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**2008 Bi-Annual Meeting at Columbia University
NEW YORK CITY, OCTOBER 16 & 17, 2008**

***Energy and Greenhouse Gas Issues in the Updated
New York State Waste Management Plan of NYS-DEC***

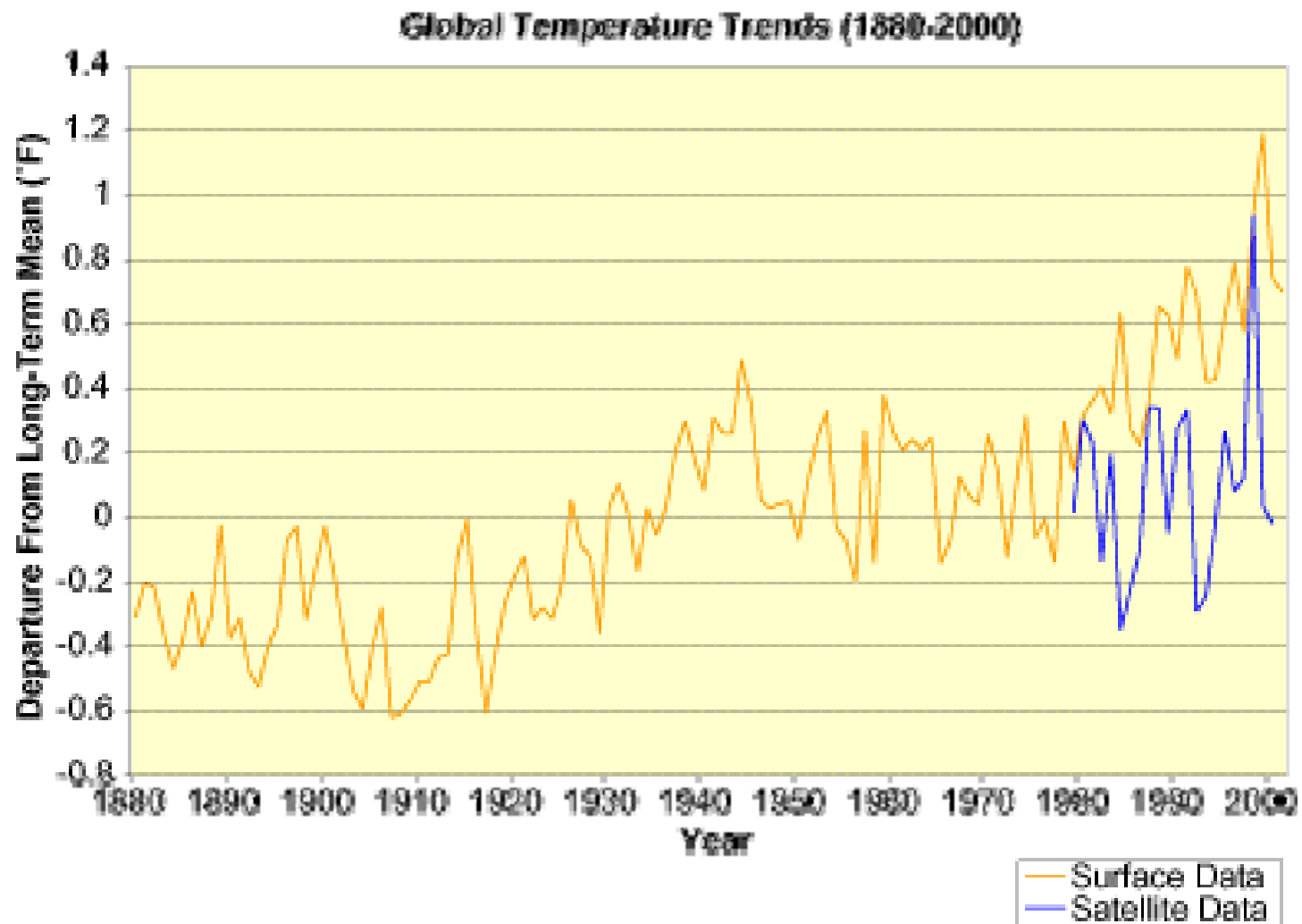
By John G. Waffenschmidt



Overview

- A review of Greenhouse Gas and energy on the planet
- The NYS Solid Waste Management Plan, Greenhouse Gases, and Energy considerations
- Questions / Policy to be resolved

Current Temperature Trends



Surface Data Source: National Climatic Data Center, 2001.

Satellite Data Source: John R. Christy, University of Alabama in Huntsville, and Roy Spencer, National Aeronautics and Space Administration.

630,000 years of Gases and Temperatures

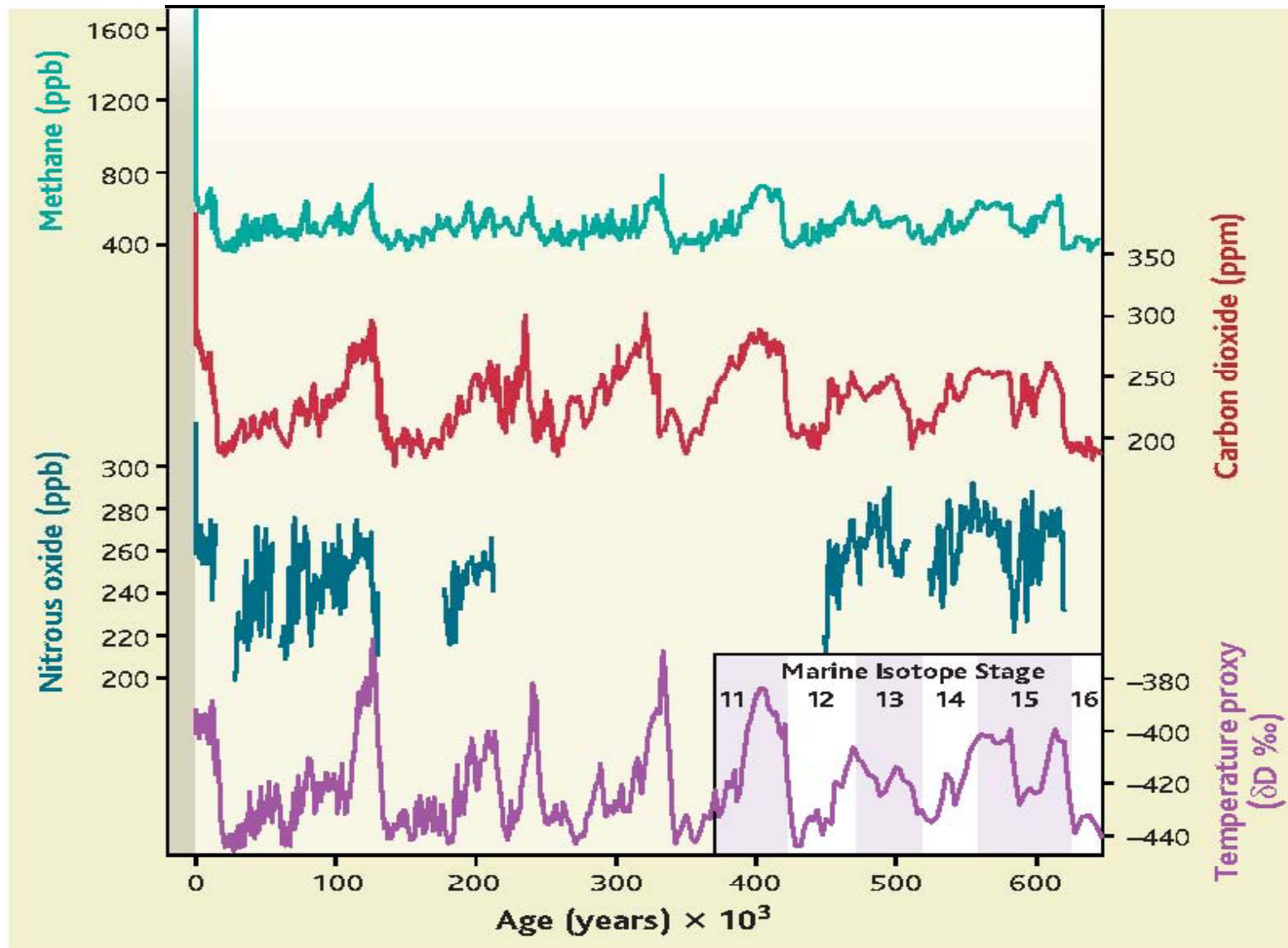
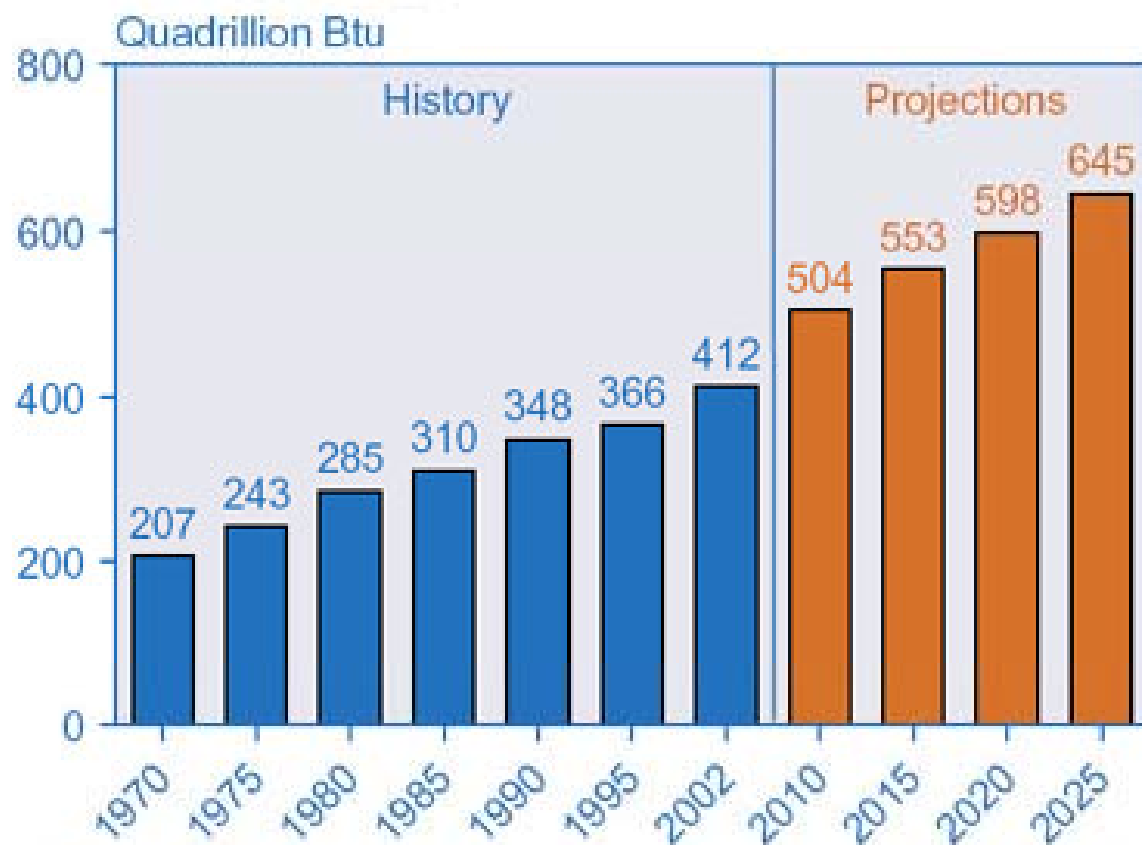
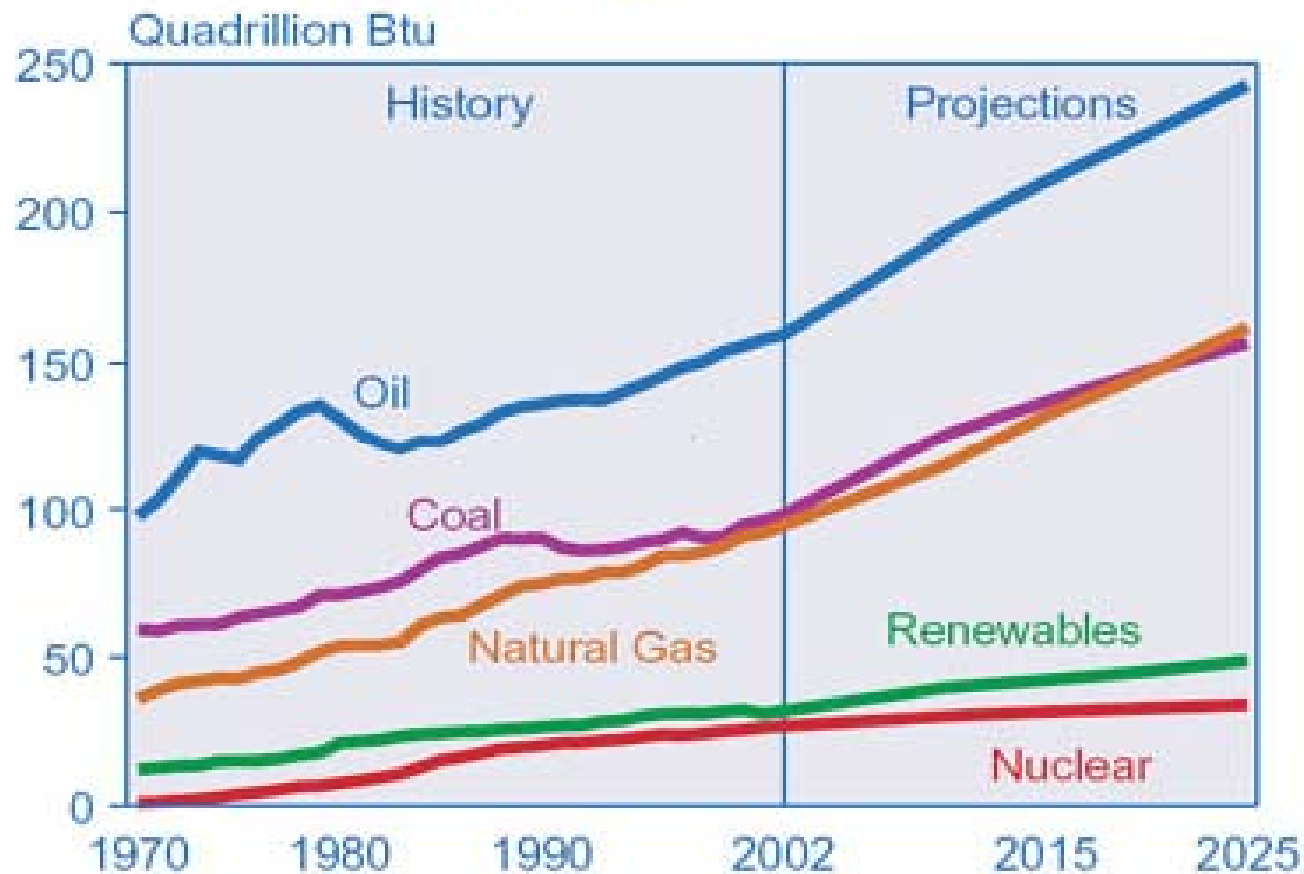


Figure 7. World Marketed Energy Consumption, 1970-2025



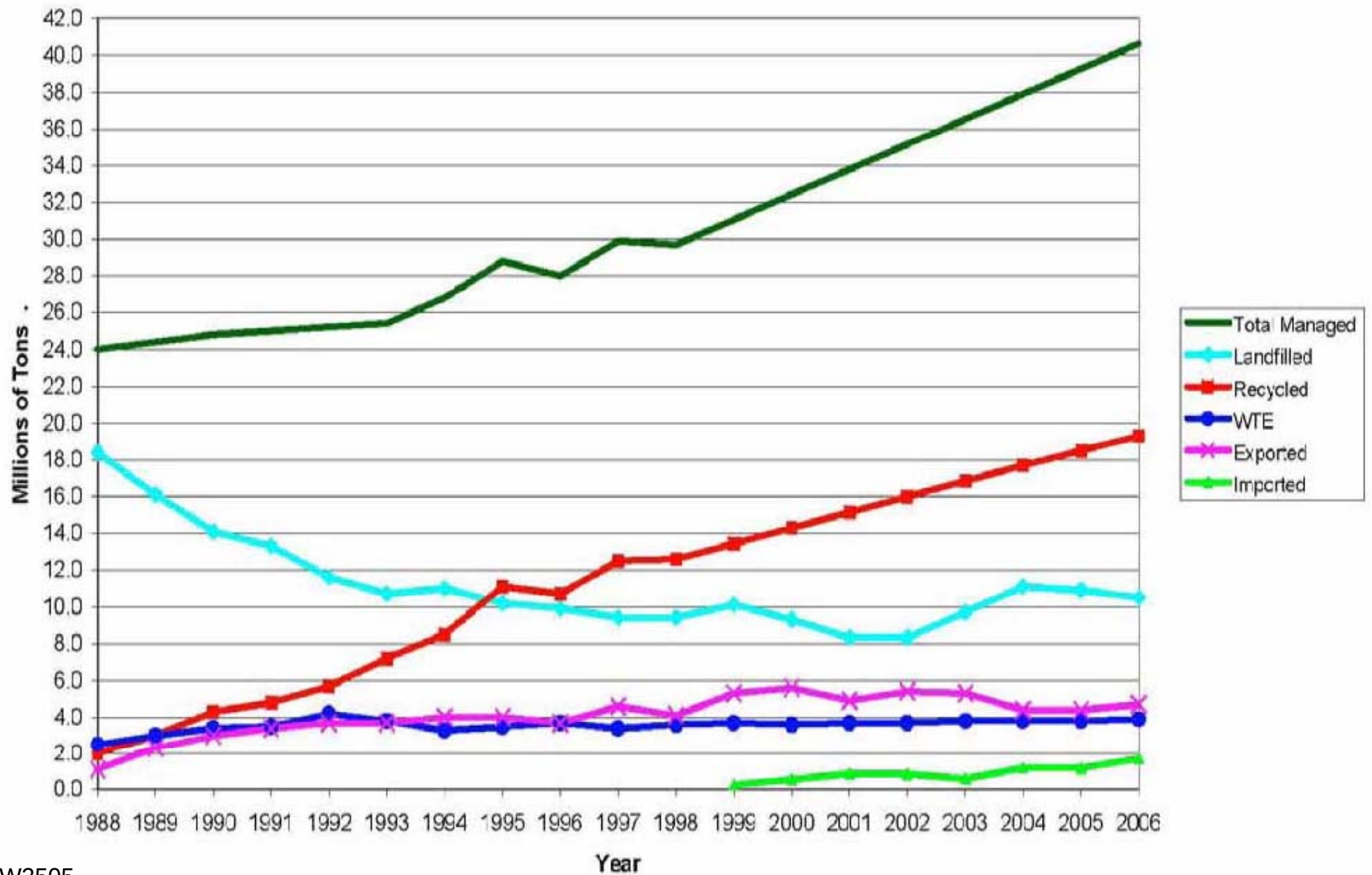
Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2002*, DOE/EIA-0219(2002) (Washington, DC, March 2004), web site www.eia.doe.gov/iea/. **Projections:** EIA, *System for the Analysis of Global Energy Markets* (2005).

Figure 10. World Marketed Energy Use by Fuel Type, 1970-2025

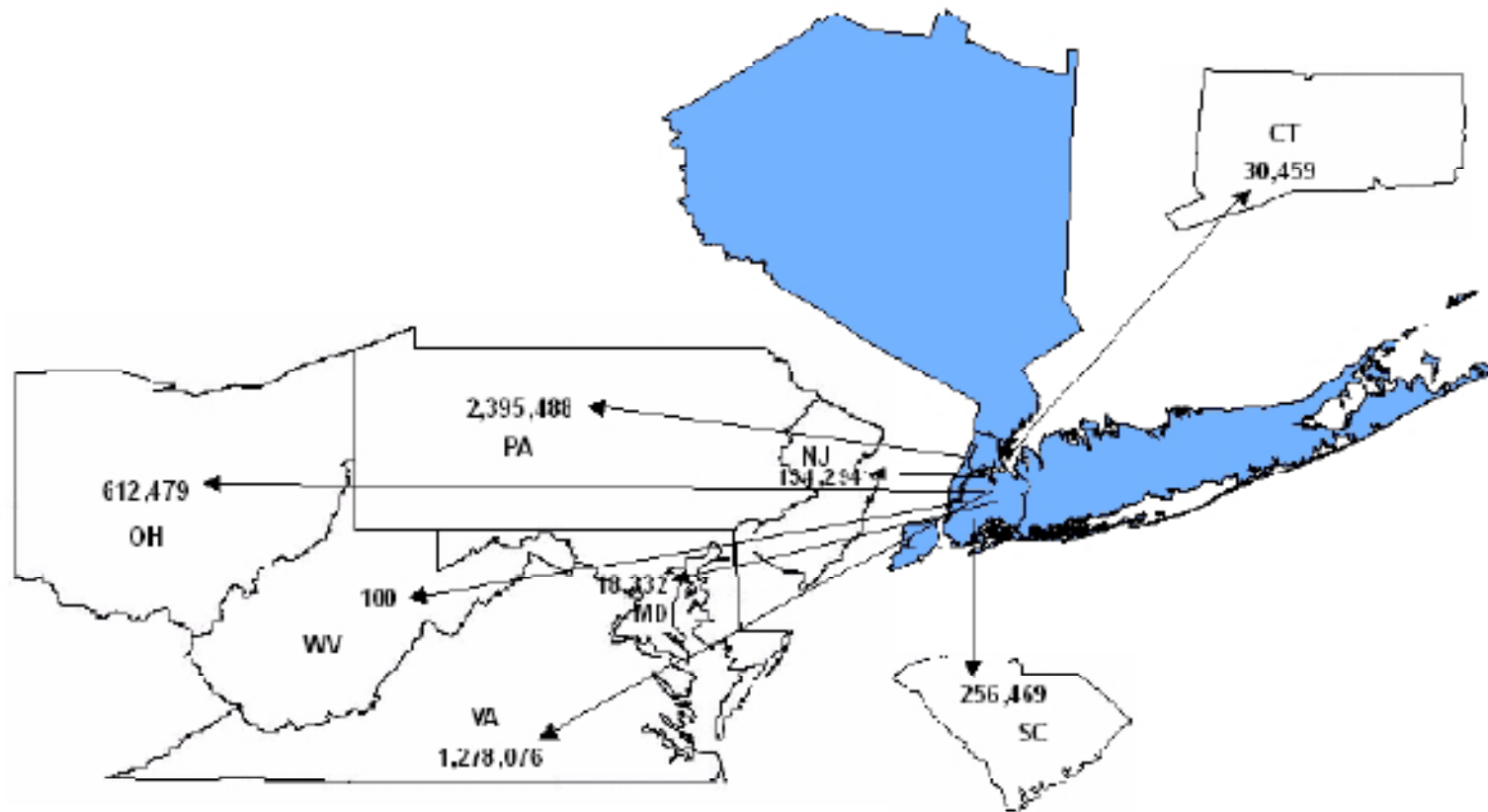


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Solid Waste Managed in New York State Years 1988-2006



New York State 2006 Waste Exports (Tons)





NYS SWMP Revision Objectives

- Reduce waste and maximize recovery
- Structure disposal to support maximum recovery
- Recovery incentives/wasting disincentives
- Divert organics from disposal



NYS Energy Objectives

- “15 by 15” – reduce energy consumption by 15% by 2015 from forecasts
- Energy use per Gross State Product – 25% below 1990 by 2010
- State Energy Plan – March 2009 Draft Due
- Green Buildings
- Renewable Energy Portfolio



NYS GHG Objectives

- Regional Greenhouse Gas Initiative (RGGI)
- Office of Climate Change
- The Climate Registry
- NYS Department of Environmental Conservation (DEC) has published guidance to include Greenhouse Gas considerations in State Environmental Quality Act (SEQRA) considerations



NYS SWMP Debate

Items for Consideration:

- Policy Driven
- Quantitative measurement of GHG and Energy
- Diversity of State needs
- Local planning units must execute
- Historical SWAMP successes/shortfalls

We must consider the magnitude of the challenge before us:

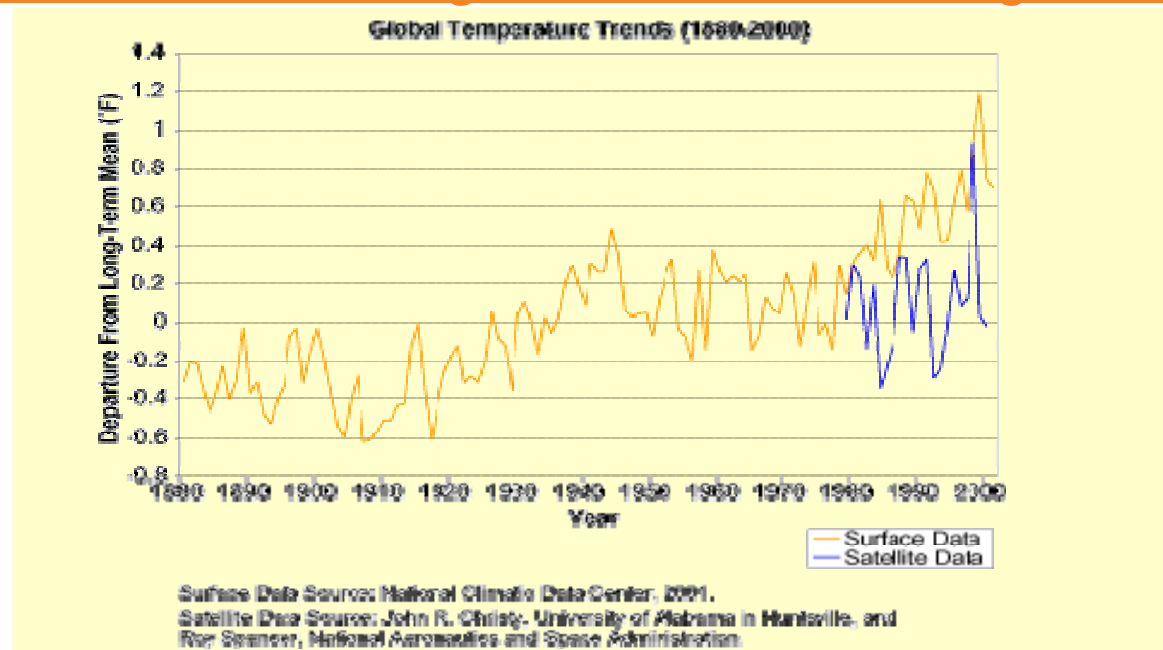
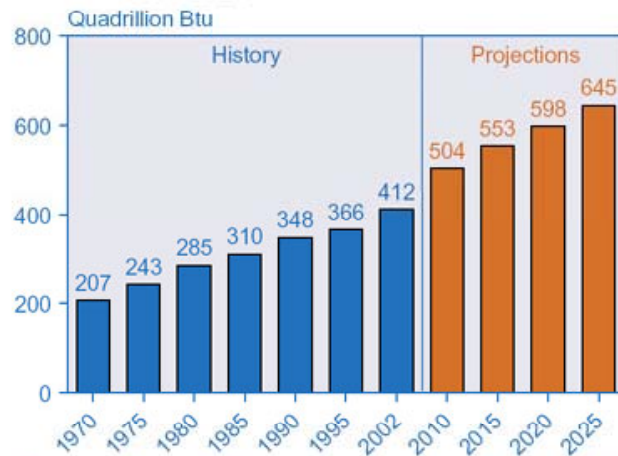
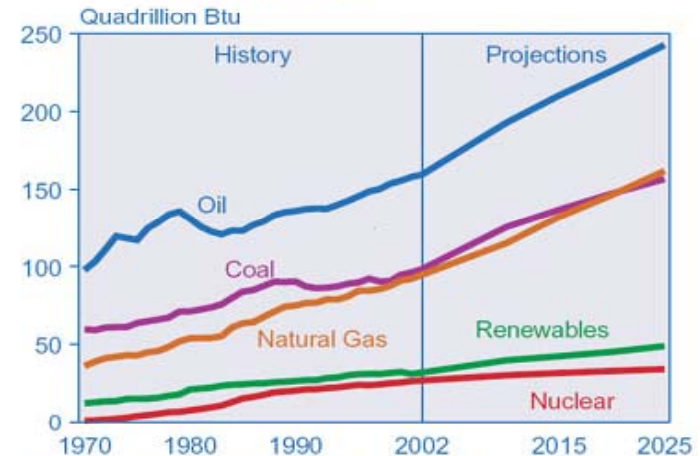


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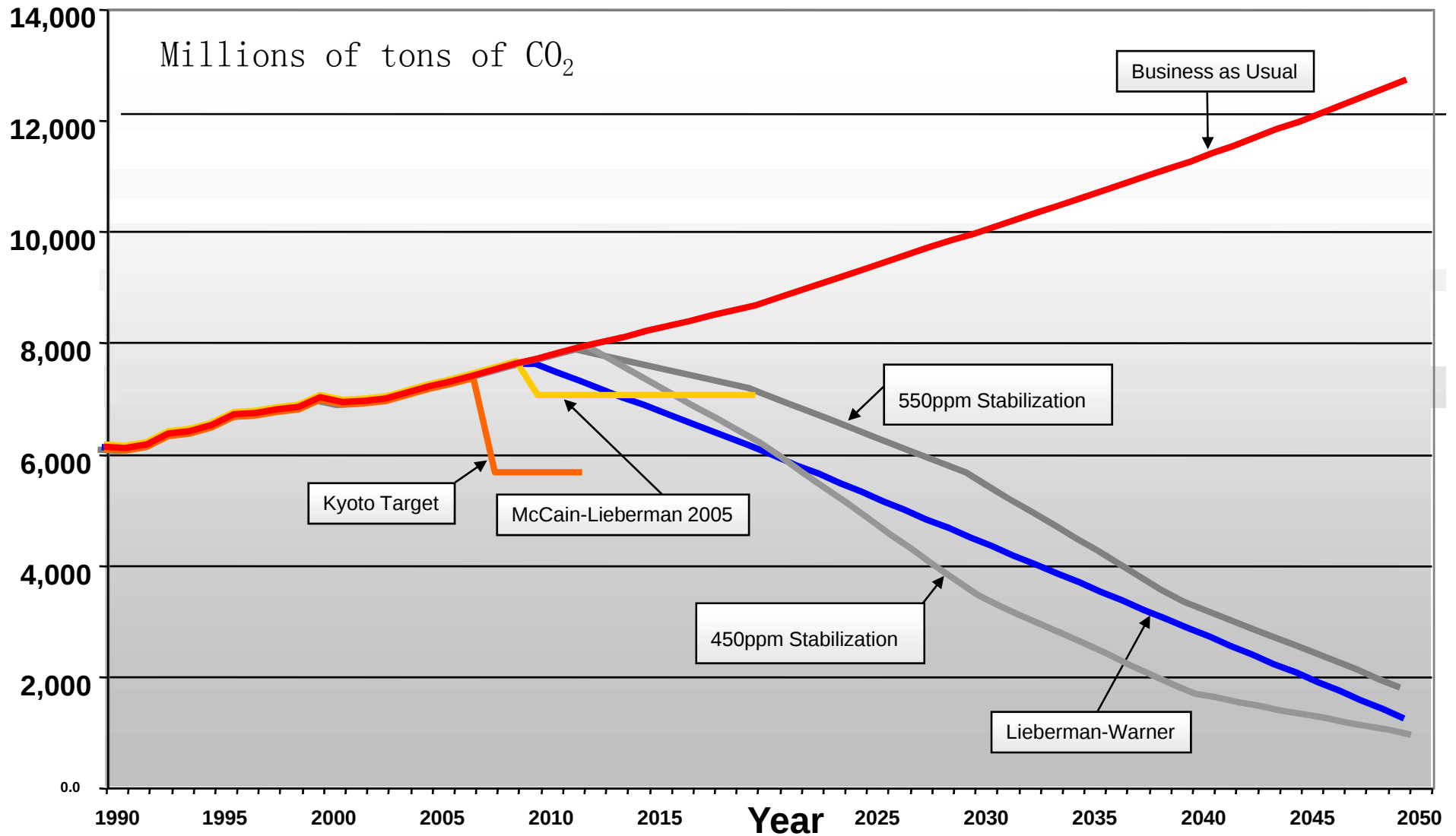


The Sheer Quantitative Challenge for:

- Greenhouse Gas Reduction
- Energy Transformation from Fossil Fuels

***NECESSITATES WE TAKE EVERY
POSSIBLE STEP TO ADDRESS BOTH
ISSUES***

GHG Emissions Reductions





2004 estimated energy use and gross domestic product for the United States, China, and India.

TABLE 1	GDP \$Trillions	GDP Current Growth Rate	Energy Use Quadrillion Btus	Energy Use *CAGR 2000- 2004	Btu/\$GDP
<i>United States</i>	11.71	3.2%	100.4	0.4%	8,573
<i>China</i>	7.26	10.7%	59.6	11.3%	8,206
<i>India</i>	3.32	9.2%	15.4	3.8%	4,643

Sources: United States GDP from Bureau of Economic Analysis, U.S. Dept. of Commerce. China and India GDP from CIA World Factbook via Yahoo.com. Current economic growth rates from www.CIA.gov. Energy data from Energy Information Administration.

*CAGR – Compounded Annual Growth Rate



Recommendations

- Recognize the scope of the GHG/Energy challenge
- Use quantitative tools
- Provide for flexibility in regional needs

