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2007-2008年中国脱硫行业研究报告

China Desulphurization Industry Report, 2007-2008

序号	EA008	报告名称	2007-2008 年中国脱硫行业研究报告				
字数	2.8 万	图表数量	27	报告页数	55	完成时间	08 年 5 月
语种	中文	电子版价格(RMB)		6000	纸质版价格(RMB)		5500
语种	英文	PDF (USD)		$ 1,800	Hard Copy (USD)		$ 1,700

摘要

近年来，中国二氧化硫排放量已居世界第一，连续多年超过 2000 万吨，其中火电厂排放二氧化硫接近总量的 50%。“十五”期间不仅没有完成削减 20%的任务，反而增加了 27%，导致环保目标成为“十五”期间唯一没有完成的国民经济考核指标。

2007 年，脱硫公司工程合同容量 3.74 亿千瓦，投运总容量 2.08 亿千瓦。石灰石-石膏湿法是脱硫公司最广泛采用的脱硫方法；另外，烟气循环流化床法也得到一定的应用。

2006 年和 2007 年脱硫容量对比

项 目			2006 年	2007 年	同比增长（%）
合同容量	登记的脱硫公司	容 量（亿千瓦）	2.76	3.74	35.5%
		占全国脱硫工程合同总容量的比例（%）	92.0	93.5	1.5%
	前二十名脱硫公司	容 量（亿千瓦）	2.61	3.60	37.9%
		占全国脱硫工程合同总容量的比例（%）	87	90	3%
投运容量	登记的脱硫公司	容 量（亿千瓦）	1.18	2.08	76.3%
		占全国投运脱硫机组总容量的比例（%）	73.8	77.0	3.2%
	前二十名脱硫公司	容 量（亿千瓦）	1.12	2.01	79.5%
		占全国脱硫机组投运总容量的比例（%）	70	75.0	4.4%

数据来源：国家环保总局

鉴于市场已经过充分竞争，竞争格局基本形成，同时脱硫设备国产化程度也不断提高，所以我们认为，未来虽然毛利率随项目报价一起下滑，但降幅空间已经不大，预计行业毛利率徘徊在 15%~20%之间。

2007 年 3 月底，国家发改委联合环保总局印发了《现有燃煤电厂二氧化硫治理“十一五”规划》（下称《规划》）。《规划》提出，到 2010 年，现有燃煤电厂二氧化硫将比 2005 年下降 61.4%。

《规划》提出，“十一五”期间，现有燃煤电厂需安装烟气脱硫设施 1.37 亿千瓦，共 221 个项目，可形成二氧化硫减排能力约 490 万吨。加上淘汰落后、燃用低硫煤、节能降耗等措施，到 2010 年，现有燃煤电厂二氧化硫排放总量由 2005 年的 1300 万吨下降到 502 万吨，下降 61.4%。

而根据《关于加快关停小火电机组若干意见》，新建燃煤机组必须同步建设高效脱硫除尘设施，小火电关停范围以外现役单机 13.5 万千瓦以上燃煤机组要尽快完成脱硫设施改造。安装脱硫设施但未达标排放的燃煤机组不得执行脱硫机组电价。

	火电行业是二氧化硫排放的主要来源。《规划》的实施，对实现“十一五”时期全国二氧化硫排放总量削减 10%的约束性目标和改善全国大气环境质量将起决定性作用。 按照规划要求，现有燃煤电厂需安装烟气脱硫设施 1.37 亿千瓦，若以脱硫工程每千瓦投入 200 元计，未来数年中国的脱硫市场规模高达 274 亿元。
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Title	**China Desulphurization Industry Report, 2007-2008**	Pages	55
Price	PDF USD $ 1,800 Hard Copy USD $ 1,700 Enterprise wide USD $ 2,700	Release Date	May/2008

Abstract

In the recent years, China has been on the top of the world in terms of sulfur dioxide emission, which has surpassed 20 million tons annually for a few years consecutively. Of which, nearly half of the emissions were from coal-fired power plants. During the Tenth Five-Year Plan period (2001-2005), China not only failed to hit its target to cut the emissions by 20%, but also actually increased the emissions by 27%, making the environment protection target the only national economic assessment indicator that China missed.

In 2007, the total capacity of contracted projects of desulphurization companies was 374 million kw, of which 208 million kw was put into operation. Limestone—gypsum wet desulphurization was the most widely used method by desulphurization companies. In addition, flue gas desulphurization-based circulating fluidized bed was also used to a certain extent.

Comparison of Desulphurization Capacity between 2006 and 2007

Item			2006	2007	Y-o-Y Growth
Contracted capacity	Registered desulphurization companies	Capacity (million kw)	276	374	35.5%
		Proportion to national total contracted capacity (%)	92.0	93.5	1.5%
	Top 20	Capacity (million kw)	261	360	37.9%

	companies	total contracted capacity (%)			
Capacity in operation	Registered desulphurization companies	Capacity (million kw)	118	208	76.3%
		Proportion to national total capacity of desulphurization units in service (%)	73.8	77.0	3.2%
	Top 20 desulphurization companies	Capacity	112	201	79.5%
		Proportion to national total capacity of desulphurization units in service (%)	70	75.0	4.4%

Source: Ministry of Environment Protection of the PRC

As the market has experienced full competition, so the competition pattern has basically formed. In addition, localization rate of desulphurization equipment are constantly increasing. Therefore, we believe that although gross profit margin will fall in tandem with the drop in project quotes in the future, the fall won't be big. We predict that the gross profit margin of the industry will hover at the level ranging 15% to 20%.

At the end of March of 2007, the National Development and Reform Commission and Ministry of Environment Protection jointly issued the 11th Five-Year Plan for SO2 Pollution Control of Existing Coal-fired Power Plants. According to the plan, existing coal-fired power plants will cut their SO2 emission by 61.4% on 2005 basis.

In the light with the plan, China's existing coal-fired power plants are required to install flue gas desulphurization units with a total capacity of 137 million kw, covering 221 projects, which will reduce 4.9 million tons of SO2 emission.

Along with other measures, such as elimination of outdated production facilities, use of low sulfur content coal, energy-saving and emission reduction, it is forecast that SO2 emission of existing coal-fired power plants will reduce to 5.02 million tons in 2010 from 13 million tons posted in 2005, representing a fall of 61.4 percent.

According to Several Opinions Regarding Acceleration of Shutting Down Small Thermal Power Generating Units, newly-built coal-fired generating units must be simultaneously accompanied with the construction of high-efficiency desulphurization and dust removal facilities. Except small thermal power plants to be shut down, power plants with a capacity of 135,000 kw per unit in service should complete the renovation of their desulphurization facilities as soon as possible. Coal-fired generating units, which have installed desulphurization units but have failed to meet emission standards, will not enjoy the favorable

	tariff for desulphurized generating units. Thermal power industry is the major sources of SO2 emission. The enforcement of the plan will play a decisive role in achieving the binding targets to cut SO2 emission by 10% and improving the quality of atmospheric environment in China. According to the plan, existing coal-fired power plants will install flue gas desulphurization units with a total capacity of 137 million kw. Supposing that the desulphurization projects need a capital input of CNY200 per kw, China's desulphurization market in the next few years will reach CNY27.4 billion.
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