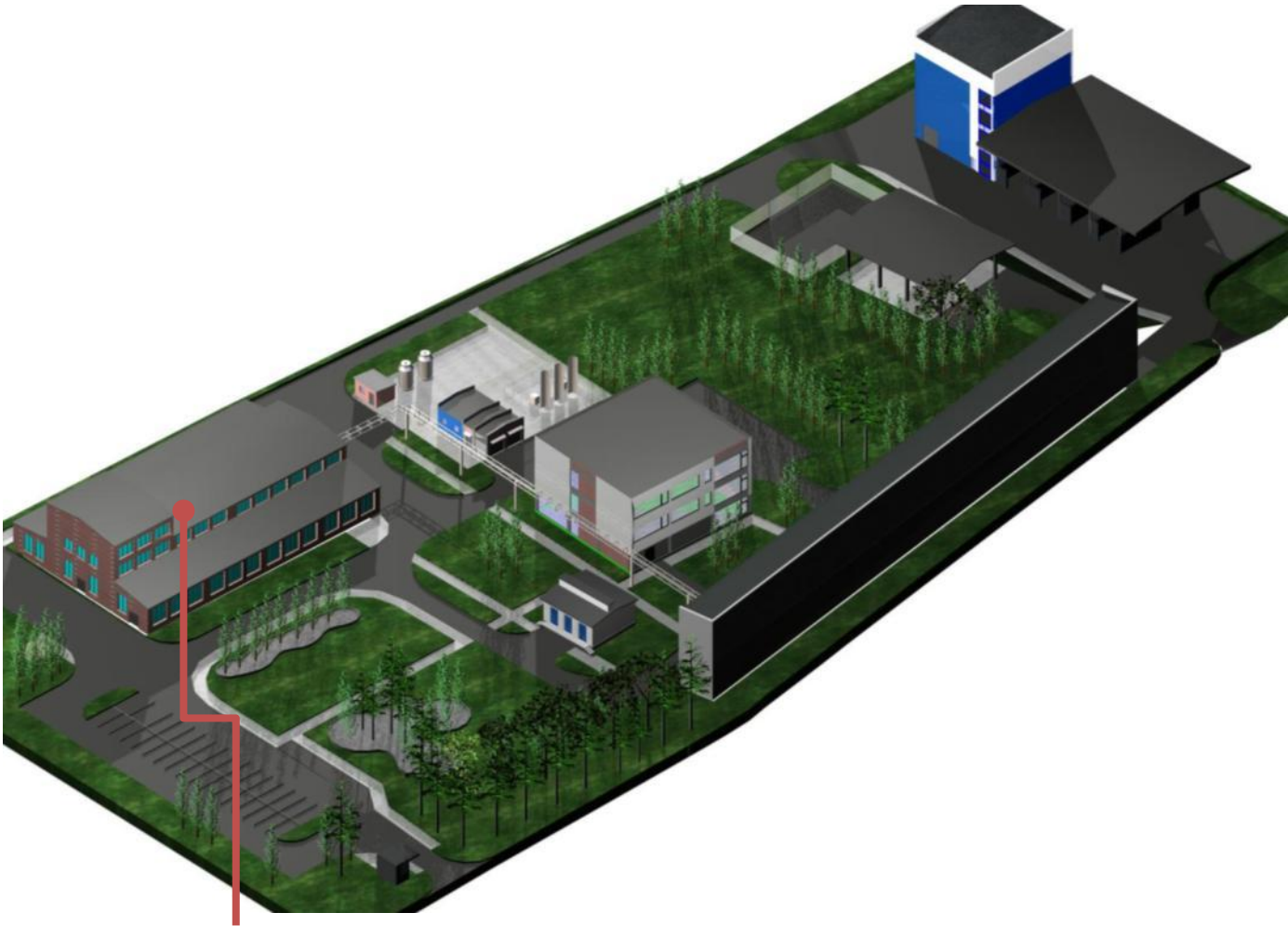


CLEAN COAL TECHNOLOGY CENTRE

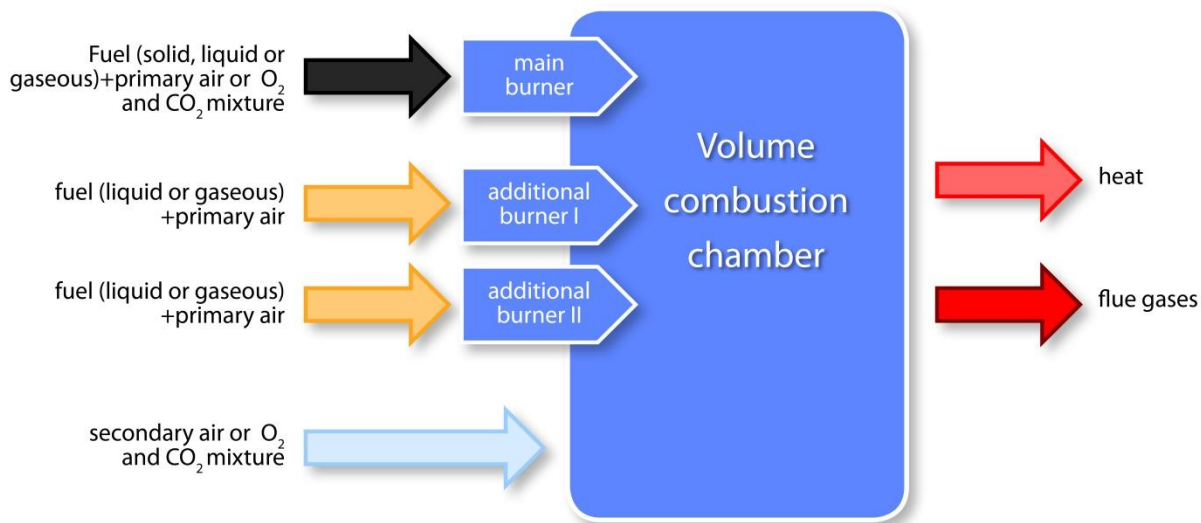


Testing plant with turbulent combustion chamber

Testing plant with turbulent combustion chamber

The plant is designated to investigate energy and emission properties of solid, liquid and gaseous fuels volume combustion /co-combustion processes as well as solid fuels oxy-combustion process.

The plant is equipped with the following facilities: combustion chamber, dedusting equipment, flue gas cooler, set of replaceable burners adjusted to burn fuels of various state (solid, liquid and gaseous) as well as primary and secondary air heaters. Technical and process gases are supplied from the installation of gasification and oxy-combustion of solid fuels in a pressurized reactor with circulating fluidized bed.



Technical characteristics

Rated flowrate of the fuel to the main burner	solid- 20kg/h, liquid - 13.8kg/h, gaseous - 20m ³ /h
Rated flowrate of the fuel to the additional burners	liquid- 3.8kg/h, gaseous 6m ³ /h
Primary and secondary air flowrate	from 150 to 300m ³ /h
Primary and secondary air temperature	up to 650 °C
Working pressure	atmospheric
Working temperature	up to 1000°C
Control system	semi-automatic

Testing plant with turbulent combustion chamber

RESEARCH AREA

Research on solid fuels volumetric combustion, co-combustion and oxy-combustion.

Research on volumetric combustion and co-combustion of gases of low calorific value and liquid by-products of carbochemistry, chemical processing and petrochemical industries.

Research on the influence of solid and gaseous additives on combustion process as well as on emission of pollutants.

Research on the formation process of fouling&slagging and their influence on boiler construction materials.

Research on the oxygen enhanced combustion (OEC).

Research on burners' new constructions.

Defining influence of additives on parameters of combustion process and on emission of harmful pollutants, especially NO_x .

SUBJECT OF COMMERCIALIZATION

Technologies of using low caloric gases in power sector.

Technologies of reducing gaseous emissions (mainly NO_x) with primary methods.

Know-how in assesment of high and low temperature corrosion resistance for materials used in power industry.

Know-how in improving efficiency through reduction of combustibles in ash as a result of combustion air enrichment with oxygen.

Guidelines for the construction of modern, low-emission burners.

POTENTIAL RECIPIENTS OF THE RESEARCH RESULTS

Institutions operating in power sector/ Power industry sector.

Producers of utility boilers and burners for solid, liquid and gaseous fuels.

Designers and suppliers of energy and chemical industry technologies.





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