



Energy Summit

Advancing Domestic Resources
in an era of Carbon Challenges

Opportunities for Carbon Reduction

*Aldie Warnock, Vice President
External Affairs - Allegheny Energy
December 4, 2007*

**Allegheny
Energy, Inc**

Delivery

1.5 million customers,
PA-MD-WV-VA



Generation

Coal-fired, PJM
48.6 million MWH*



Transmission

Existing system,
new lines



* 12 months ended December 31, 2006



Cleveland

NY

OH

Pittsburgh
Prexy

PA

Harrisburg

NJ

WV

Kempton

Baltimore
MD

Amos

Loudoun

Wash.,
D.C.

Charleston

VA

- Supercritical Generating Facilities
- Other Generating Facilities

TrAIL 500 kV Line

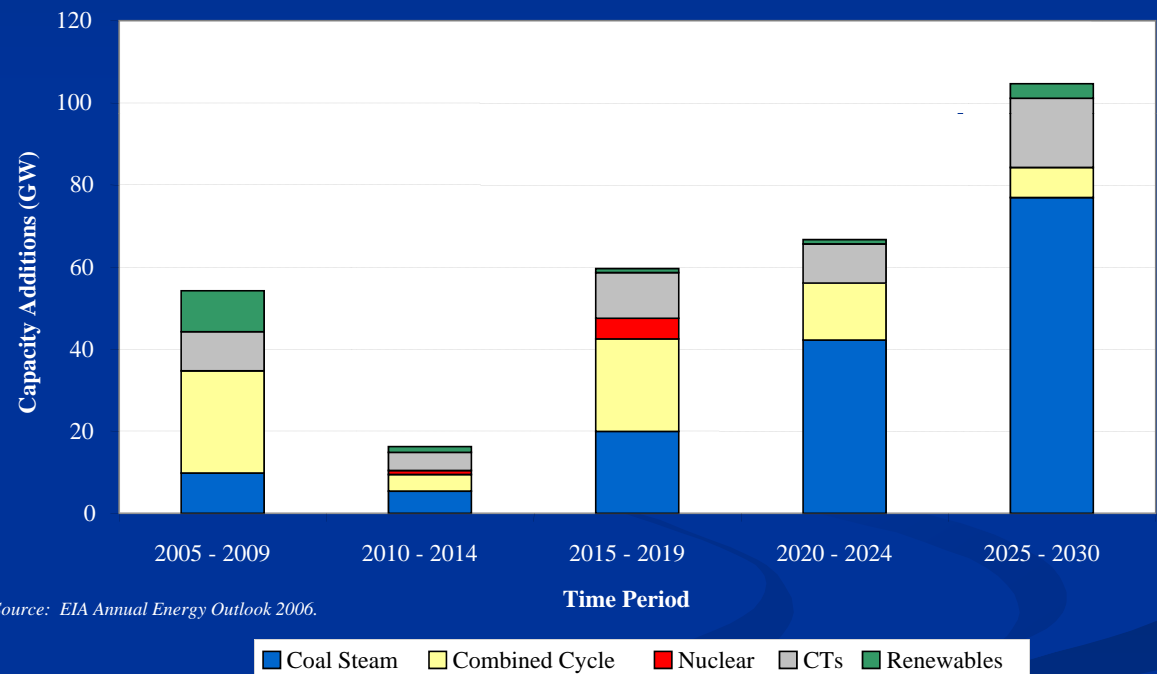
PATH 765/500 kV Line

Allegheny Power Service Area

Infrastructure Investment Costs: Generation

- Over the next 10-20 years, net generating additions are expected to shift to more expensive baseload capacity (mostly coal)
- More expensive renewable capacity will arise from state-level mandates over the next 10 years
- Cost of recent additions not yet fully reflected in rates

Projected Capacity Additions

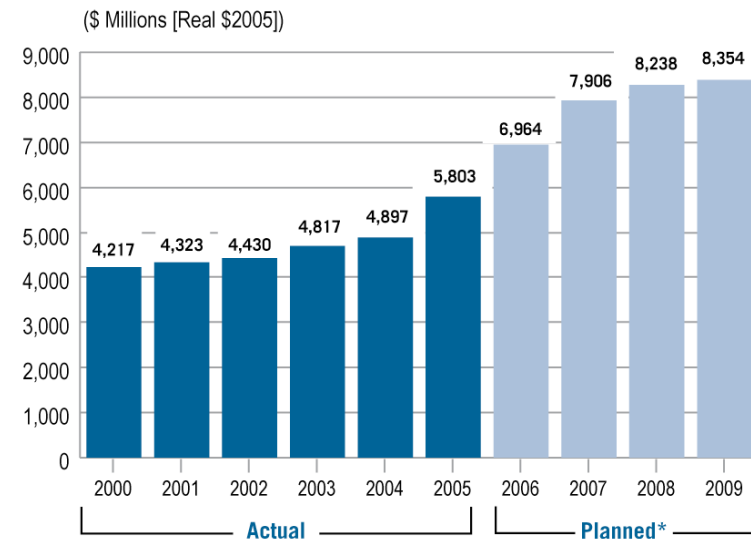


Source: EIA Annual Energy Outlook 2006.

Infrastructure Investment Costs: Transmission

- Significant increase in investment coinciding with surge in generating capacity
 - From 2000-2005, industry has invested more than \$28 billion in nation's transmission system
 - From 2006-2009, industry is planning to invest \$31.5 billion in the transmission system, nearly a 60% increase over the amount invested from 2002-2005
- Benefits include newer technologies, bigger markets, lower prices, reliability

Average And Planned Transmission Investment
By Investor-Owned Electric Utilities (2000-2009)



Note: In 2004 and 2005, the industry exceeded investment projections in their transmission capital budgets. *The Handy-Whitman Index of Public Utility Construction Costs* used to adjust for inflation from year to year. Data represent both shareholder-owned utilities and stand-alone transmission companies.

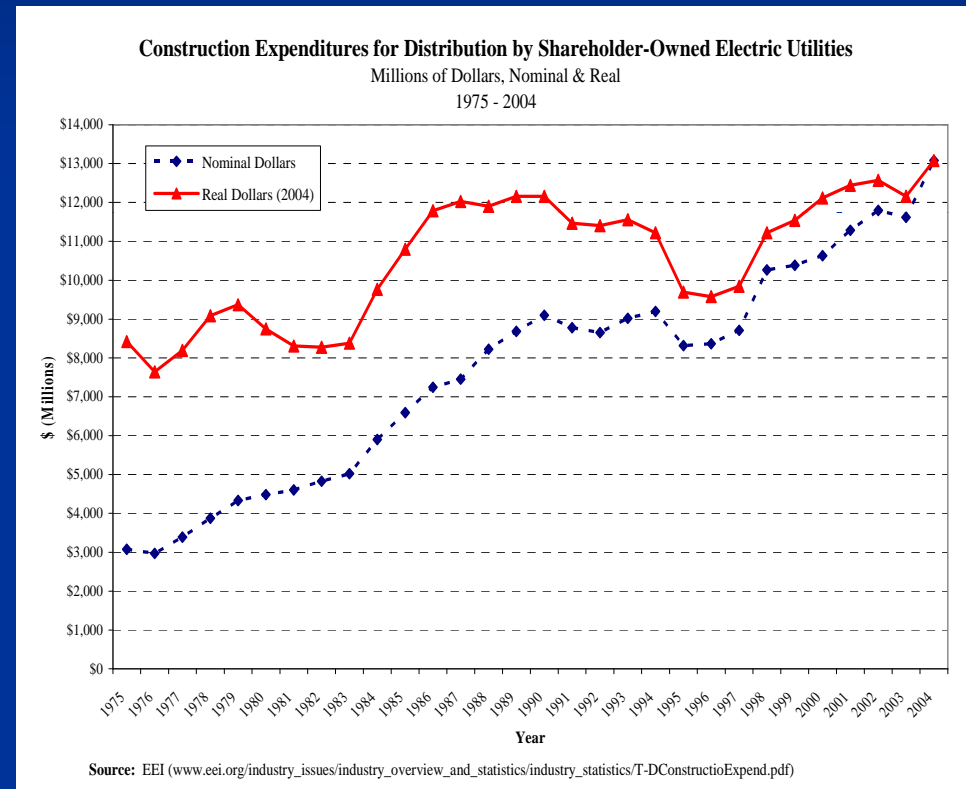
*Planned total industry expenditures are estimated from 90% response rate to EEI's Electric Transmission Capital Budget & Forecast Survey. Actual expenditures from EEI's Annual Property & Plant Capital Investment Survey & FERC Form 1s.

Source: Edison Electric Institute, Business Information Group.

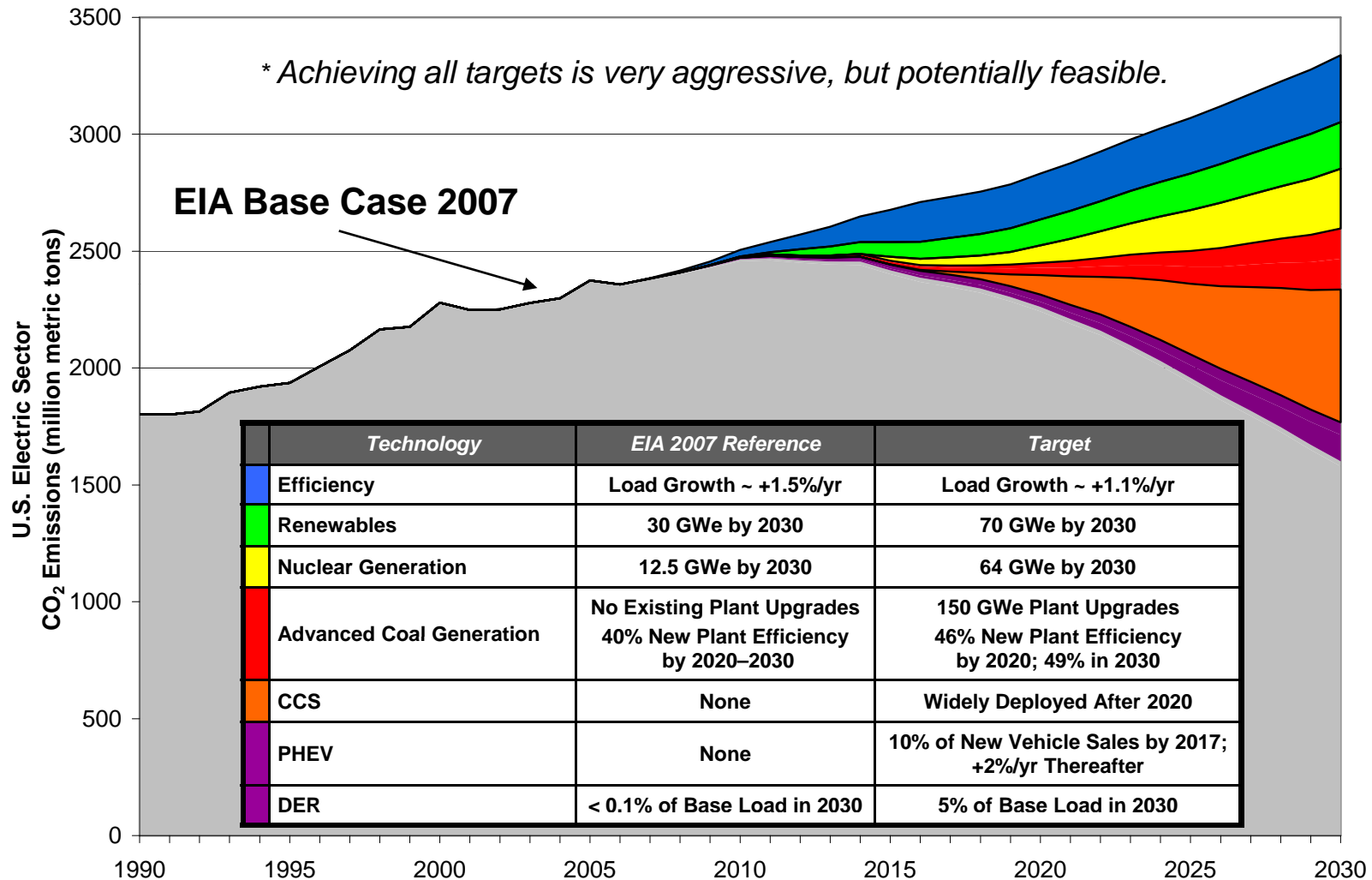
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Infrastructure Investment Costs: Distribution

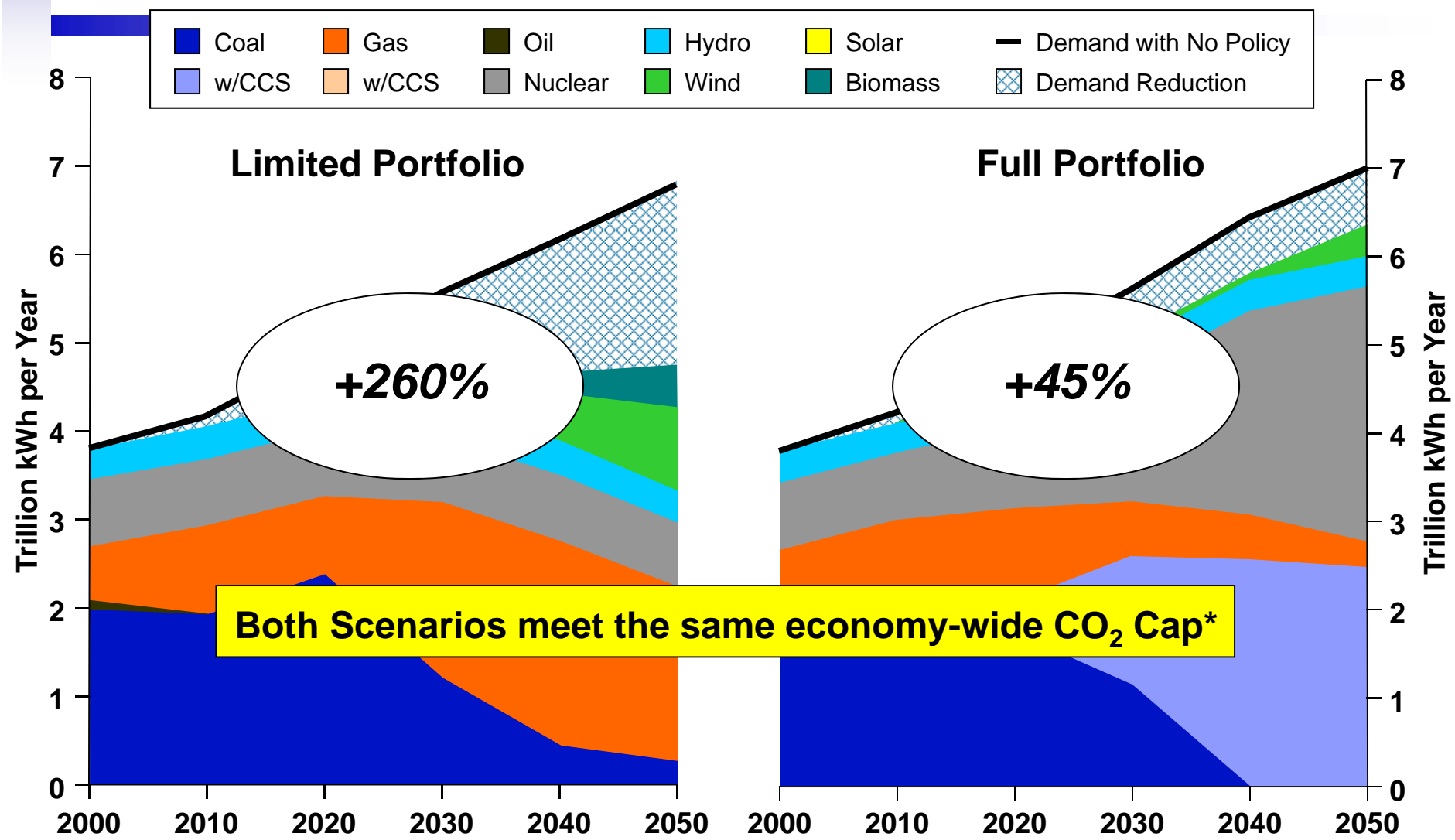
- The need to replace an aging distribution infrastructure, coupled with continued population and demand growth, will require a continued increase in distribution system investments
- If recent investment trends persist, distribution investment will average \$14 billion per year over the next 10 years
- Likely to exceed generation and environmental capital spending in the next decade



CO₂ Reductions ... Technical Potential*



Increase in Real Electricity Prices...2000 to 2050



*Economy-wide CO₂ emissions capped at 2010 levels until 2020 and then reduced at 3%/yr

Political Overview

(Where the Rubber Meets the Road)

- **Recent industry polling of businesses and residences in PA, WV and MD showed:**
 - Consumers don't believe there is a real problem and those who do, think it can be solved through renewables combined with energy conservation.
 - The industry is not a credible source on this issue.
 - Consumers want more renewable energy but aren't willing to pay more than 10% more for it.



WATT Watchers Programs

- ENERGY STAR™ Partner
- Pledge a Light Campaign/Compact Fluorescent Lighting (CFL)
- Home Energy Audits (PA Home Energy)
- Wind Energy Service Program
- Energy Efficiency Customer Energy Kits
- WV Grid Modernization Project (Smart Grid)

Some programs are subject to regulatory approval





**What does all of this mean with respect
to carbon reduction?**