INDUSTRIAL FLUE GAS TREATMENT SYSTEMS & SERVICES MARKET

BY POLLUTANT CONTROL SYSTEM (FGD, $DeNO_x$, Particulate Control, Mercury Control)

BY APPLICATION (Power Generation, Cement, Iron & Steel, Chemical & Others)

— Global Trends & Forecasts To 2019

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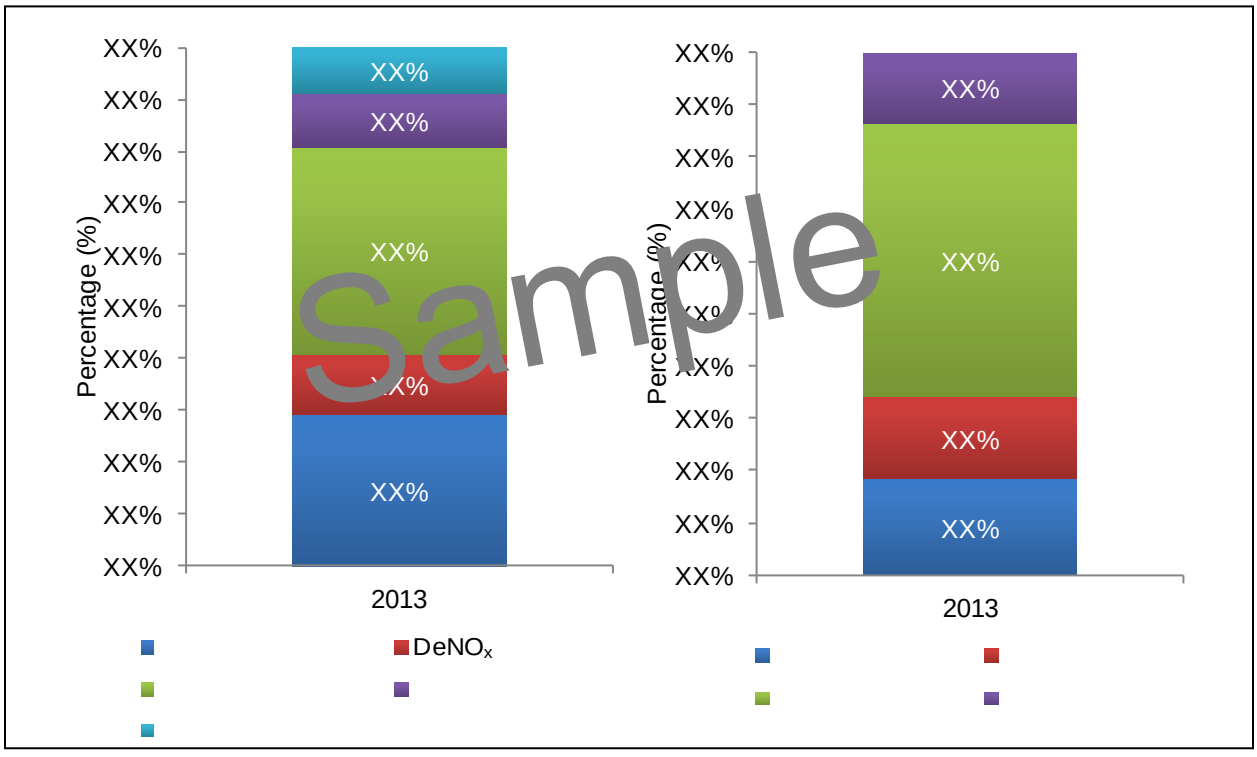
1 EXECUTIVE SUMMARY

The industrial flue gas systems and services market is segmented into five categories, namely, flue gas desulfurization, DeNOx, particulate control, mercury control, and others (VOCs, dioxins, HCl, HF etc.).The overall industrial flue gas treatment systems and services market is growing at a significant rate, driven by the stringent regulations in developed countries and rising demand in the emerging economies. The global industrial flue gas treatment systems and services market was valued at $XX billion in 2013, and is poised to grow at a CAGR of XX% from 2014 to reach $XX billion by 2019.

FIGURE 1

INDUSTRIAL FLUE GAS TREATMENT SYSTEMS & SERVICES MARKET SHARE (VALUE), BY POLLUTANT CONTROL SYSTEM & GEOGRAPHY, 2013



Source: Secondary Research, Expert Interviews, and MarketsandMarkets Analysis

Particulate control (ESPs and fabric filters) form the largest segment of industrial flue gas treatment systems and services market with $XX billion market size in 2013. It is poised to grow at steady CAGR of XX% over the projected period. Particulate control systems are used in several applications including power generation, cement manufacturing, and iron and steel industry. Technological improvements in particulate control systems have lead to the development and introduction of hybrid filters (combination of ESPs and bag filters), which will boost the market. The overall market will also experience a rise in retrofit demand from the power and cement sectors; with upgrades required for many ESPs that were installed XX years to XX years ago, so that they comply with the new regulations. This creates opportunities for hybrid filters.

The enforcement of federal laws and regulations that mandate the industries to install pollution control equipment, have spurred the growth of industrial flue gas treatment systems. In developing countries such as India, the FGD market will particularly benefit from the strict regulations for emission of sulfur oxides (SOx). The recent Mercury and Air Toxic Standards (MATS) established by the U.S. Environmental Protection Agency (EPA) is expected to drive the mercury control equipment and services market early in the projected period as the deadline for coal-fired power plants to meet these regulations is April 2015.

2 INDUSTRIAL FLUE GAS TREATMENT SYSTEMS & SERVICES MARKET, BY POLLUTANT CONTROL SYSTEM

2.1 FLUE GAS DESULFURIZATION (FGD) SYSTEMS

2.1.1 OVERVIEW

Flue gas desulfurization (commonly known as FGD) is the technique used for treating flue gas for removal of sulfur oxides (SOx), particularly sulfur dioxide (SO2) and sulfur trioxide (SO3). Typically, these flue gas desulfurization systems also help in the removal of other acid gases such as HCl and HF, and to some extent heavy metals such as mercury. During the combustion of fuels such as coal or oil in industrial utilities, elemental sulfur present in the fuel reacts with oxygen in the ambient air and produces sulfur dioxide, which is harmful to the environment as well as human health. The sulfur content in coal can be as high as XX%, although XX%-XX% is most common, depending on the location of the mine.

The concern for reducing the industrial emission of sulfur oxides led to the increase in stringency of industrial emission control policies in the U.S. and Europe. These regulations are mandating the industries to install flue gas desulfurization systems and curb the SOx emissions to below the permissible limit. However, regulations in Asia-Pacific and Africa are yet to be toughened. Environmentalists and suppliers of flue gas treatment systems are optimistic that strict regulations are soon to be imposed in these countries.

Typically, (wet) flue gas desulfurization systems are installed after the particulate removal equipment such as ESPs or bag filters. Once the flue gas is free from particulate matter, it is directed to the spray tower/absorber where it comes in contact with an alkaline sorbent (often lime or limestone slurry in wet process) in countercurrent direction. The sulfur dioxide in the flue gas stream reacts with the sorbent and forms an insoluble precipitate, which is then continuously removed from the system throughout the operation.

Based on the process and sorbent used, the flue gas desulfurization market can be segmented into two categories namely, wet FGD systems and dry FGD systems.

TABLE 1

INDUSTRIAL FLUE GAS DESULFURIZATION SYSTEMS & SERVICES MARKET VALUE, BY TYPE, 2012-2019 ($MILLION)

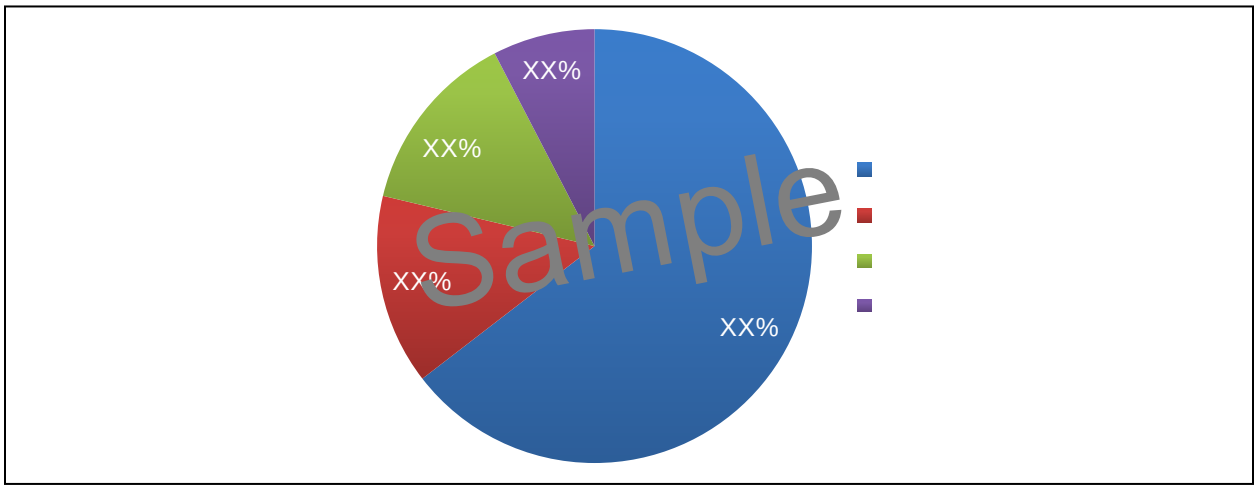
FGD type	2012	2013	2014	2019	CAGR % (2014-2019)
Wet FGD systems	XX	XX	XX	XX	XX
Dry FGD systems	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX

Source: Secondary Research, Expert Interviews, and MarketsandMarkets Analysis

The industrial flue gas desulfurization systems and services market in 2013 was estimated at $XX million and is projected to reach $XX million by 2019, growing at a CAGR of XX% from 2014 to 2019. The wet FGD systems and the associated services dominated the market by occupying a share of XX% in 2013; this can be attributed to the fact that wet FGD systems are commercially successful and have lower operational and maintenance costs, and produce marketable by-products.

FIGURE 2

INDUSTRIAL FLUE GAS DESULFURIZATION SYSTEMS & SERVICES, MARKET SHARE (VALUE), BY GEOGRAPHY, 2013



Source: Secondary Research, Expert Interviews, and MarketsandMarkets Analysis

TABLE 2

INDUSTRIAL FLUE GAS DESULFURIZATION SYSTEMS & SERVICES MARKET VALUE, BY GEOGRAPHY, 2012-2019 ($MILLION)

Region	2012	2013	2014	2019	CAGR% (2014-2019)
North America	XX	XX	XX	XX	XX
Europe	XX	XX	XX	XX	XX
Asia-Pacific	XX	XX	XX	XX	XX
ROW	XX	XX	XX	XX	XX
Total	XX	XX	XX	XX	XX

Source: Secondary Research, Expert Interviews, and MarketsandMarkets Analysis

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