

Economics of Clean Coal

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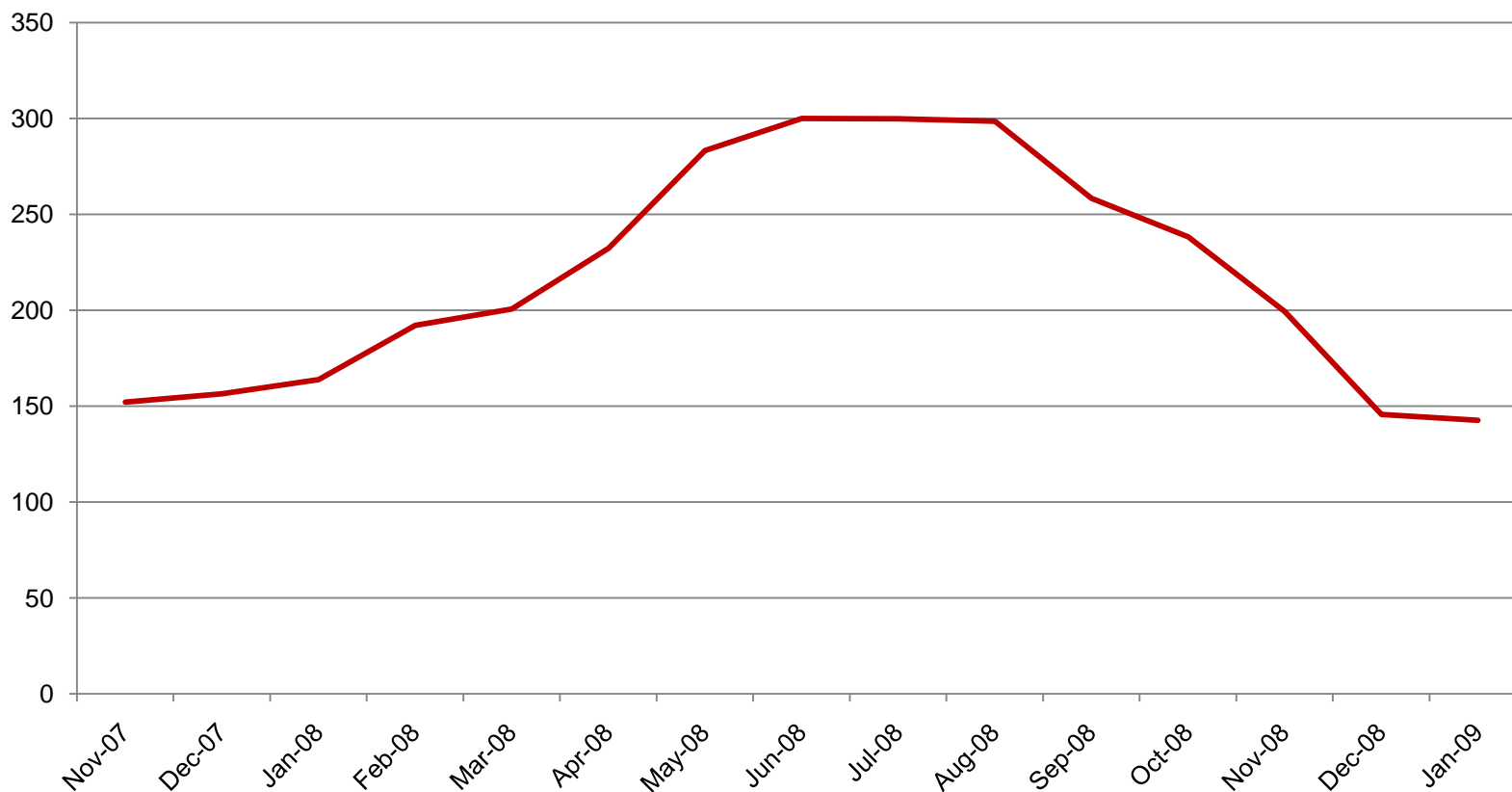
Cost of Clean Coal Generators is Unknown

- We have not built a new coal-fired facility with carbon capture
- The costs of the components that are used to build the facilities are changing

Costs are Changing

- Construction costs of coal-fired generation have been affected by the volatility of commodities
 - Steel
 - Concrete
 - Copper
- Commodity prices have been affected by the global economy

North American Hot Rolled Coil Steel Prices (US\$/ton)



Cost Estimates for Currently Available Technologies

Without CO2 Capture

Technology	Efficiency	Capital Cost	CO2 Emissions
Supercritical pulverized coal without CO2 capture	38%	\$2450/kW	0.86 metric tons/MWh
Integrated gasification combined cycle without CO2 capture	38%	\$2900/kW	0.83 metric tons/MWh

Data from Electric Power Research Institute

Cost Estimates for Currently Available Technologies

With CO2 Capture

Technology	Efficiency	Capital Cost	CO2 Emissions
Supercritical pulverized coal with CO2 capture	27%	\$4100/kW	0.124 metric tons/MWh
Integrated gasification combined cycle with CO2 capture	31%	\$4000/kW	0.10 metric tons/MWh

Data from Electric Power Research Institute

Cost Estimates for Future Technologies (assumes cost and performance improvements)

With CO2 Capture

Technology	Efficiency	Capital Cost	CO2 Emissions
Supercritical pulverized coal with CO2 capture	33%	\$3400/kW	0.10 metric tons/MWh
Integrated gasification combined cycle with CO2 capture	34%	\$3250/kW	0.10 metric tons/MWh

Data from Electric Power Research Institute