

Impacts for Supply-Side Energy Efficiency Investments

David Schnaars
Manager, Environmental Strategies
Solar Turbines

- **Developing Climate Policy within the US Recognizes Energy Efficiency (EE) as a Natural and Powerful First Step to GHG Emissions Reduction**
- **EE Measures Can Be Readily Implemented on Both the Demand and Supply Sides Using Today's Technologies**
- **Significant Supply Side Reductions in GHG Emissions Are Achievable Through Combined Heat & Power (CHP) and Distributed Generation (DG)**

Conventional Generation

Combined Heat & Power:

Taurus 65 Gas Turbine

Efficiency: 84%

Efficiency: 31%

Power Plant

CO₂ Emissions
49k Tonnes/yr

CHP Plant

Power Station Fuel (U.S. Fossil Mix)
289 kg/MW-hr

6.1 MWe

CHP Fuel (Gas)
182 kg/MW-hr

Efficiency: 80%

Boiler Fuel (Gas)
182 kg/MW-hr

Boiler

Heat

9.2 MWth

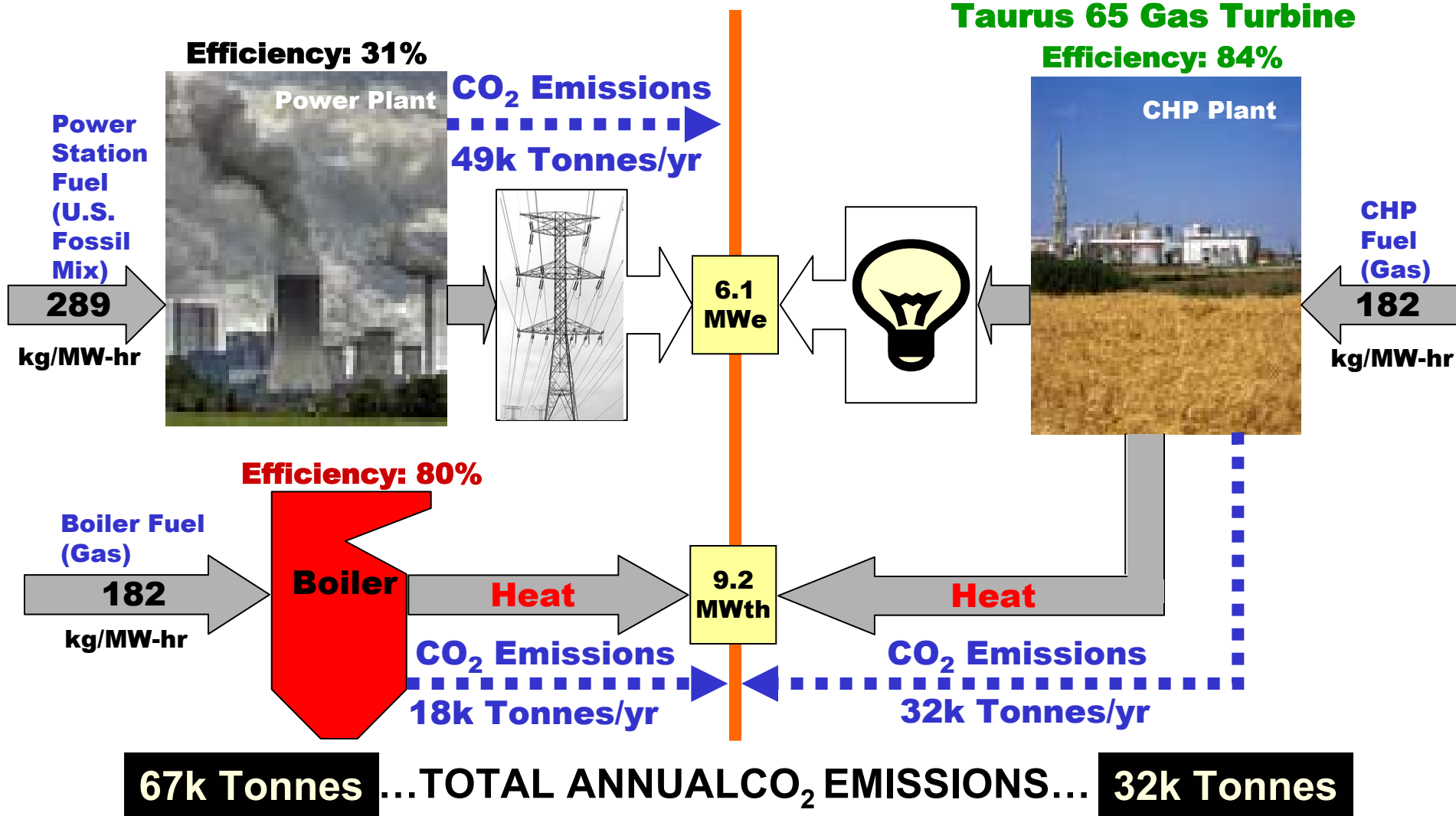
Heat

CO₂ Emissions
18k Tonnes/yr

CO₂ Emissions
32k Tonnes/yr

67k Tonnes ...TOTAL ANNUAL CO₂ EMISSIONS... 32k Tonnes

35k Tonnes Saved/Year



- Federal Energy Legislation May Include a Renewable Portfolio Standard Which Will Include Energy Efficiency
- Individual States Are Establishing Energy Efficiency Standards (EERS)



- **EERS Not Only Promote Supply-Side Investments by Utilities in EE but also Are Evolving a Market for EE Certificates**
- **Individual States Are Enacting Further Legislation to Promote Energy Efficiency and Distributed Generation:**
 - **Streamlined Interconnection**
 - **Equitable Standby and Backup Power Tariffs**
 - **Output-based Emissions Standards**
- **Regional US Cap-and –Trade Schemes Are Designating Proceeds from the Auction of Allowances to Be Funneled into Renewable Energy & Energy Efficiency**

- **Energy Efficiency is Being Recognized as a Key Link Between Energy Policy and Climate Change in both Public and Private Sectors**
- **The Business Community is a Natural and Strong Advocate of Energy Efficiency**
 - **It's Responsive to Increasing Shareholder Interest in Corporate Social Responsibility**
 - **It's a Cost effective Means for Meeting Corporate GHG Emissions Reduction Goals**
 - **It Increases the Sustainability of Existing Energy Supplies**
 - **It's Good Business!**