# A Practical and Realistic Climate Change Agenda

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# Current Situation in the United States

## Global Goal:

- Bush and Obama: 50% Reduction by 2050
- Implies 80% from Developed Nations
- Not adopted by Congress under either party

## National Goals:

- Bush (2002): Improve GHG Intensity 18% by 2012
  - ✓ Goal was achieved in 2012
- Bush (2008): Stop Emission Growth by 2025
  - ✓ May be on track, but outcome not certain
- Obama (2009): Reduce 17% Below 2005 by 2020
  - ✓ May be on track, but outcome not certain
- Obama (2011): 80% Clean Electricity by 2035

# Contributing US Market Dynamics

Slower Economic Growth

- Lower Transportation Fuel Demand
- Flat and Potentially Decreasing Electricity Demand

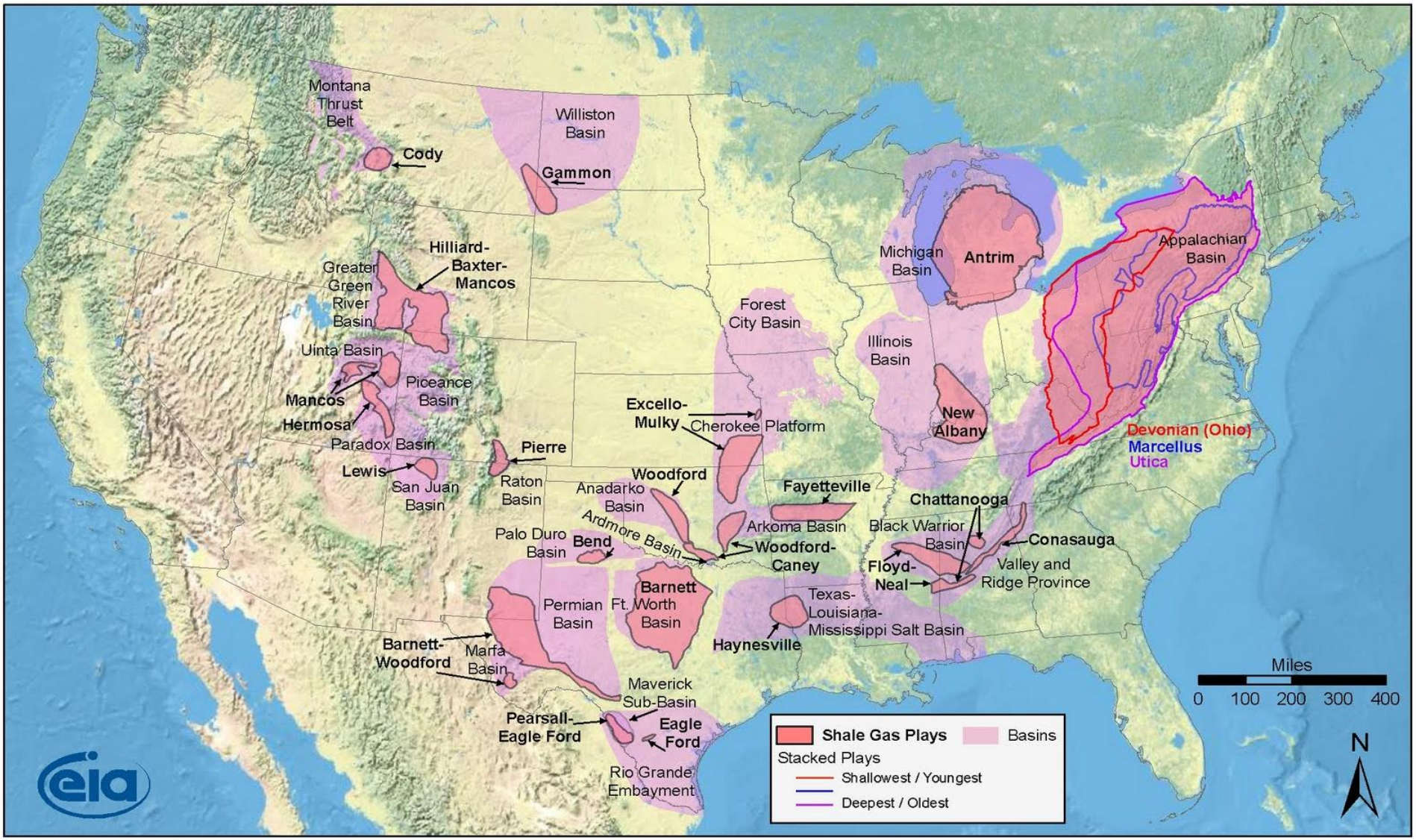
Advances in Efficiency and Price Demand Response

US Shale Gas

- Transformational Technology Breakthrough
- Collapsing Prices (consumers saved $100B)
- Replacing Coal Electricity Generation
  - Gas: 15% in 1988, 32% in 2Q 2012
  - Coal: 57% in 1988, 34.5% in 2Q 2012
  - Renewables: Only up 1%, mostly wind at night

Pending: Natural Gas Vehicles, LNG Exports?

# Shale Gas Plays, Lower 48 States




Source: Energy Information Administration based on data from various published studies
Updated: May 28, 2009

http://www.youtube.com/watch?v=LPfGoNvsqt0

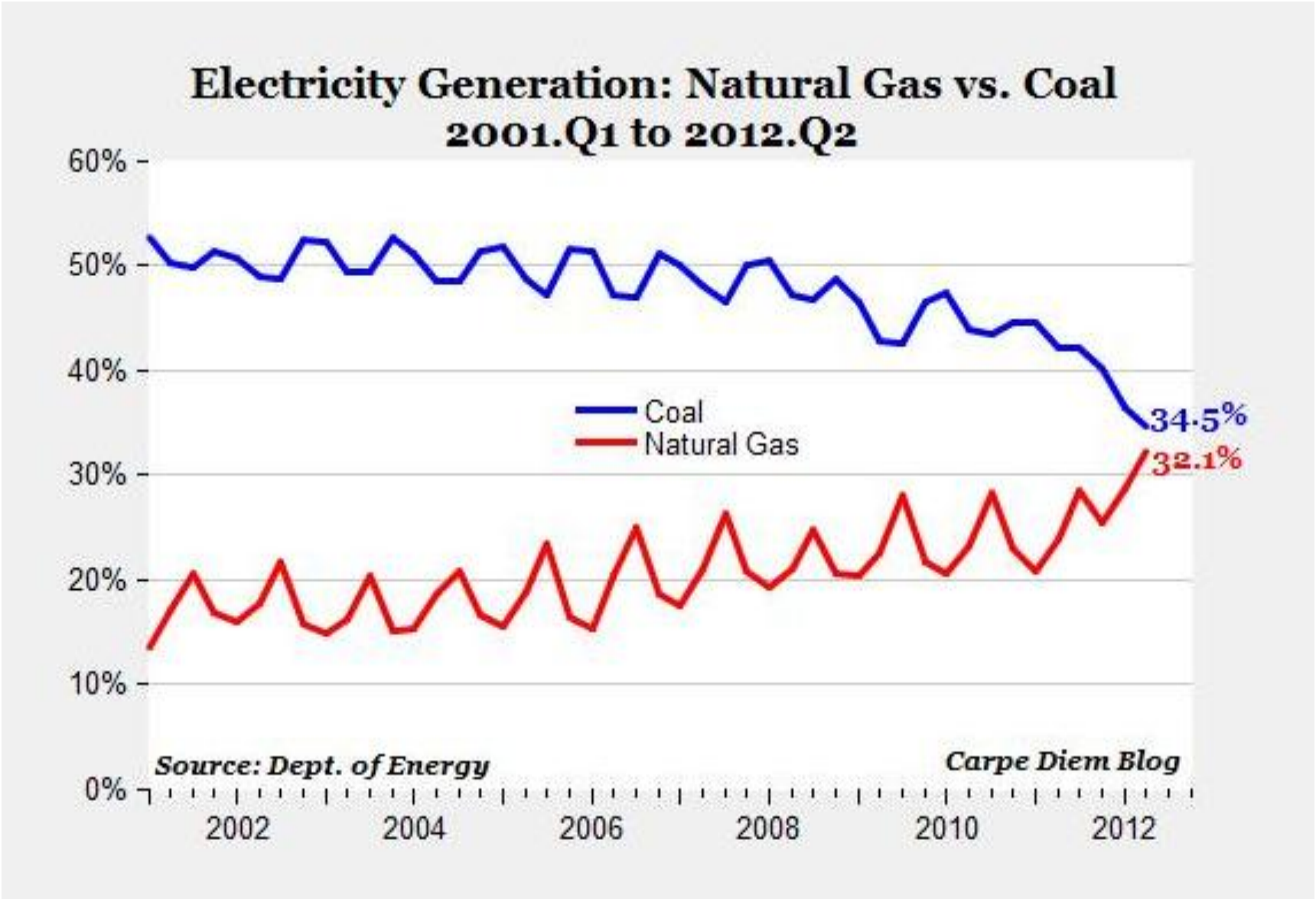
# Contributing Policy Dynamics

| 9 Major Mandates | Supporting Incentives |
|---|---|
| Power Plant Air Pollution* | n/a |
| Vehicle Fuel Efficiency* | Tax Credits, Subsidies |
| Renewable Fuel* | Tax Credits (expired) |
| Lighting Efficiency* | Tax Credits, Subsidies |
| Appliance Efficiency | Rebates, Subsidies |
| Ozone Depleting Substances | n/a |
| Renewable Power* (30+ States) | Tax Credits, Emission Credits |
| Greenhouse Gases* (10 States) | n/a |
| Building Efficiency (State) | Tax Credits, Subsidies |

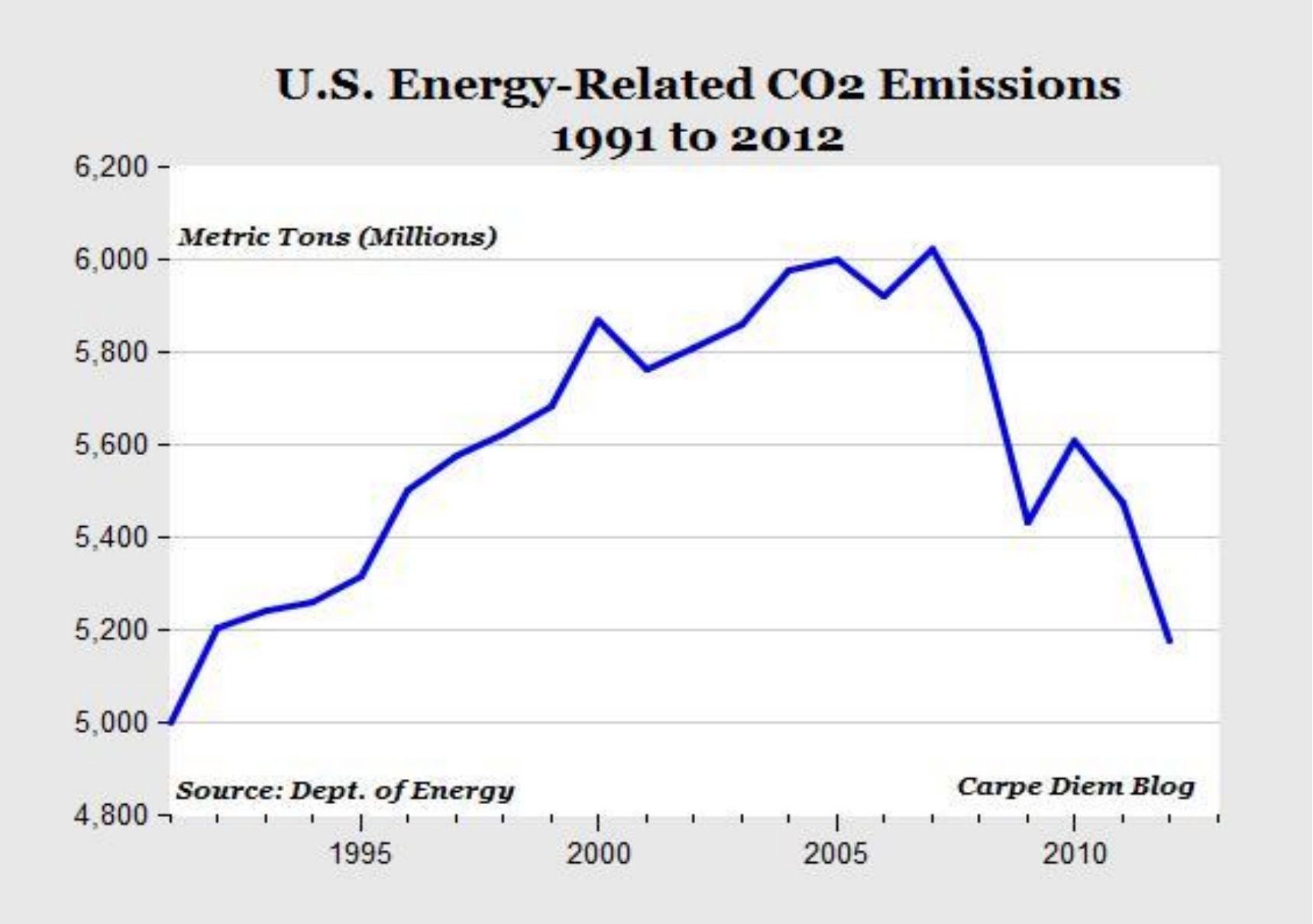
Pending: Clean Electricity Standard for Power Plants?
Economy-Wide "Cap and Trade" No Longer Plausible

* Uses market-based approach to varying degrees

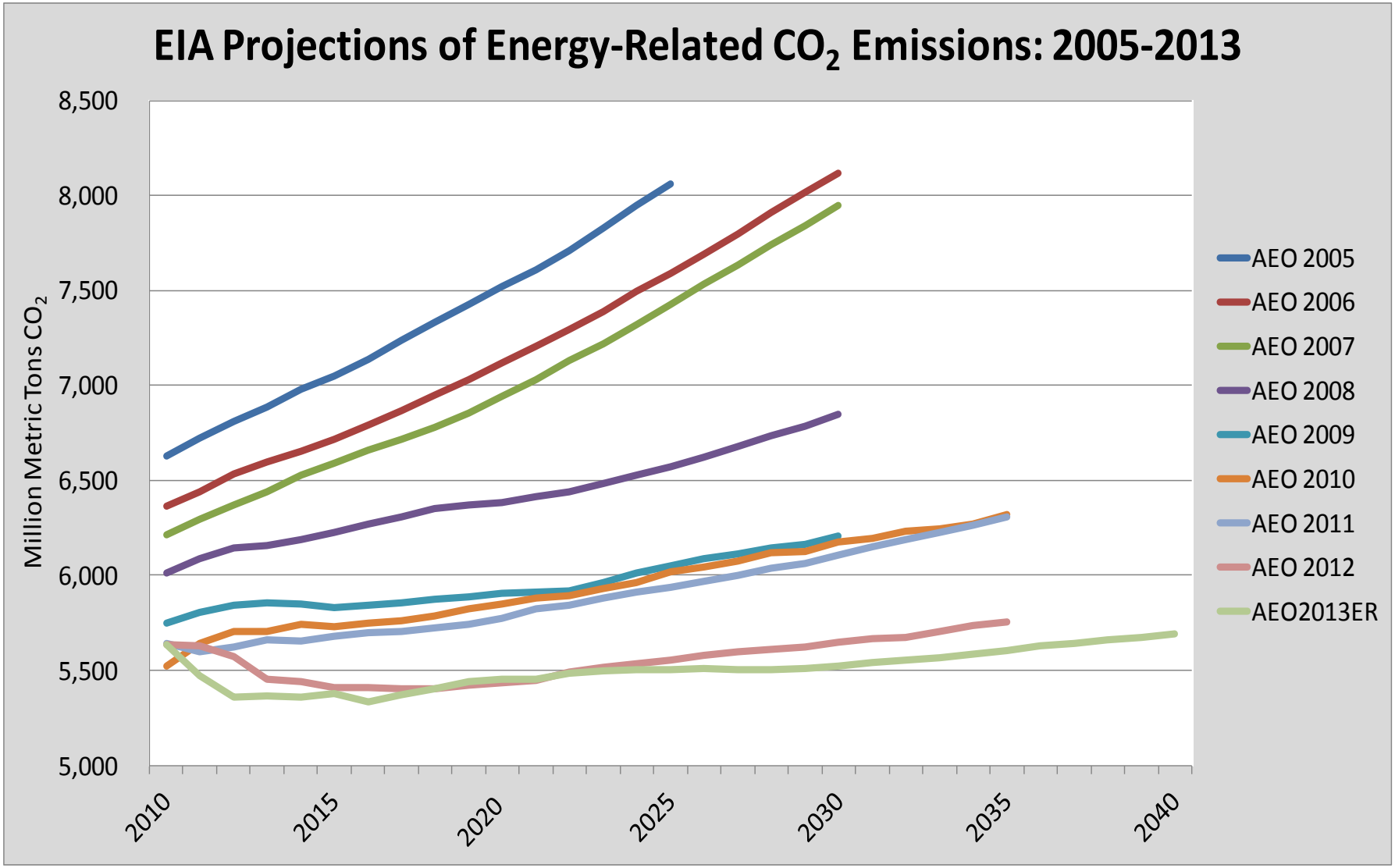
# Gas Up and Coal Down Sharply in Electricity Generation



# US Energy Emissions Returning to 1990 Levels



# Results of Changing US Market and Policy



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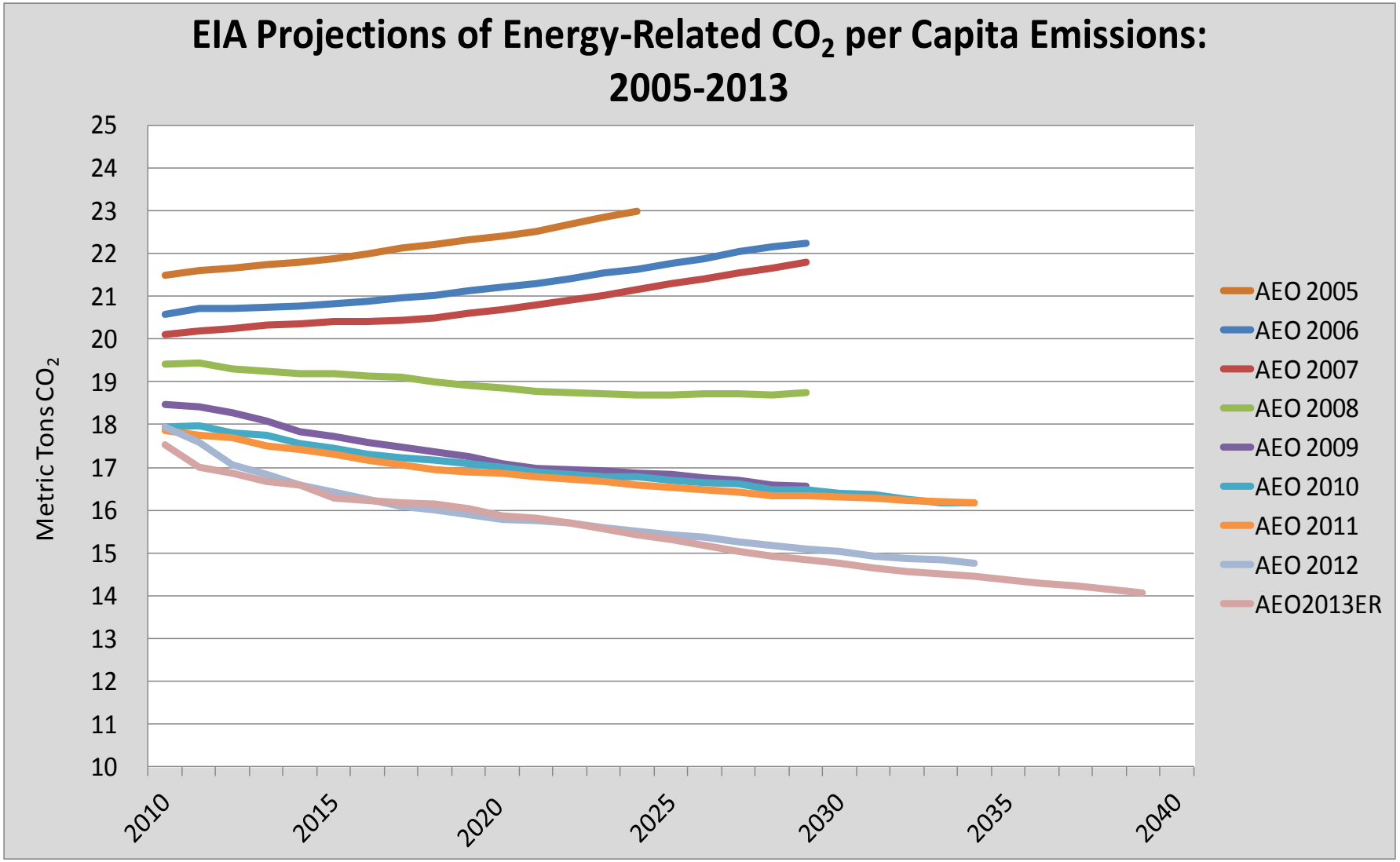
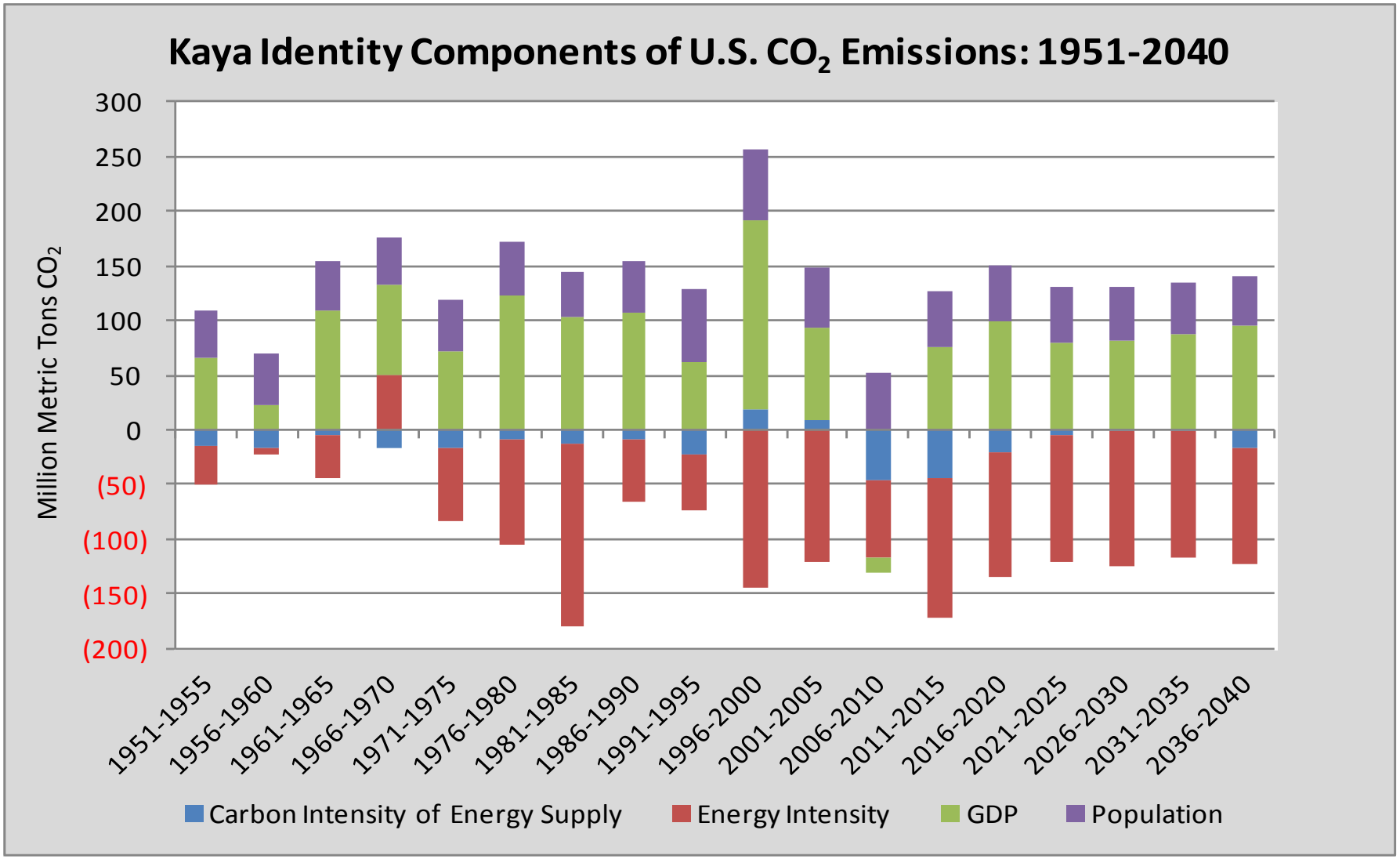


# Declining to Flat Kaya Identity



# Impact of Carbon Prices on US Energy Costs

## $20/ton adds about 20 cents to a gallon gasoline and 1 cent kwh to electricity

| Energy Product | Additional Cost by Volume at: | | | Average 2011 Nominal Price | Percent Increase from 2011 at: | | |
|---|---|---|---|---|---|---|---|
| | $20/Metric Ton $CO_2$ | $50/Metric Ton $CO_2$ | $100/Metric Ton $CO_2$ | | $20/Metric Ton $CO_2$ | $50/Metric Ton $CO_2$ | $100/Metric Ton $CO_2$ |
| **Distillate Fuel Oil (Residential) ($/gal)** | $0.20 | $0.51 | $1.01 | $3.66 | 5.5 | 13.9 | 27.7 |
| **Diesel (Transportation) ($/gal)** | $0.20 | $0.51 | $1.01 | $3.58 | 5.7 | 14.2 | 28.3 |
| **Motor Gasoline ($/gal)** | $0.18 | $0.44 | $0.89 | $3.42 | 5.2 | 13.0 | 25.9 |
| **Jet Fuel ($/gal)** | $0.19 | $0.48 | $0.96 | $3.04 | 6.3 | 15.7 | 31.5 |
| **Residual Fuel Oil (All Users) ($/gal)** | $0.24 | $0.59 | $1.18 | $2.64 | 8.9 | 22.3 | 44.7 |
| **Coal (Electric Power) ($/short ton)** | $37.00 | $92.51 | $185.02 | $46.38 | 79.8 | 199.5 | 398.9 |
| **Natural Gas (Residential) ($/tcf)** | $1.08 | $2.71 | $5.42 | $11.05 | 9.8 | 24.5 | 49.1 |
| **Natural Gas (Electric Power) ($/tcf)** | $1.08 | $2.71 | $5.42 | $4.87 | 22.3 | 55.7 | 111.3 |
| **Electricity (Ave. Price All Sectors) ($/kwh)** | $0.011 | $0.027 | $0.055 | $0.099 | 11.1 | 27.7 | 55.3 |

Sources: EIA, Documentation for Emissions of GHGs 2006, Table 6-1; EIA AEO 2013 Year-by-Year Reference Tables 8, 12, 13, 15 & 18.

# International Situation: Formal Uncooperative UNFCCC Process

- 189 Countries—Only ~20 With Emission Share > 1%
- Represented by Foreign Affairs or Environment Officials
- Endless Re-Negotiation of Texts That Barely Change
- Unrealistic Expectations of Large New Wealth Transfers
- Relatively Small and Inconsequential Financing
- About 10,000 Conflict-Prone Stakeholders
- Business Participation Very Limited and Declining
- Massively Expensive Administrative Costs
- Withdrawal of Canada, Russia, Japan from KP

Durban Agreement: We Agree to Agree in Three Years on Agreed Actions Starting in Eight Years

# International Situation: Informal Cooperative Processes

- Major Economies Forum (16 Nations + EU)
- Global Methane Initiative ("Methane to Markets")
- Global Alliance for Clean Cookstoves
- Global Partnership for Low Emission Development
- Global Gas Flaring Reduction Partnership
- Adaptation Partnership
- Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants
- Asia-Pacific Partnership Clean Development & Climate
- Other Regional, National, and Local Partnerships
- Traditional International Development Financing

# International: Informal Cooperative Processes--"BizMEF"


ACCI

BUSA
BUSINESS UNITY SOUTH AFRICA

AUSTRALIAN INDUSTRY GROUP

BUSINESSEUROPE

CBI
THE VOICE OF BUSINESS

CONFINDUSTRIA

USCIB
UNITED STATES COUNCIL FOR INTERNATIONAL BUSINESS

DI
Confederation of Danish Industry

MEDEF

CII
Confederation of Indian Industry

CNECC
China New Energy Chamber of Commerce
中华全国工商业联合会新能源商会

TUSIAD 40

IDEAS
Iniciativa para el Desarrollo Ambiental y Sustentable

KCCI

BISD

CNI
National Confederation of Industry
Brazil

一般社団法人
日本経済団体連合会

BusinessNZ

CANADIAN COUNCIL of CHIEF EXECUTIVES
CONSEIL CANADIEN des CHEFS D'ENTREPRISE

BDI
Industrieland Deutschland stärken.

# Different Approaches Yield Different Results

## UNFCC/Kyoto Protocol (1992/1997)

- Top down, economy-wide approach
- Single, inflexible short term targets
- No developing nation commitments
- Small and declining private sector role
- Promises of major wealth transfers
- No meaningful technical review process
- No meaningful economic review process
- Focused on international implementation
- Achieving less GHG reductions than KP

Mostly Unsuccessful International Treaty

## Montreal Protocol (1987)

- Bottom up, sector specific approach
- Multiple, flexible long term targets
- Developing nation commitments
- Robust private sector engagement
- No promise of major wealth transfers
- Objective technical review process
- Objective economic review process
- Focused on national implementation
- Achieving more GHG reductions than KP

Mostly Successful International Treaty

# Go “Back to the Future” and Rationalize Process

| Original 1992 UNFCC Principles | Kyoto Protocol | Montreal Protocol |
|---|---|---|
| Cooperate as widely as possible | ✗ | ✔ |
| Share common responsibility; differentiate according each country’s circumstances | ✗ | ✔ |
| Respect national sovereignty of environmental and development policies and priorities | ✗ | ✔ |
| Re-evaluate science, technology, and economics continually | ✗ | ✔ |
| Focus on actions producing net economic and environmental co-benefits | ✗ | ✔ |
| Pursue comprehensive approach at global, regional, national and local levels | ✗ | ✔ |
| Address all greenhouse gases, sources and sinks taking into account relative contribution | ✗ | ✔ |
| Coordinate actions to assure sustained economic growth and poverty eradication | ✗ | ✔ |