



# Proactive Partnerships and Opportunities for Kansas Businesses

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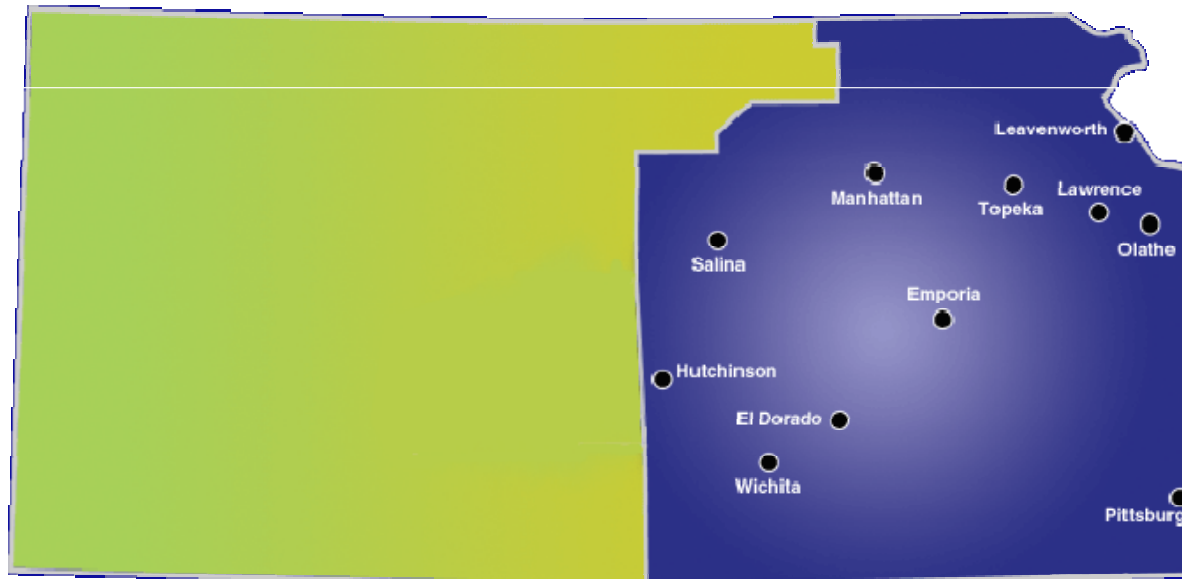
Sustainability Seminar: Greenhouse Gases;  
Carbon Taxes and Trading; and Carbon  
Sequestration

Kansas State University

January 6-8, 2010



# Westar Energy

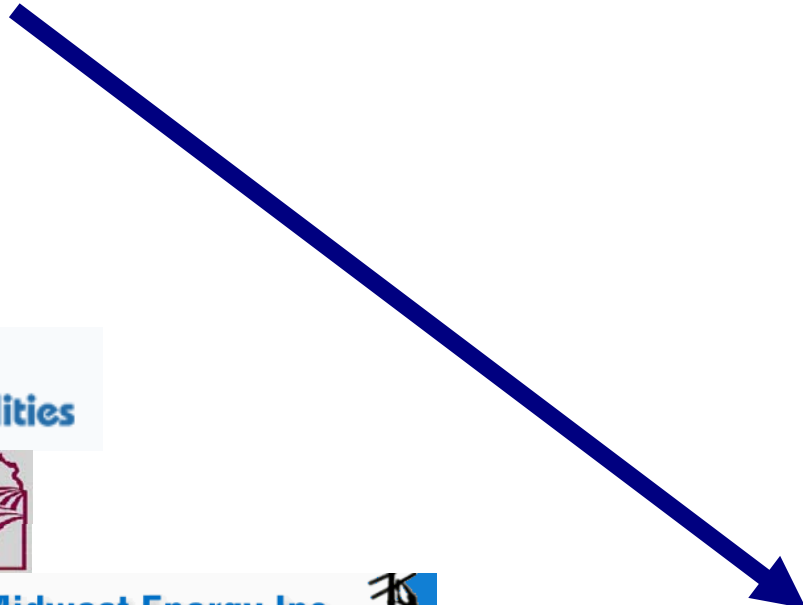


## ■ Key operational facts

- ☞ Pure-play electric
- ☞ Rate regulated
- ☞ ≈ 6,800 MW of fuel-diverse generation
- ☞ ≈ 700,000 customers
- ☞ Very low retail utility rates



6000MW



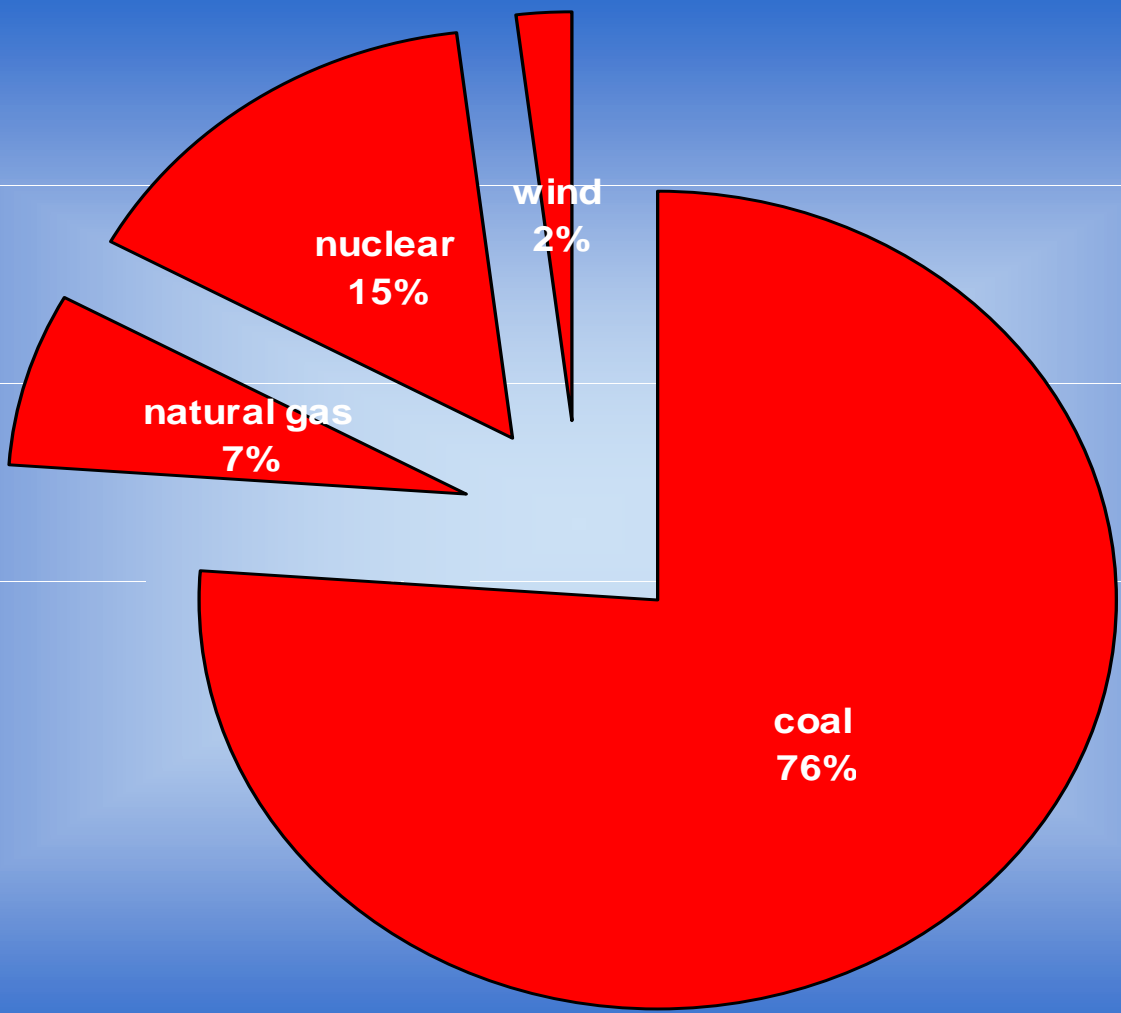
130MW





- 1) Steam Electric
- 2) Combustion Turbines
- 3) Wind
- 4) Combined Cycle

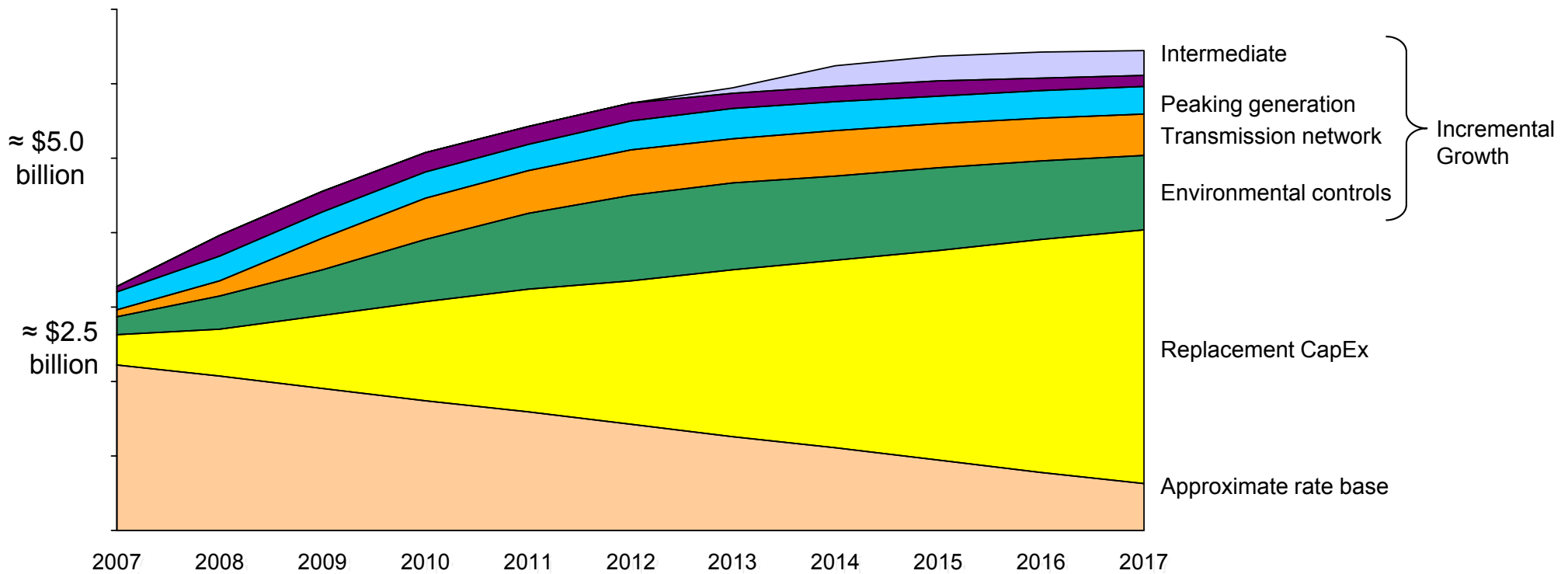






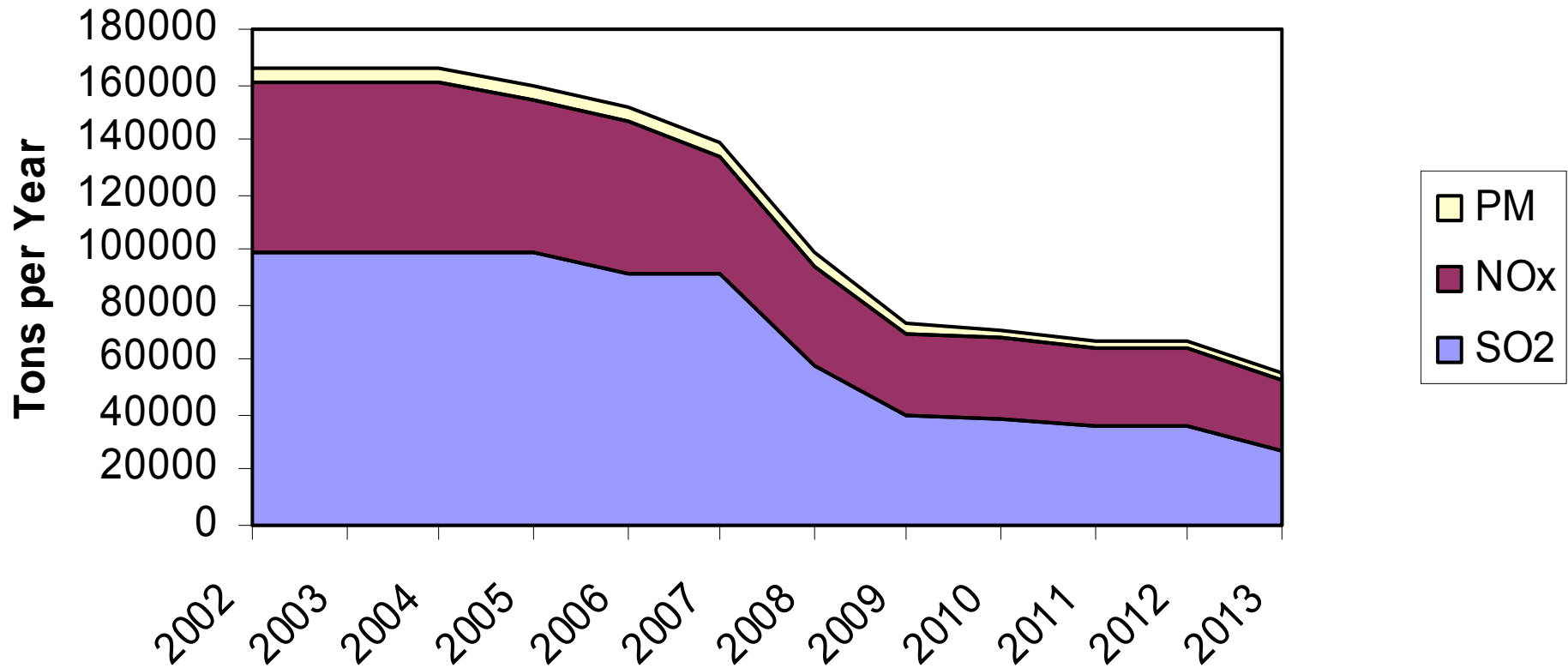
■ **On leading edge of largest capital expansion plan in 30 years**

- ☞ Expect to more than double net plant investment in  $\approx 6$  years
- ☞ Diversified, scalable approach





## Westar Emission Reductions





# Greenhouse Gas Partnership



## **The Greenhouse Gas Challenge** While Addressing Our Customers' Energy Needs

### ***A Strategic Plan For A Carbon Constrained World***

#### ***Our Mission***

*Westar Energy provides safe, reliable, high quality electric energy service at a reasonable price to all customers.*



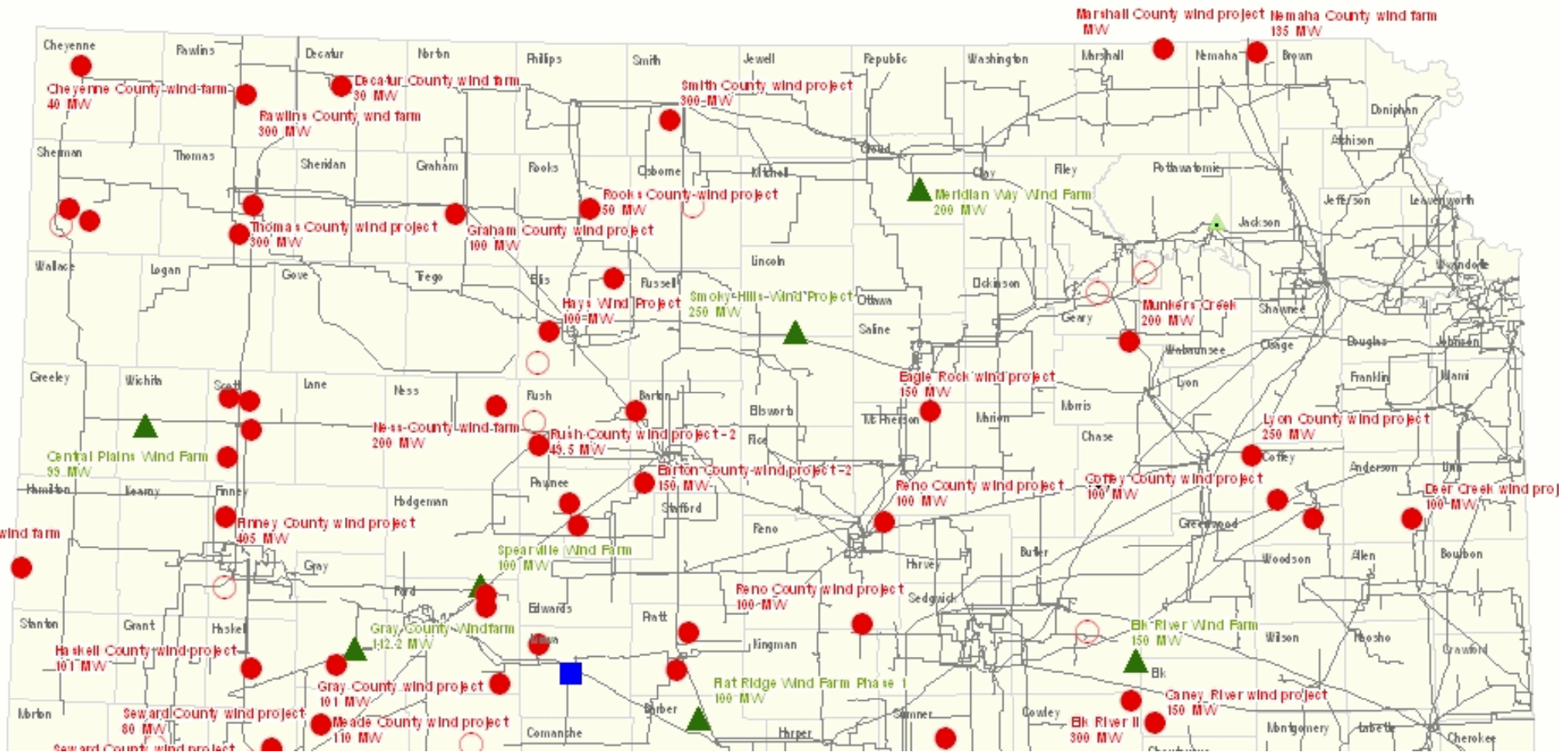




# Windfarm Sites

## Proposed and Existing Wind Projects in Kansas

January 2010





# Windpower





# Windpower



South String Turbines





# Wolf Creek Up-rate





# Energy Efficiency Business Unit

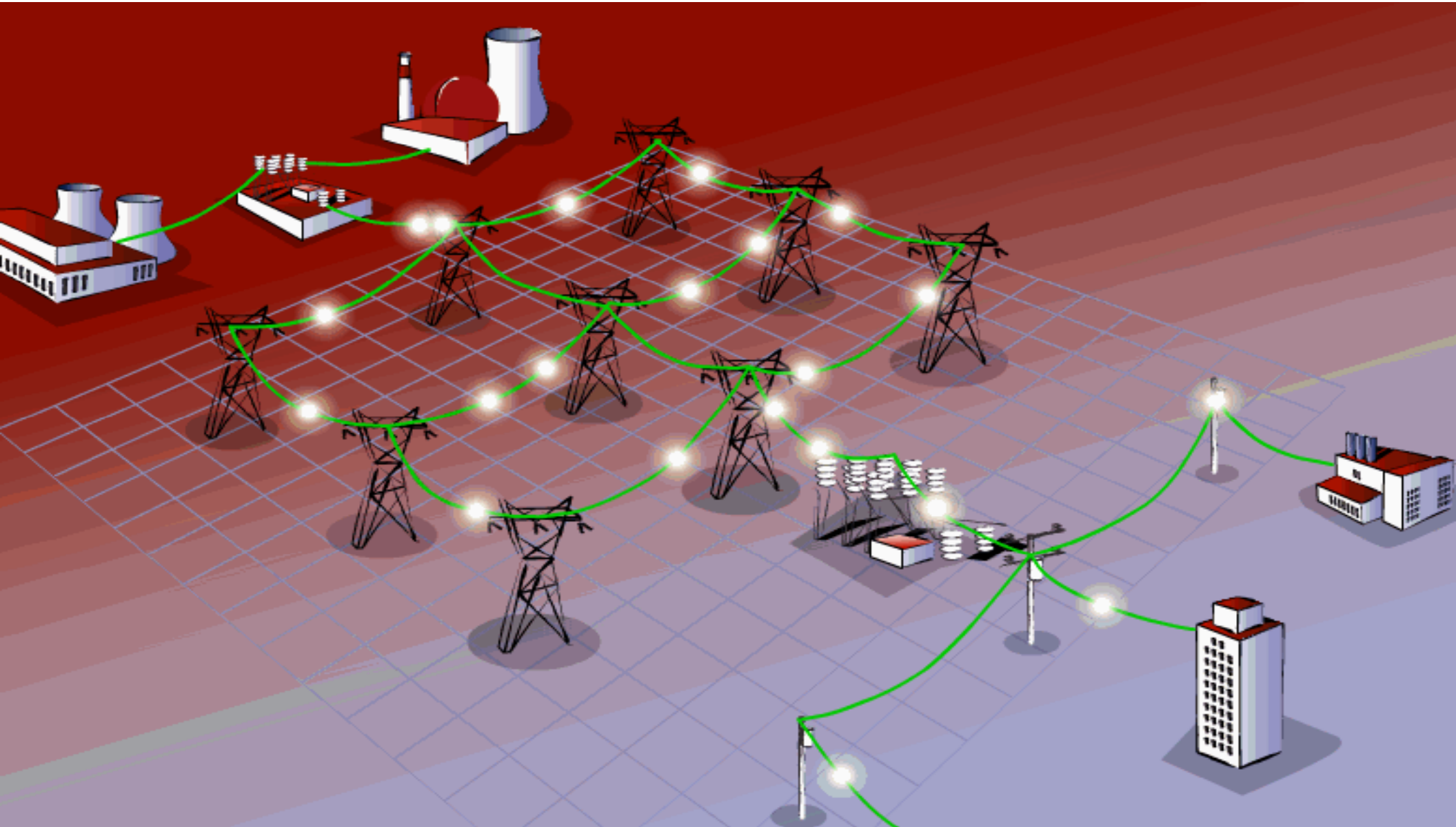


## News

- [KHRC launches Cash for Appliances. Learn more.](#)
- [WattSaver Programmable Thermostat Program](#)
- [Are you an ag producer or rural small business? You may qualify for renewable energy and energy efficiency funding](#)
- [Information on federal stimulus money for clean, efficient energy](#)
- [Take Charge Challenge \(Salina\)](#)

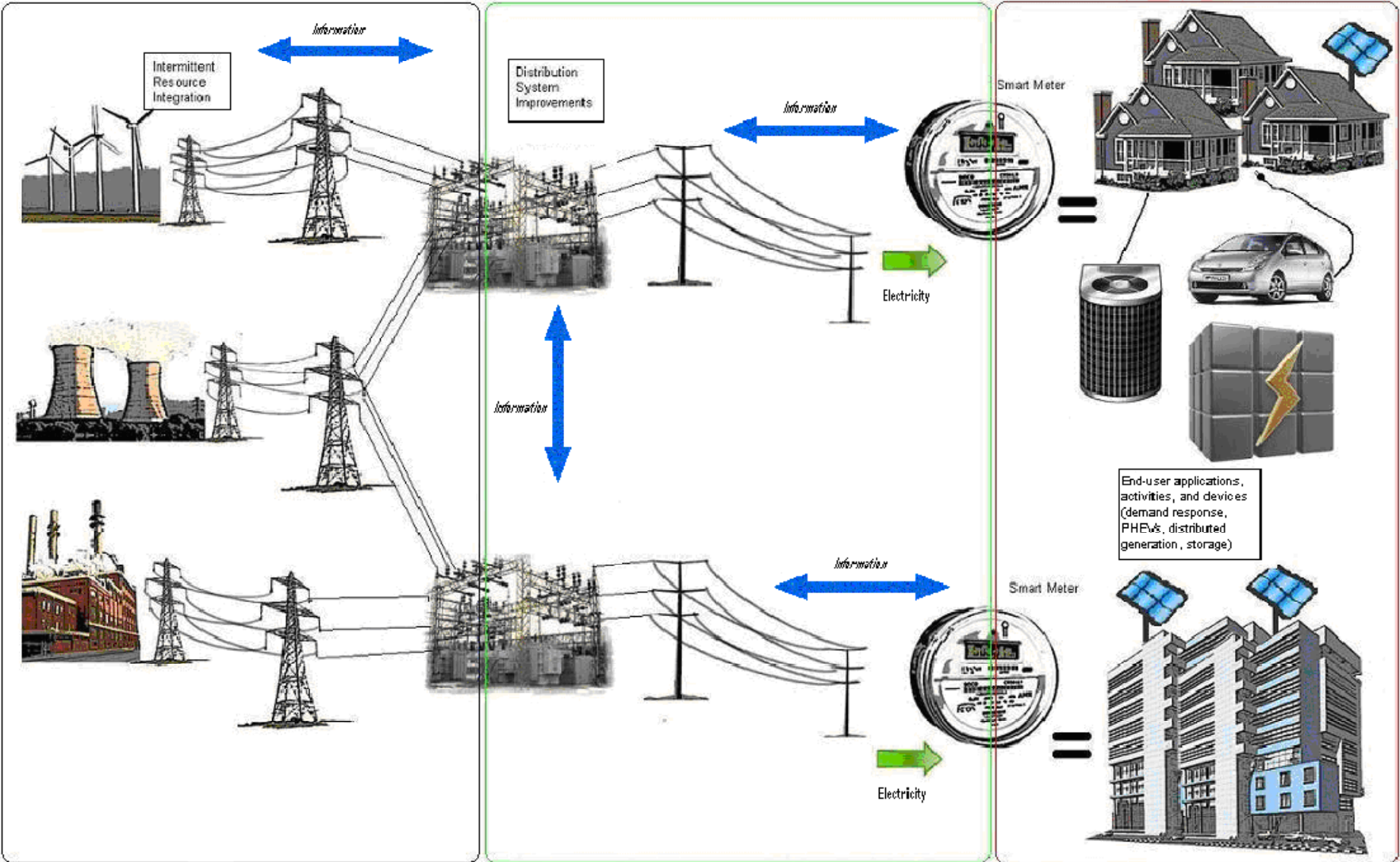


# Smart Grid





# Smart Grid



Generation & Bulk Transmission

May overlap with "Green Grid"

Distribution System Optimization

Many "Direct Value" components

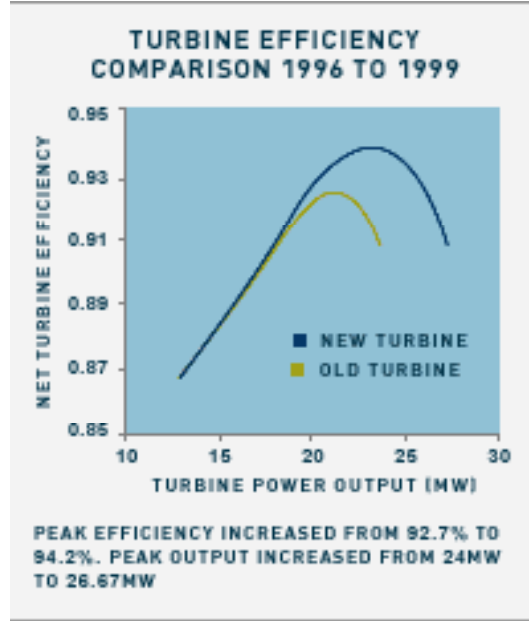
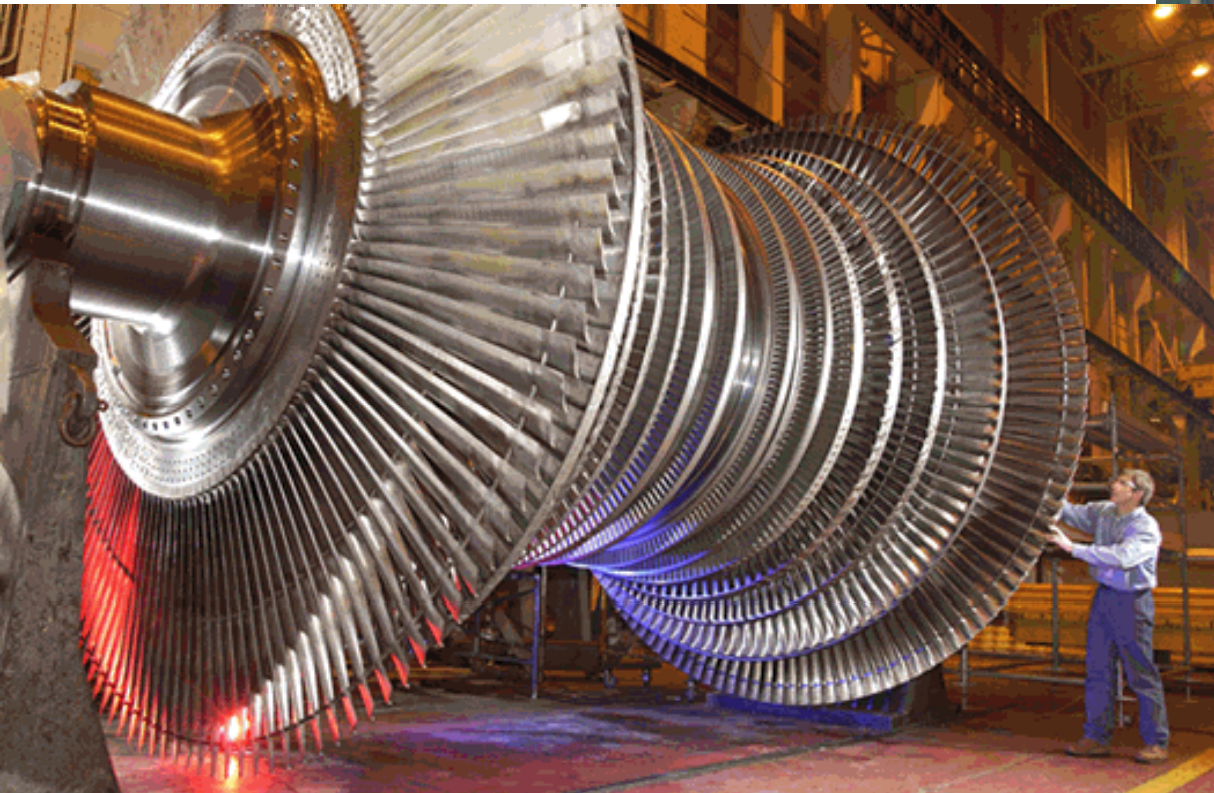
End-user side of the meter components

Many "Option Value" components



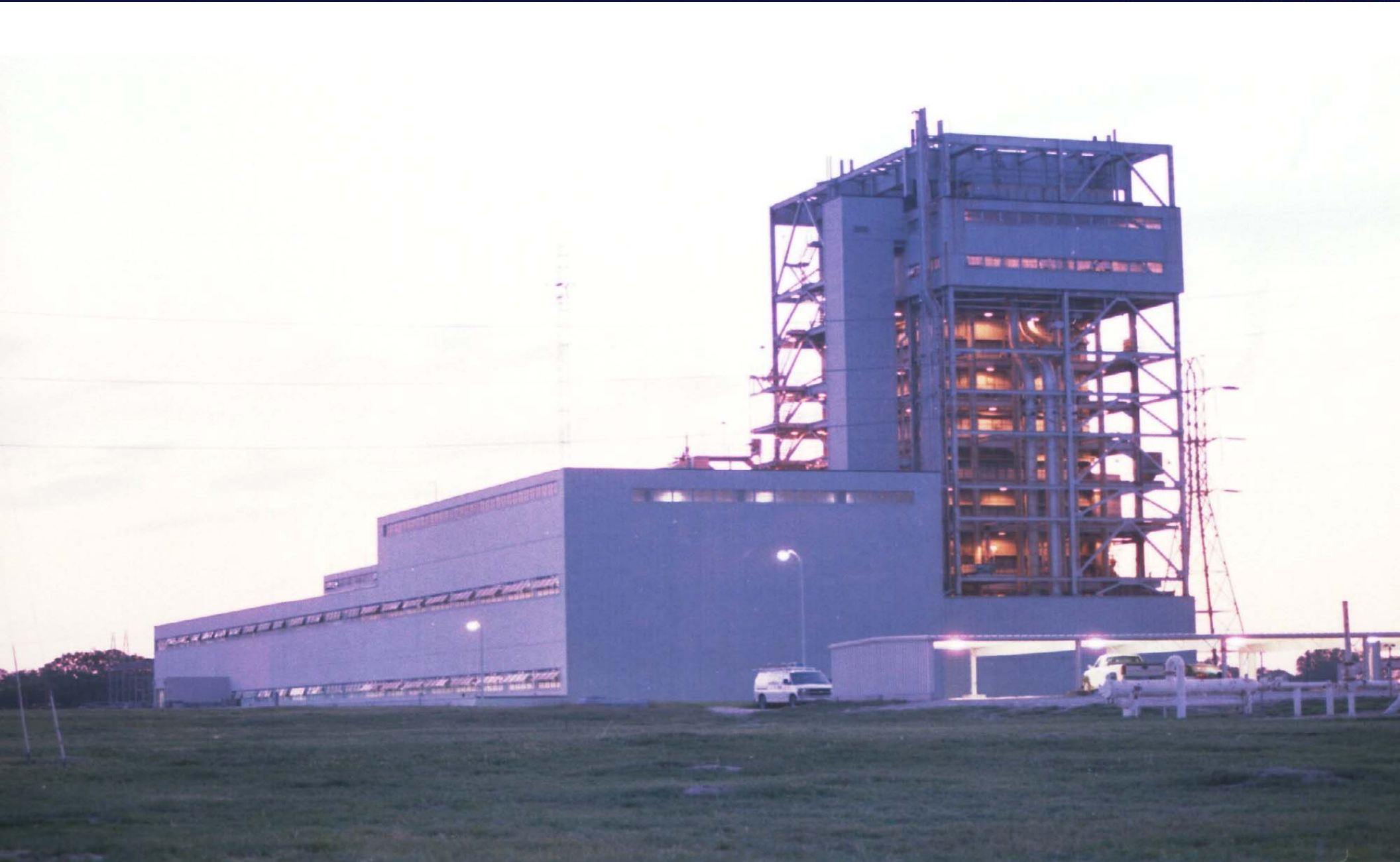


# Energy Center Efficiency Projects





# Unit retirement



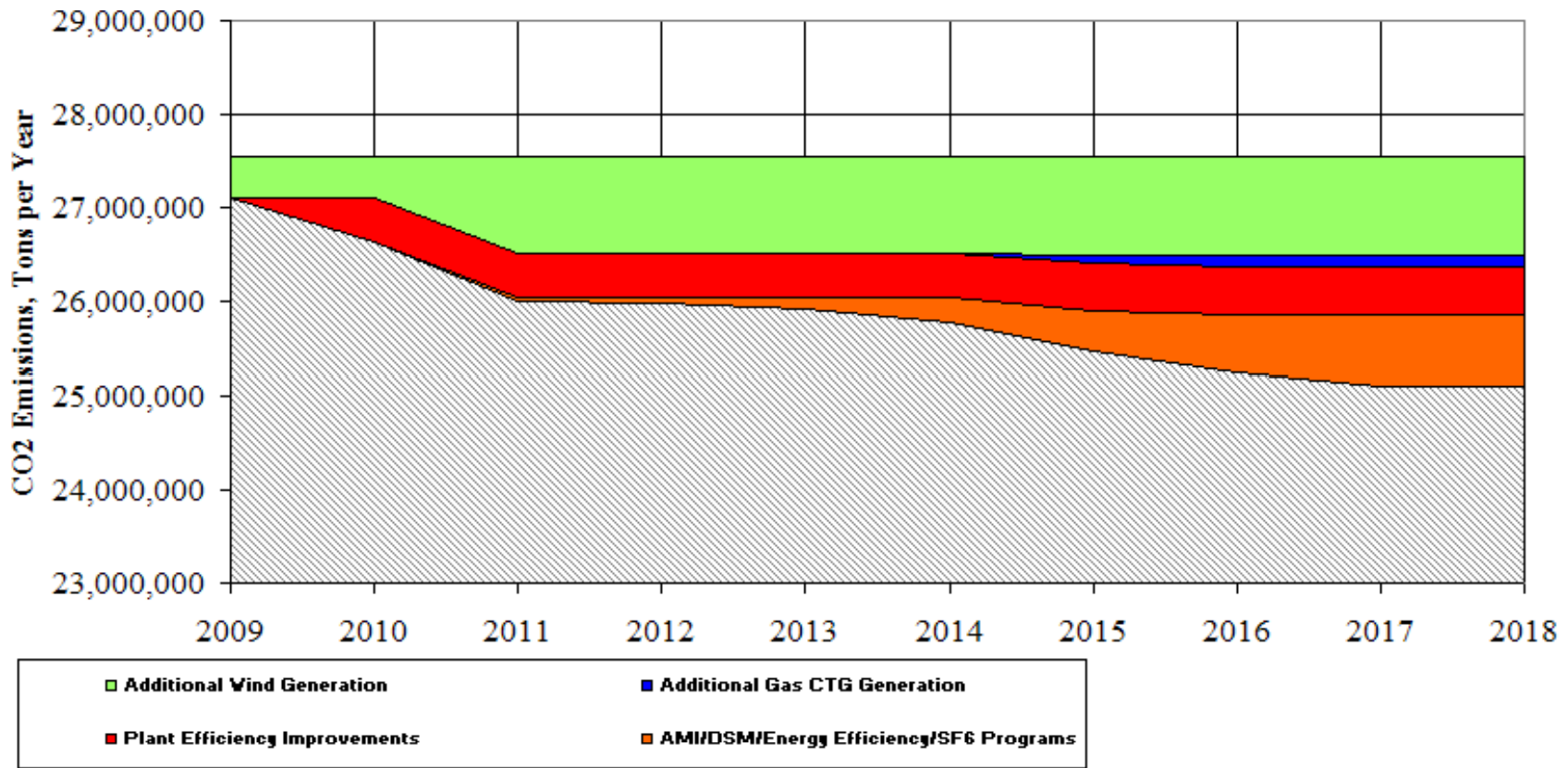


# Discontinue fuel oil combustion



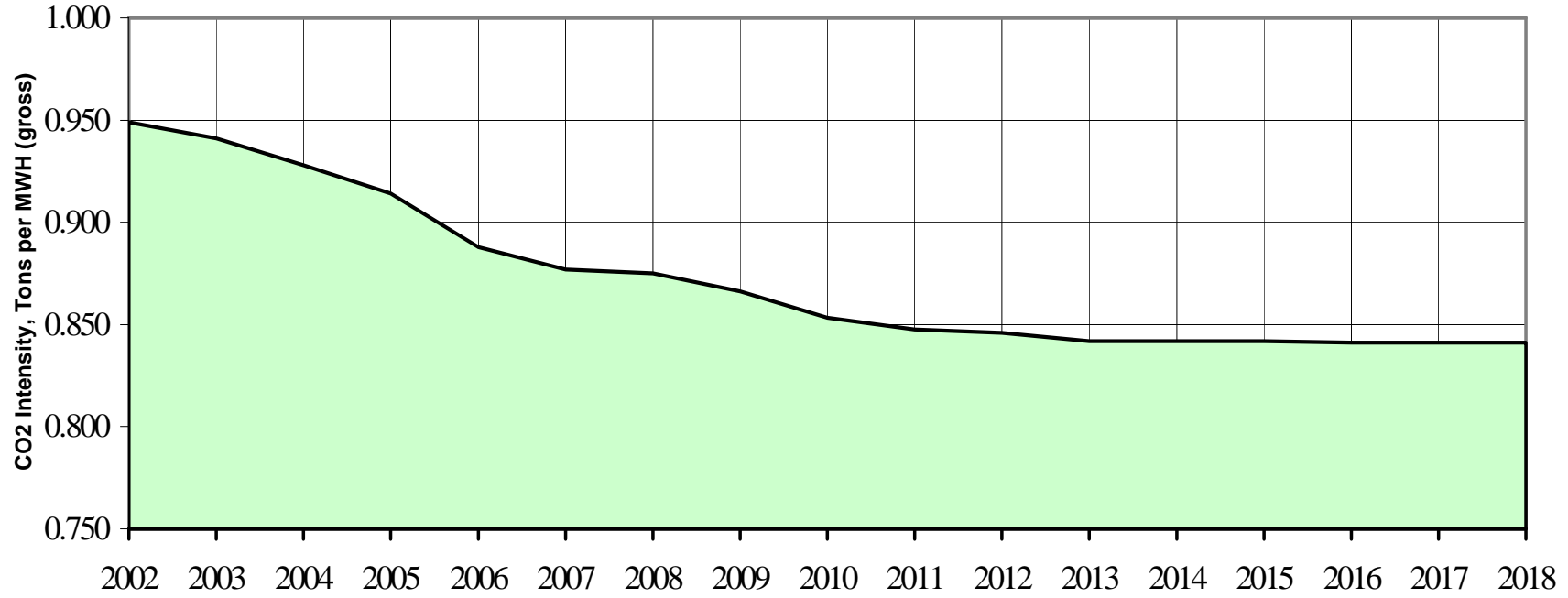


Westar Energy: Comparison of CO2 Emission Reduction Measures



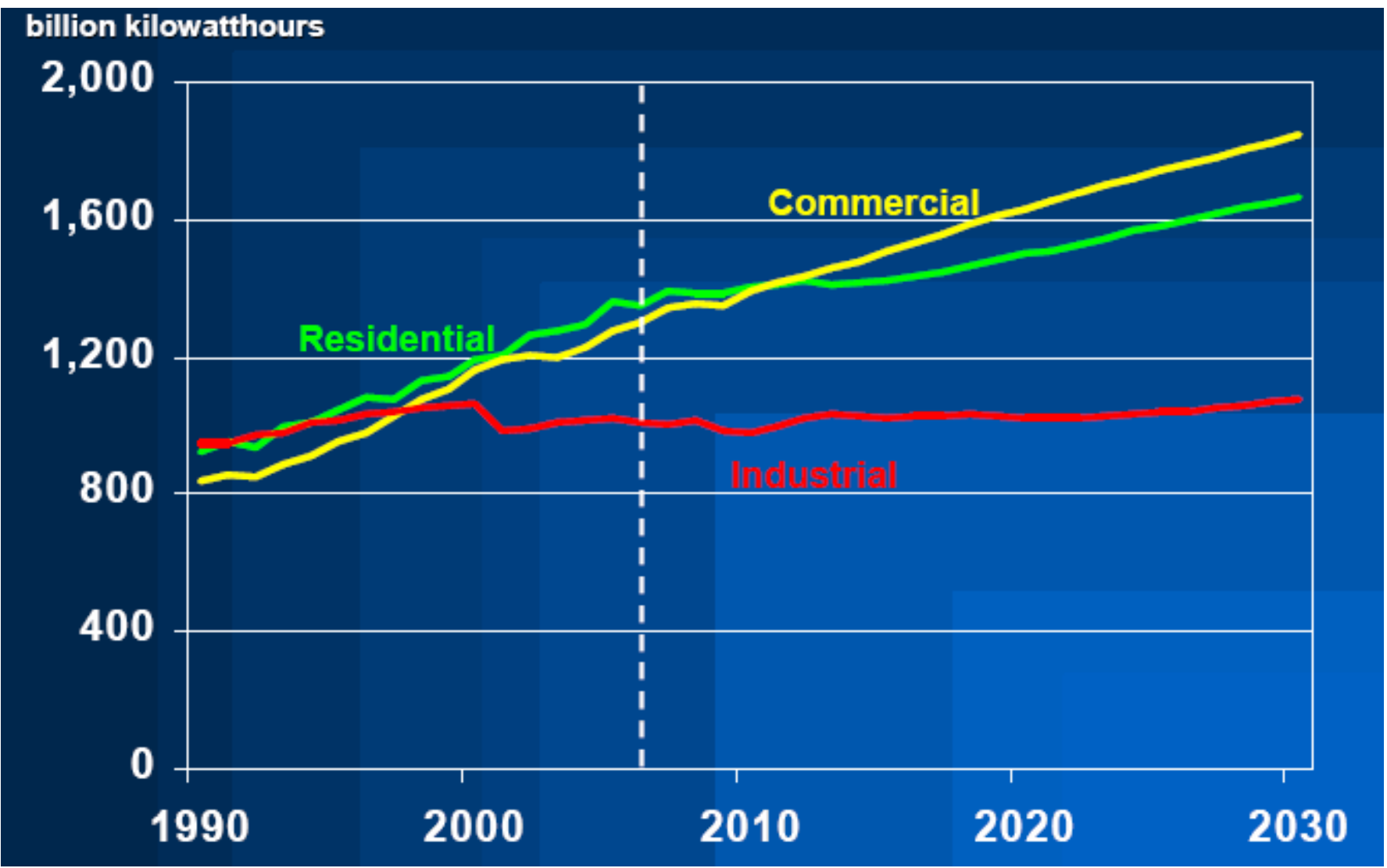


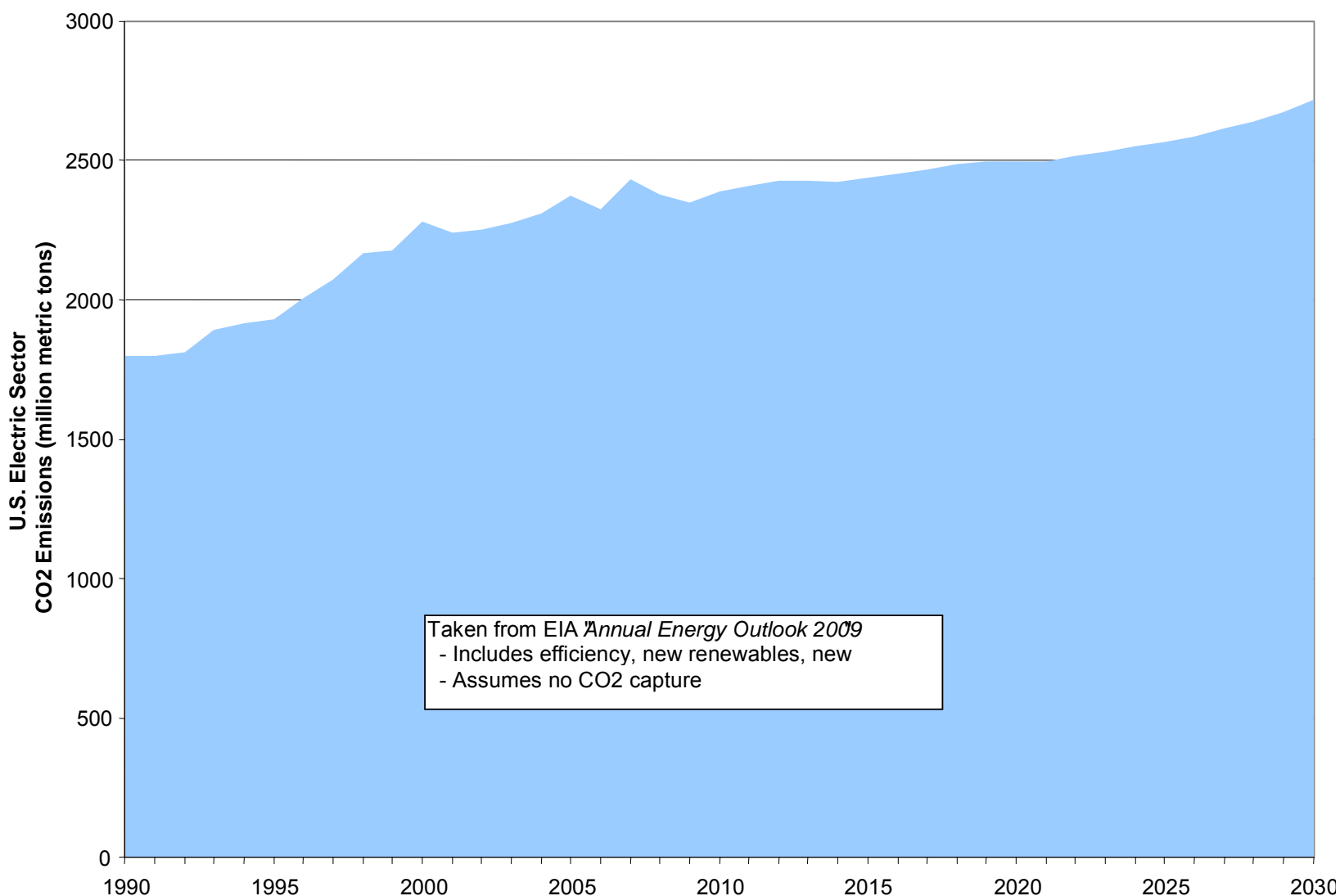
### Westar Energy: CO2 Intensity Rates

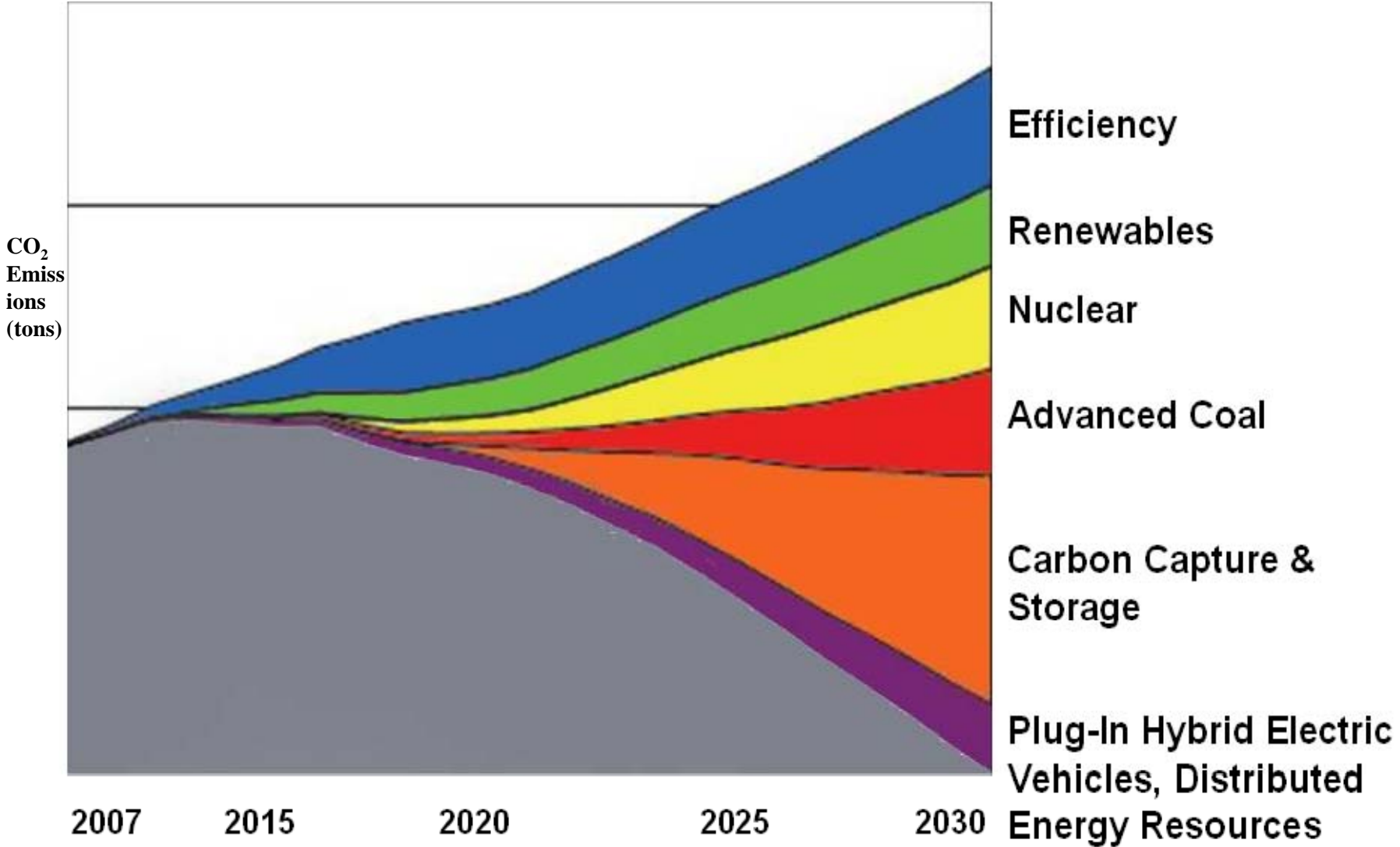




# Electric growth











# Questions?

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