

## A Corporate Sector Perspective on Global Climate Change

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## Topics

### •The Climate Change Challenge

- Stabilization of greenhouse gas concentrations
  - The goal of the UN Framework Convention on Climate Change
  - A significant long-term global challenge

### •A Corporate Sector Perspective on Global Climate Change

- DuPont's actions to address climate change
- A broader context



## The UN Framework Convention on Climate Change (UNFCCC)

- Ratified by 186 countries
  - Ratified by U.S. in 1992
- Article 2 is statement of the objective



## UNFCCC ARTICLE 2: OBJECTIVE

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.



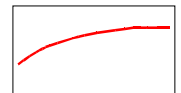
## Drivers of Carbon Emissions

- Population
- Per capita gross domestic product
- Energy per unit of gross domestic product
- Carbon dioxide per unit of energy

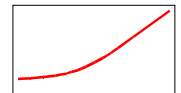


## Global Trends

Population -- Limit to doubling?  
Optimistic?



Per capita GDP -- Increasing  
by 1.6% per year or greater?  
Desirable!



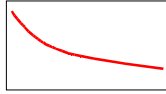
Relative to 1990  
(Population) x (Per capita GDP) =

2100 >11.5X  
2150 >25.4X

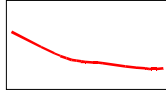


## Extrapolation of historical trends

Energy per unit of GDP -- Decreasing at about 1% per year? Optimistic?



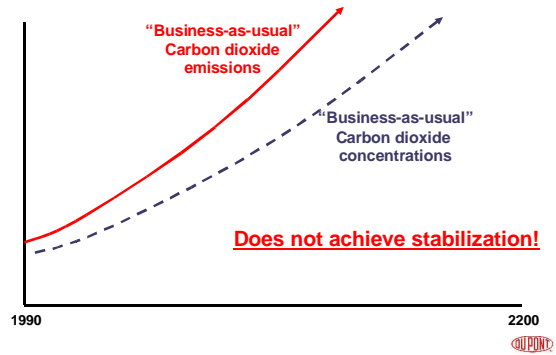
Carbon dioxide per unit of energy -- Decreasing at about 0.2% per year? Optimistic?



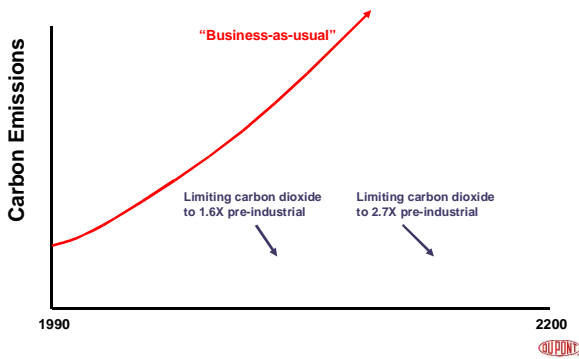
Relative to 1990	2100	2150
(Energy per GDP) x (Carbon dioxide per energy) =	0.27X	0.15X



## The Implications



## The Challenge



## Meeting the Challenge - Observations

- This is a complex economic, social and environmental issue
- Stabilization is likely to take a century or more; it's a marathon, not a sprint
- Total carbon dioxide emissions over the next century matter for stabilization; the slower we run now the faster someone will need to run in the future
- Global per capita carbon emissions must be about 1/10<sup>th</sup> current U.S. rate (1/5<sup>th</sup> current European or Japanese rates) within 75 to 150 years, and falling rapidly, to achieve stabilization in "reasonable range"
- Meeting the challenge will require fundamental changes in the way we produce and use energy -- new technologies, new markets

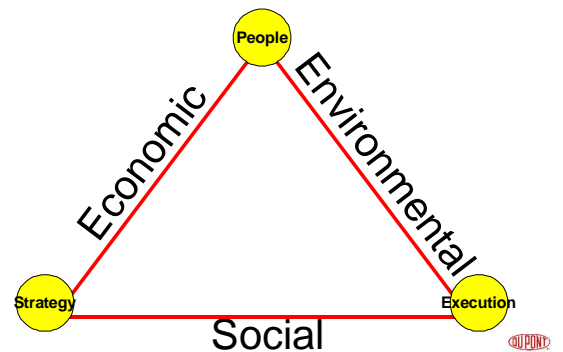


## Summary

- Basic science is sound and confidence in some details is increasing
- Objective of UNFCCC is stabilization of greenhouse gas concentrations
- Energy per unit of GDP and carbon dioxide emissions per unit of energy are areas for improvement
- The less we do now to decrease carbon dioxide emissions the more others may need to do in the future
- Dealing with climate change is a complex, long-term economic, social and environmental issue



## Sustainability





“DuPont is a science company that focuses its efforts on providing societal and shareholder value while reducing environmental impact. We are honored to be recognized for our role in addressing and helping resolve one of the most challenging environmental issues the world has faced.” ---- **DuPont CEO Chad Holliday** Nov. 6, 2003

### 2002 U.S. National Medal of Technology

CFC Policy and Technology Leadership



## DuPont Core Values

### •Safety, ethics, respect -- 200 year heritage

### •Environmental commitment

- Direct consequence of core values
- Evolving understanding and management
  - Local ⇒ regional ⇒ global
  - Today ⇒ tomorrow ⇒ future generations
  - Increasing global expectation of responsible corporate citizen
- Requires more sustainable practices
- Approach
  - Reduce the “imprint” of our actions
  - “The goal is zero”



## DuPont and Climate Change

### •Understanding of issue began with involvement in science of ozone depletion -- it’s one atmosphere

- Actively participated in international ozone assessments
- Involvement in international assessments of climate change (IPCC) was a natural extension
- IPCC First Assessment Report issued in 1990

### •Concluded in 1991 that there was cause for concern and a basis for action

- Set goals for greenhouse gas emissions reductions; primarily nitrous oxide and HFC-23
- Set energy efficiency goals



## DuPont Position on Climate Change

### •Reaffirmed our position and set new goals in September, 1999

“Our bias should be for prompt and meaningful *action* where there is reasonable cause for concern. And there is no question in our minds about whether there is a reasonable cause for concern.”

### •Three new goals for the year 2010:

- reduce our global carbon-equivalent greenhouse gas emissions by 65% using 1990 as a base year;
- hold energy flat while growing our business using 1990 as a base year; and
- source 10% of our global energy use in the year 2010 from renewable resources



## DuPont Achievements

•Exceeded goals set in 1991; about 50% reduction in carbon-equivalent greenhouse gas emission reduction compared to 1990 base by 2000

•Exceeded goals set in 1999; over 68% reduction in carbon-equivalent greenhouse gas emission reduction compared to 1990 base by 2003

### •Energy consumption flat (1990 base)

- Achieved despite over 30% increase in production volume
- Saved over \$2 billion in energy costs

### • Making progress on renewable energy goal



## A Broader Context

### Pew Center on Global Climate Change: Business Environmental Leadership Council 38 Member Companies

ABB	DuPont	PG&E Corporation
Air Products	Entergy	Rio Tinto
Alcoa	Georgia-Pacific	Rohm and Haas
American Electric Power	Hewlett-Packard Company	Royal Dutch Shell
Baxter International	Holcim	SC Johnson
Boeing	IBM	Sunoco
BP	Intel	Toyota
California Portland Cement	Interface Inc.	TransAlta
CH2M Hill	John Hancock Financial Services	United Technologies
Cinergy Corp	Lockheed Martin	Weyerhaeuser
Cummins Inc.	Maytag	Whirlpool
Deutsche Telekom	Novartis	Wisconsin Energy Corporation
DTE Energy	Ontario Power Generation	

<http://www.pewclimate.org>



## **Business Environmental Leadership Council**

- Accepts the views of most scientists that enough is known about the science
- Businesses can and should take concrete steps now in the U.S. and abroad
- More must be done both to implement market-based mechanisms and to more fully involve all countries in the solution
- We can make significant progress in addressing climate change and sustaining economic growth in the United States



## **Common Characteristics**

### **• Commitments driven by:**

- Societal, environmental and economic issues viewed as linked
- Core values of safety, ethics, respect
- Public commitment from top of corporation
- Goals are realistic but well beyond business-as-usual and extend current capabilities
- Management held accountable for achieving goals
- Stakeholder engagement

**• Bottom line -- all have an attitude or mind-set that addressing societal and environmental issues is an integral part of economic health of the company -- sustainable growth**

