

Removal efficiency level, %

Process Listing

50-80%

1. As above, with normal amount of catalyst
2. Combustion modifications (all types) followed by non-catalytic reduction (ammonia injection without catalyst)
3. Combustion modifications alone (for lower levels of removal minimize boiler problems)
4. Low-NO<sub>x</sub> burners

Below 30%

1. Staged combustion<sup>a</sup>
2. Low-NO<sub>x</sub> burners<sup>a</sup>
3. Flue-gas recirculation (except for coal<sup>a</sup>)

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<sup>a</sup> Used in combination with others, if necessary, to achieve the required reduction level.

The capital costs associated with combustion modification techniques for the control of NO<sub>x</sub> emissions from thermal power plants are estimated at:

<u>Techniques</u>	<u>Capital Cost</u>	<u>Lowest Achievable NO<sub>x</sub> Emission Level</u>
Low Excess Air	\$0	0.9 lb per 10 <sup>6</sup> Btu
Staged Combustion (over-fired air)	\$2-3/kW	0.7 lb per 10 <sup>6</sup> Btu
Low-NO <sub>x</sub> Burners	\$2-\$10/kW	0.4-0.5 lb per 10 <sup>6</sup> Btu

The capital cost estimates for NO<sub>x</sub> control vary considerably due to site-specific variables (e.g., boiler type). The uncertainty in the cost data ranges from -10 percent to +30 percent. Furthermore, the cost of flue gas treatment (FGT) processes for NO<sub>x</sub> control have not yet been determined.