

Sustainable Growth and Energy Efficiency in DuPont



**From Shop Floor to Top Floor:
Best Business Practices in Energy Efficiency
Chicago, IL | April 6, 2010
Bill Bailey, Engineering Fellow**



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DuPont Today

- A global science company solving problems in ways that makes people's lives better, safer and easier
- 175 plants and 80 R&D facilities in 70 countries
- A significant user of energy
 - 129 Trillion Btu
 - \$1 Billion annual spend



DuPont Tyvek® Housewrap



DuPont's Goal is "Sustainable Growth"

- We define "Sustainable Growth" as
 - Increasing shareholder and societal value...
 - While decreasing the footprint[†] of our operations...
 - Along the value chains in which we operate
- We view energy use as part of our footprint...
- So we've set goals to reduce it

[†]Footprint = injuries, illnesses, incidents, waste, emissions, and depletable forms of raw materials and **energy**



DuPont's Public Commitment on Energy

- We announced the following energy goals at the Pew Center Conference on Global Climate Change in 1999
 - Hold total energy use flat versus a 1990 baseline
 - Reduce GHG emissions by 65% versus 1990 ✓ Completed in 2004
 - Supply 10% of total energy from renewable resources
- All are to be accomplished by year-end 2010
- We have since committed to reduce GHG emissions an additional 15% versus a 2004 baseline by 2015
- Measurable, public goals put teeth into commitment



Our Challenge: “Grow While Shrinking”

- To achieve Sustainable Growth, we must **grow** shareholder value **while shrinking** energy use
- This is a difficult challenge for many reasons...
 - Energy efficiency is not a product quality variable
 - Energy use is broadly dispersed
 - Inefficiencies are frequently invisible
 - Expertise to make improvements is limited
- The remaining slides show our approach



Our Response to the Challenge

- Ad hoc approach yielded good results...but stagnated
- CEO mandated the “Bold Energy Plan” in late 2007
- Key elements of the Bold Energy Plan include
 - Senior Leadership oversight...with financial objectives
 - Dedicated leadership for site efficiency programs
 - Provision of capital for improvement
 - Local plant improvement objectives
 - Tracking of site performance versus targets
 - Leveraging expertise to help plants help themselves
 - Networking among peers



Senior Leadership Commitment/Oversight

- **Chairman and CEO: “Enthusiasm for sustainability inside DuPont has grown because it is now directly tied to the company’s growth.”**
- **Senior VP of Operations: Commissioned 5-year strategic plan (“Bold Energy Plan”) at behest of CEO**
- **Operations VP: Oversees Plan progress and drives accountability for results versus goals**
- **Financial goal: Save \$230 million over 5 years**
- **Energy goal: Reduce use and CO₂ emissions by 20%**



Dedicated Site Leadership

- Improving energy efficiency is everyone's job...
- But without dedicated leadership, it is no one's job
- Over 100 plants now have a Site Energy Champion
- The Champions lead site energy efficiency programs
- The programs strive to meet annual savings targets based on known improvement opportunities



Local Objectives and Targets

- **Our plants tend to be fairly autonomous**
- **A Site Manager is responsible for all aspects of operations and sets priorities for the workforce**
- **His/her performance is judged by annual metrics**
 - **Safety: “Did you meet the goal of 0 injuries?”**
 - **Environment: “Did you meet the goal of 0 incidents?”**
 - **Fixed cost: “Did you meet your budget?”**
- **We’re putting energy on the Manager’s report card**
 - **“Did you meet your annual energy savings target?”**



Tracking Performance vs. Target

- **Having a target is useless unless you “keep score”**
- **We have an online database that tracks performance**
- **Progress is measured by the savings achieved from individual improvement projects at each plant**
- **The database currently tracks over 1,000 projects**
- **If plants hit their targets, we'll reduce energy use 5% and avoid \$45 Million in energy costs this year**
- **Our 5-year objective is to reduce energy use 20% and avoid \$230 Million in energy costs**



Availability of Capital for Improvement

- **Setting public goals will not drive improvement unless you “put your money where your mouth is”**
- **If employees see that you won’t invest capital in good energy projects, they’ll stop looking for improvements**
- **We created an Energy Capital Fund in 2007 to fix this**
- **We’ve invested \$60 Million in energy projects that will**
 - **Reduce annual energy costs by \$70 Million**
 - **Reduce CO₂ emissions and energy use by 6%**
 - **Deliver \$170MM in NPV and achieve a 60% IRR**



Networking Among Peers

- **We have over 100 plants with annual energy targets**
- **Although each plant is unique, they use similar technology and have similar efficiency objectives**
- **We want our Energy Champions to talk to each other to rapidly replicate successful projects**
- **We conduct monthly Champions conference calls and bi-annual corporate energy conferences**
- **The Champions now see themselves as part of a corporate energy community... not just a plant**



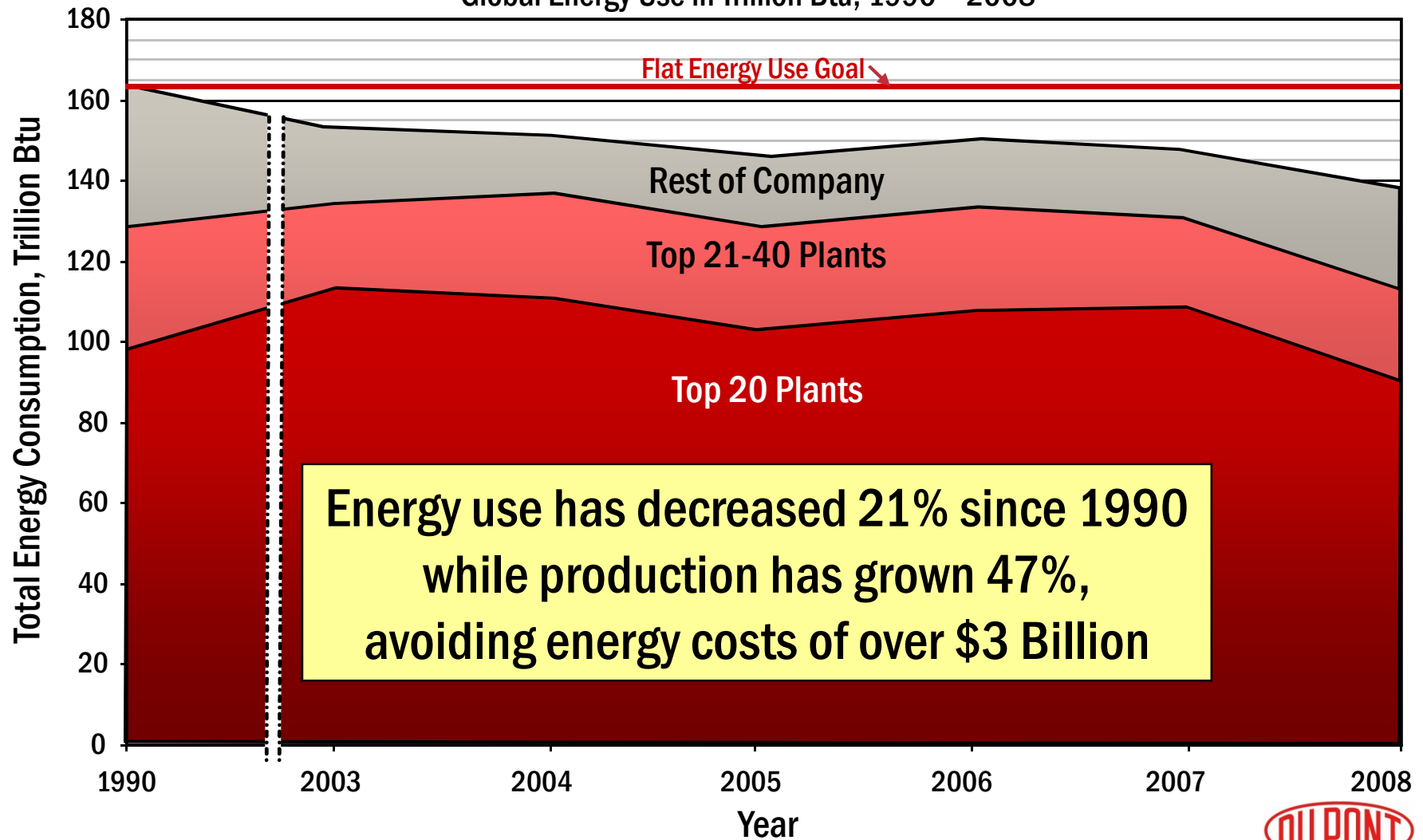
Leveraging of Technical Expertise

- DuPont has world-class energy experts
- The problem: there aren't enough to go around
- We recognized we must “leverage” our expertise so that the plants learn how to help themselves
- We're using technology to accomplish this objective
 - Comprehensive website disseminates best practices
 - Downloadable energy engineering assessment tools
 - “Virtual workshops” for energy training without travel



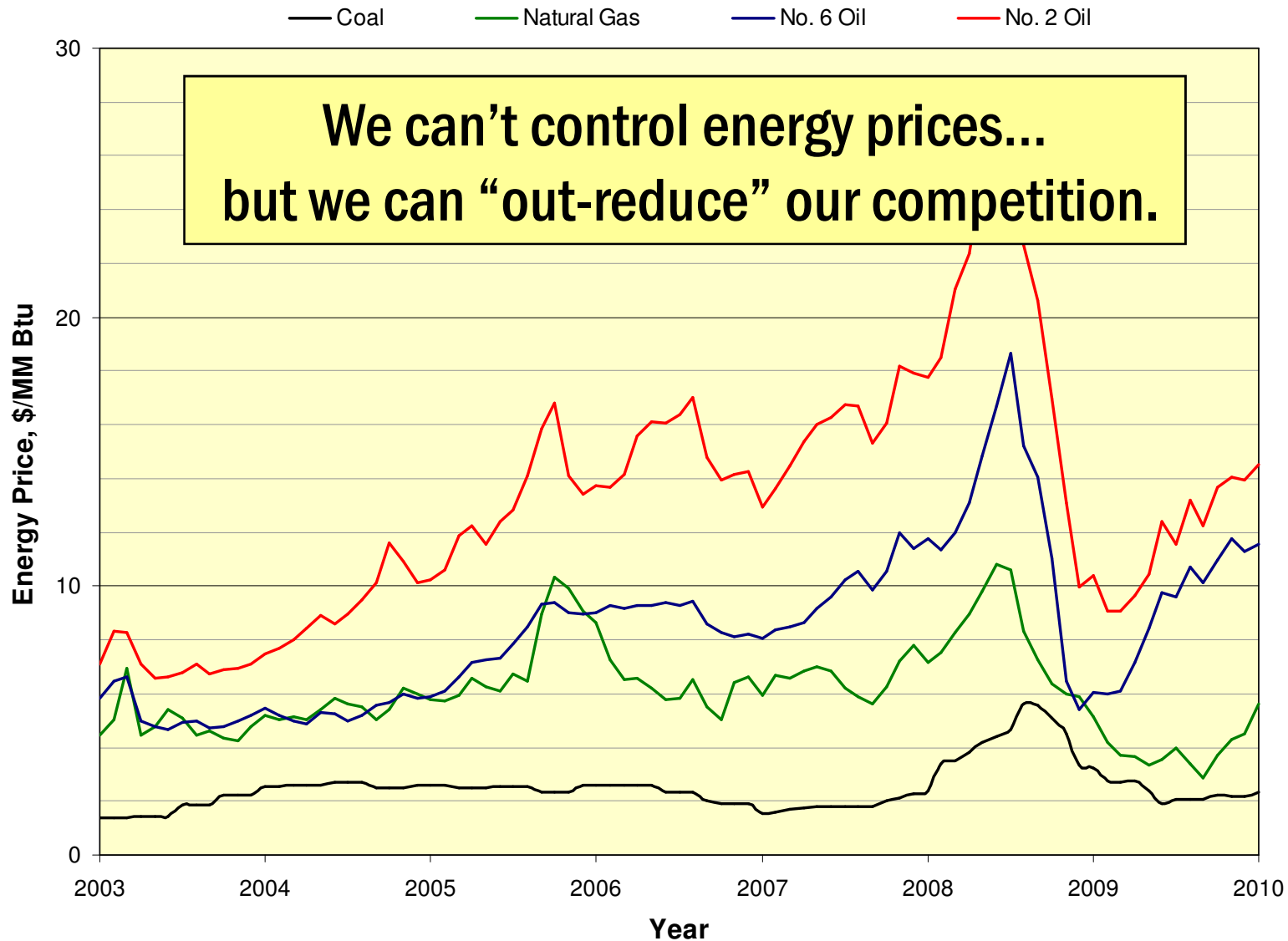
Our Energy Efficiency Work Is Paying Off

Global Energy Use in Trillion Btu, 1990 - 2008



And the Payoff Goes Up When Prices Go Up

US Raw Energy Prices, \$/MM Btu, 2003 - Present



Recognition for Success

- **Our efforts have garnered external recognition**
 - **25 awards from the American Chemistry Council**
 - **Ranked No. 1 in US by Ceres on climate change**
 - **Named “Top Green Company” by Business Week**
- **This is all very gratifying, but...**
- **“We don’t see recognition as a victory. We see it as confirmation that we’re moving in the right direction and as encouragement to continue.”**
 - **Chad Holliday, former DuPont CEO**



Some Questions for You to Ponder

- **What is your organization's "top floor" commitment to energy efficiency and sustainability?**
- **What energy and sustainability goals have you set? Are they public? Do you track and publish?**
- **Are you putting your money where your mouth is?**
- **How are you motivating your organization to drive continuous improvement in energy efficiency?**
- **Our conclusion: Improving energy efficiency is good for our shareholders and good for the planet**





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