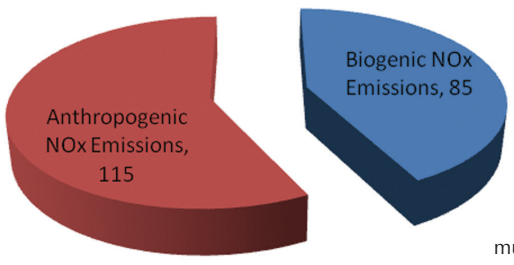
Chinese Power Plants Emit as Much NO_X as All the Passenger Cars in the World

China has spent more on equipment to reduce NO_X from power plants in the last two years than any other country, but it has a long way to go. The installed capacity of deNOx systems at the end of 2010 was 58,000 MW. This means that about 10 percent of the total coal-fired capacity of 600,000 MW is fitted with deNOx equipment. By contrast, two-thirds of the capacity is fitted with scrubbers to remove acid gases such as SO_2. McIlvaine Company forecasts the market for deNOx systems in World NO_X Control Markets and tracks each individual Chinese air pollution control project in Chinese Utility Plans.

There are 200 power boilers at 100 plants in China which have installed Selective Catalytic Reduction systems (SCR). These power plants are mainly located in the population centers of Beijing, Guangdong, Zhejiang, Jiangsu, Shanghai, Fujian, Shanxi, etc. Only four power plants have installed the less efficient but cheaper Selective Non-Catalytic Reduction (SNCR) systems. All boilers installed since 2003 are equipped with Low NO_X burners.

World NOx Emissions 200 million tons/yr 2010

Biogenic emissions	85
Anthropogenic emissions	115



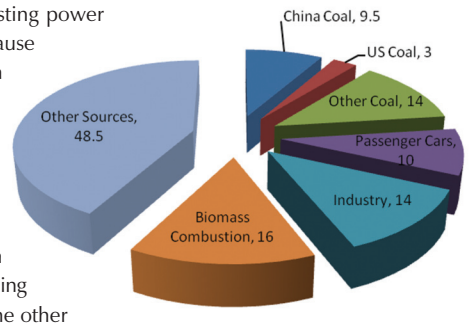
The NO_X emissions from Chinese coal-fired power plants were 9.5 million tons in 2010. This compares to three million tons of emissions from U.S. power plants. Japan, South Korea, Taiwan and all of Europe have higher percentages of NO_X control on power plants than the U.S. has. The result is that the Chinese and U.S. coal-fired power plants together emit almost as much NO_X as the coal plants in the rest of the world combined.

Man-made or anthropogenic emissions account for 57 percent of the total. Chinese power plants emit 8.2 percent of the world's anthropogenic NO_X. Chinese power plants emit as much NO_X as all the passenger cars in the world. India and other Asian countries are planning large numbers of new coal-fired power plants so the percentage contribution of China and the U.S. will shrink.

China has already demonstrated its willingness to spend large sums of money to clean up power plant emissions. Because there are so many existing power plants without NO_X control systems and because China continues to lead the world in construction of new power plants, it will be the largest NO_X control market over the next decade.

World Anthropogenic Emissions 115 million tons

Chinese coal-fired power plants	9.5
Other coal-fired power plants	14
U.S. coal-fired power plants	3
Passenger cars	10
Industry	14
Biomass combustion	16
Other sources	48.5



The market is served by a mix of Chinese and international companies. Initially all the technology came from outside of China. Now there are a number of experienced system vendors, including CPI Yuanda, Fujian Longjin, Beijing Guodian China Datang, Shanghai Electric and nine other significant suppliers.

There is rapidly growing catalyst manufacturing capability. It started with KWH of Germany transferring operations to Sichuan in 2004. A number of other facilities are now in operation. Cormetech of the U.S is partnering with China Chongqing Yuanda and operates a 10,000 M^3/yr catalyst facility in Chongqing. A total of seven Chinese catalyst manufacturers are profiled in World NO_X Control Markets.

Catalyst regeneration and replacement is presently very small market in China because most installations are less than five years old. However, in the longer term, China will offer the largest regeneration and replacement market. Through 2020 the U.S. will be the largest catalyst replacement and regeneration market. Since most international catalyst manufacturers are working at near capacity and the domestic capacity is raising, the potential for import of catalyst to China will diminish.