

## Flue Gas Desulphurisation (FGD); the next battlefield

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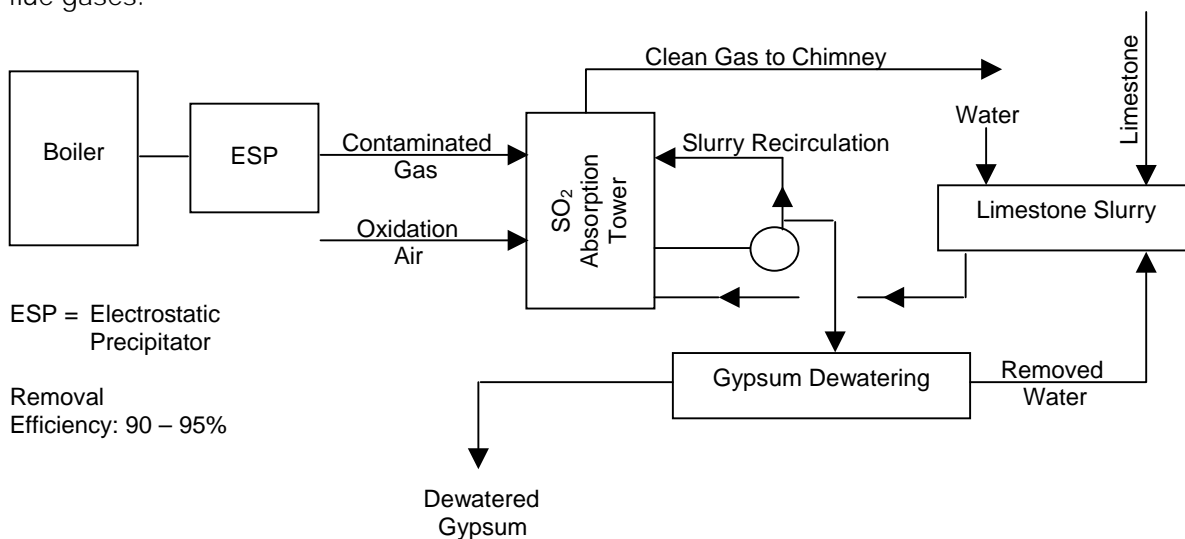
The privatisation of the UK electricity industry at the end of the 1980s and the subsequent dash for gas, led to several disputes relating to hastily constructed power stations employing combined cycle gas turbine (CCGT) generation plant.

There may be other gas-fired power stations even if the Government implements a nuclear programme, because of the long lead times for the latter. In the meantime FGD may generate a number of disputes in the UK and abroad. The potential problems known to Cadogan relate to performance, materials, construction, corrosion and delays.

FGD is being retrofitted to coal-fired power stations across Europe to comply with the EU Large Combustion Plant Directive (LCPD). There will be 12 stations in the UK alone.

LCPD is applicable to combustion plant with a thermal output in excess of 50MW and its objective is to mitigate acidification and levels of particulates and ozone by controlling emissions of sulphur dioxide (SO<sub>2</sub>), particulate matter (PM) and nitrous oxides (NO<sub>x</sub>) from power stations, refineries and other industrial plant.

FGD is for SO<sub>2</sub> control and its main component is an absorption tower to remove SO<sub>2</sub> from flue gases.



Limestone (CaCO<sub>3</sub>) and water are mixed to form a slurry which is sprayed into the tower to react with SO<sub>2</sub> to form calcium sulphite (CaSO<sub>3</sub>). The CaSO<sub>3</sub> is then exposed to air and reacts with oxygen to form calcium sulphate (CaSO<sub>4</sub>) which is known as gypsum.

The gypsum slurry is dewatered and the gypsum is used to manufacture products such as plasterboard. The removed water is used to make more limestone slurry which is returned to the tower.