEX



## DUPONT 2015 SUSTAINABILITY GOALS

### A concrete business commitment

SOLUTIONS FOR A BETTER, SAFER, HEALTHIER WORLD



#### Bringing sustainable solutions to the marketplace :

- Grow annual revenue by \$2bn or more from products that create energy efficiency and/or reduce greenhouse gas emissions
- Invest in R&D to address environmentally smart market opportunities
- Double annual revenue from non-depletable resources from \$4 to \$8 billion
- Introduce at least 1,000 new safety products or services

#### While reducing our environmental footprint:

- GHG's Emissions: minus 60%\* since 1990; until 2015, a further 15% reduction
- Water Conservation: by 2015, a reduction in consumption by at least 30%
- Fleet Fuel Efficiency: 100% fleet using fuel efficiency technologies/ fossil fuel alternatives
- Air Quality: stretch our emission particles reduction goal to 96% by 2015
- Independent Verification: on environmental management at 100% of sites

## Sustainability awards and recognitions

**DuPont is now a globally recognized Sustainable company. Our core values and owner-operator experience are the foundation of our Sustainability Solutions and Results**



- Obama praises **DuPont** for its **Energy Efficiency Program**
- DuPont is Recognized as **2006 "Best in Class" on Climate Change**
- DuPont Receives **2006 US National Safety Council's Green Cross Safety Medal**
- Ceres 2006 Report Ranks **DuPont #1 in U.S., #2 Globally on Climate Change**
- DuPont on *Fast Company's* 2006 "Fast 50" Annual List
- *WIRED* Magazine Names DuPont to the "WIRED 40" in 2006
- DuPont Tops **BusinessWeek's 2005 Ranking of 'The Top Green Companies**
- DuPont on 'Scientific American 50' List of Technology Leaders in 2005
- DuPont™ Building Innovations™ Selected in 2005 for 'Green' Home
- DuPont™ Sorona® Recognized in 2005 as Environmentally Sustainable Innovation:
- DuPont Receives 2005 Black Pearl Award for Excellence in Food Safety
- DuPont Receives U.S. EPA's 2003 Presidential Green Chemistry Award for New Innovation

### Relevant Publications

WEF Scenarios: Fuelling the future, DuPont: Sustainable Solutions in a New Carbon Era, Juan Aguiriano, Global Director DuPont Sustainability Solutions

### PEW Center on Climate Change

