

Flue Gas Desulphurisation Wastewater Treatment

HKPC TechDive - Environmental Technology
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Coal Energy is

- ✓ **Cheap**
- ✓ **Reliable**

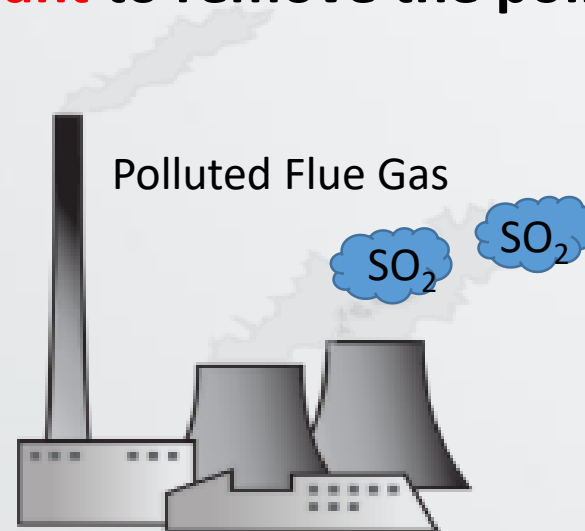
Therefore,

Become a major power sources in many developing countries

However.....

It produces polluted SO_2 containing flue gas

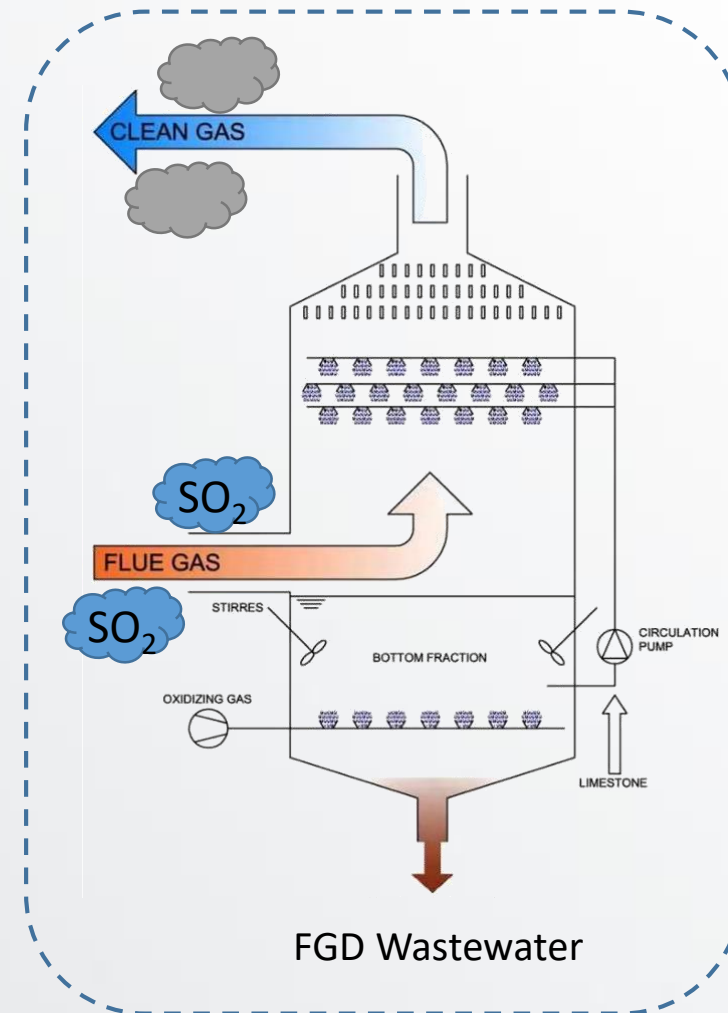
which needs to install a **flue gas Desulphurisation (FGD) plant** to remove the pollutant SO_2



Coal Fired Power Plant

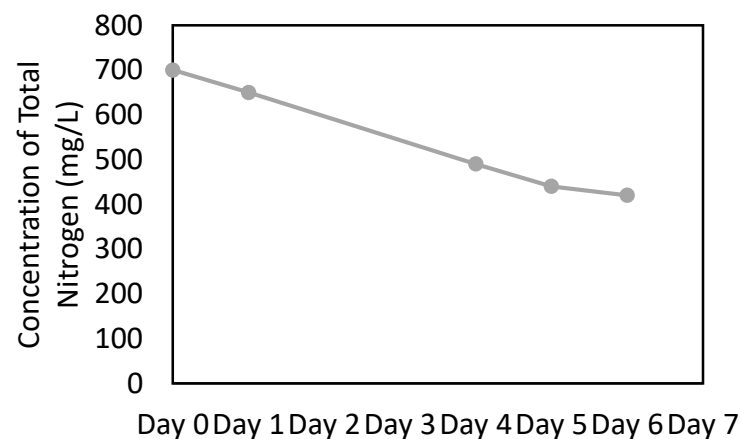
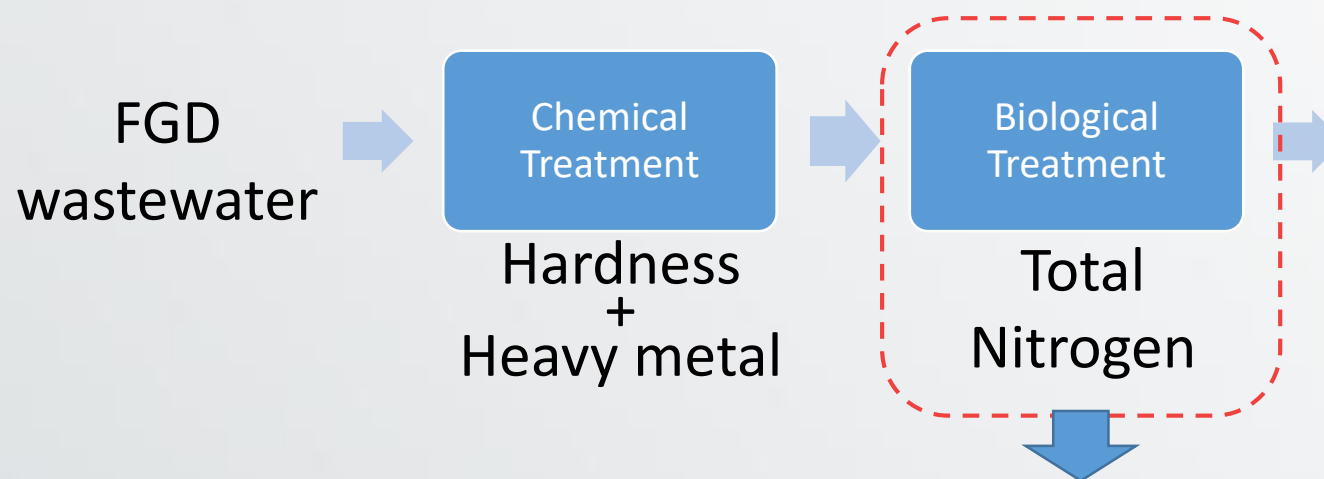
Through the FGD plant,
✓ polluted flue gas is purified

But at the same time,
X polluted FGD wastewater would be generated
X FGD wastewater **containing non biodegradable nitrogenous compound**, heavy metal, hardness, and others pollutants



FGD Plant

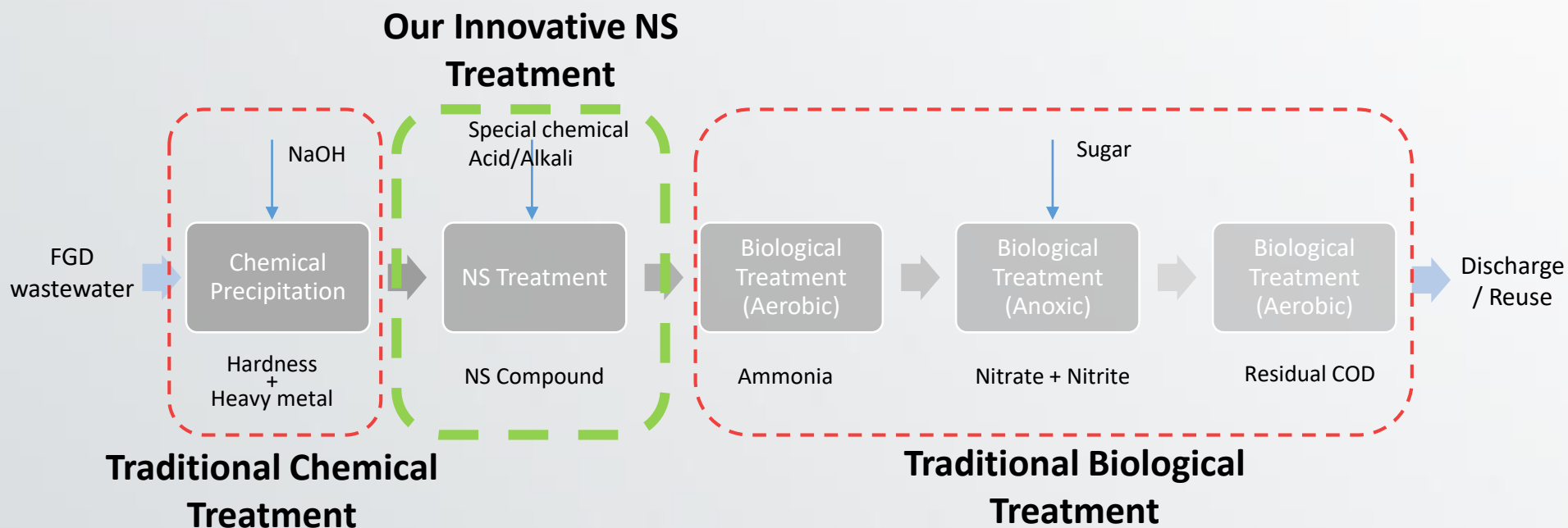
Traditional wastewater treatment method is poor performance




Poor Performance!

We adopt an innovative NS treatment method

The pollutant, total nitrogen content, is reduced and treated FGD wastewater **meet the discharge level**



Patent

 香港特別行政區政府知識產權署專利註冊處 Patents Registry, Intellectual Property Department The Government of the Hong Kong Special Administrative Region	
REGISTER OF PATENTS REGISTER ENTRY	
專利編號 Patent No.	:HK1251784
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發明名稱 Title 一種用於燃煤電廠脫硫廢水的總氮處理工藝 A TOTAL NITROGEN TREATMENT PROCESS FOR DESULFURIZATION WASTEWATER IN COAL-FIRED POWER PLANTS	
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Geneva Award



First Invention



Case Reference

CLP – Castle Peak Power Station

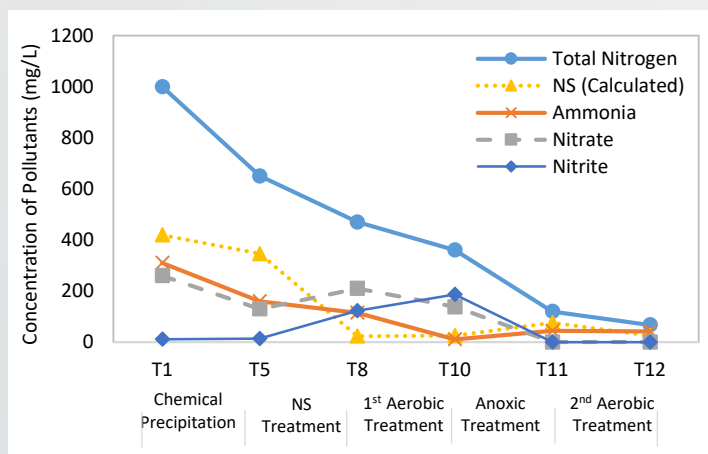
- Pilot test has been performed in 2017
- Detail design has been completed in 2019



Case Reference - Finding

■ Investigation of Change in Nitrogen Components along the Treatment Process

- Total nitrogen declines along the process
- Almost all NS components was removed after NS treatment process



Change in Nitrogen Component along the Treatment Process



Determinant	Raw	Treated
Total Nitrogen	946	23.4

Next Step

Mainland China, Vietnam and other developing countries





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