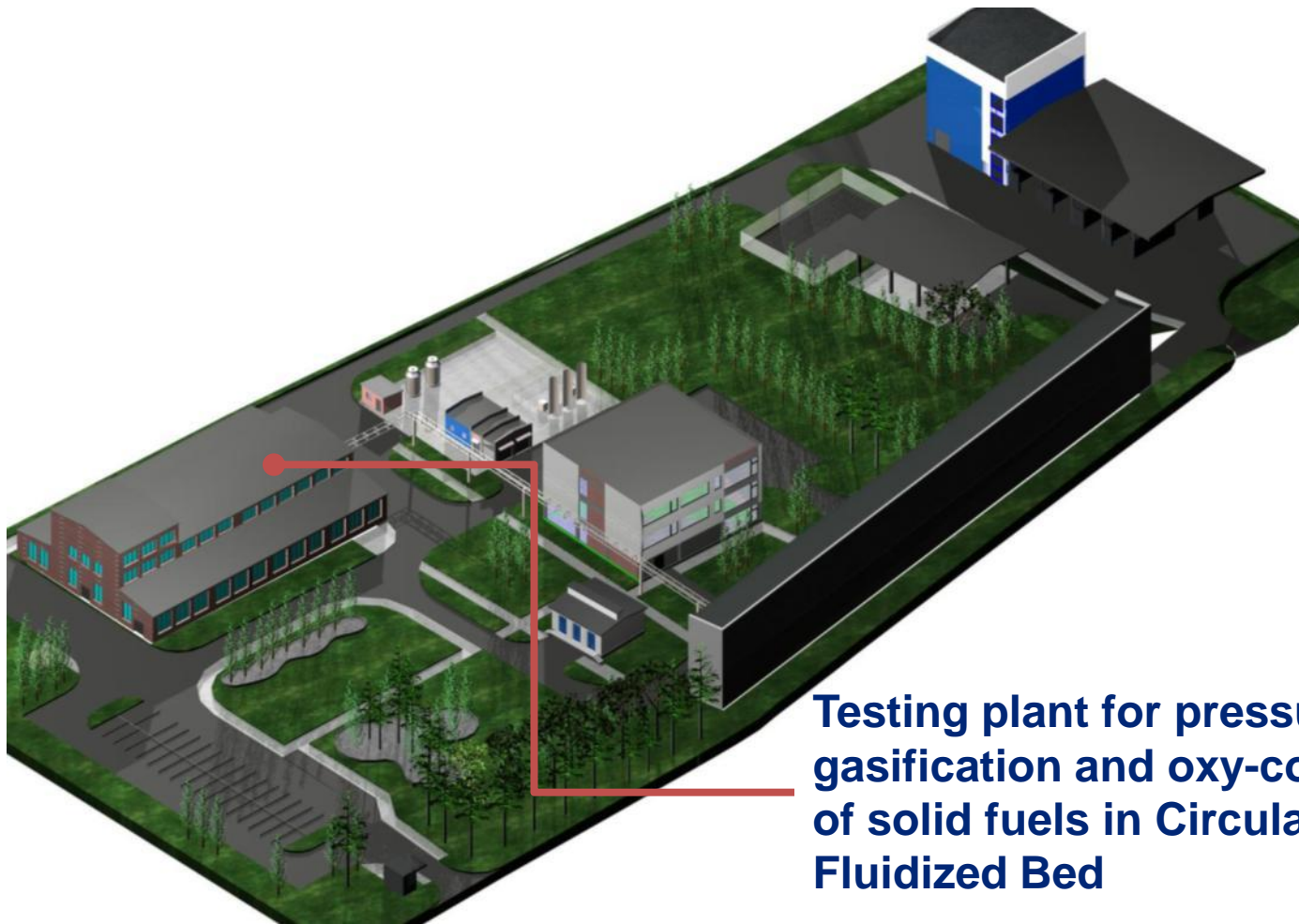


CLEAN COAL TECHNOLOGY CENTRE



Testing plant for pressurized gasification and oxy-combustion of solid fuels in Circulating Fluidized Bed



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



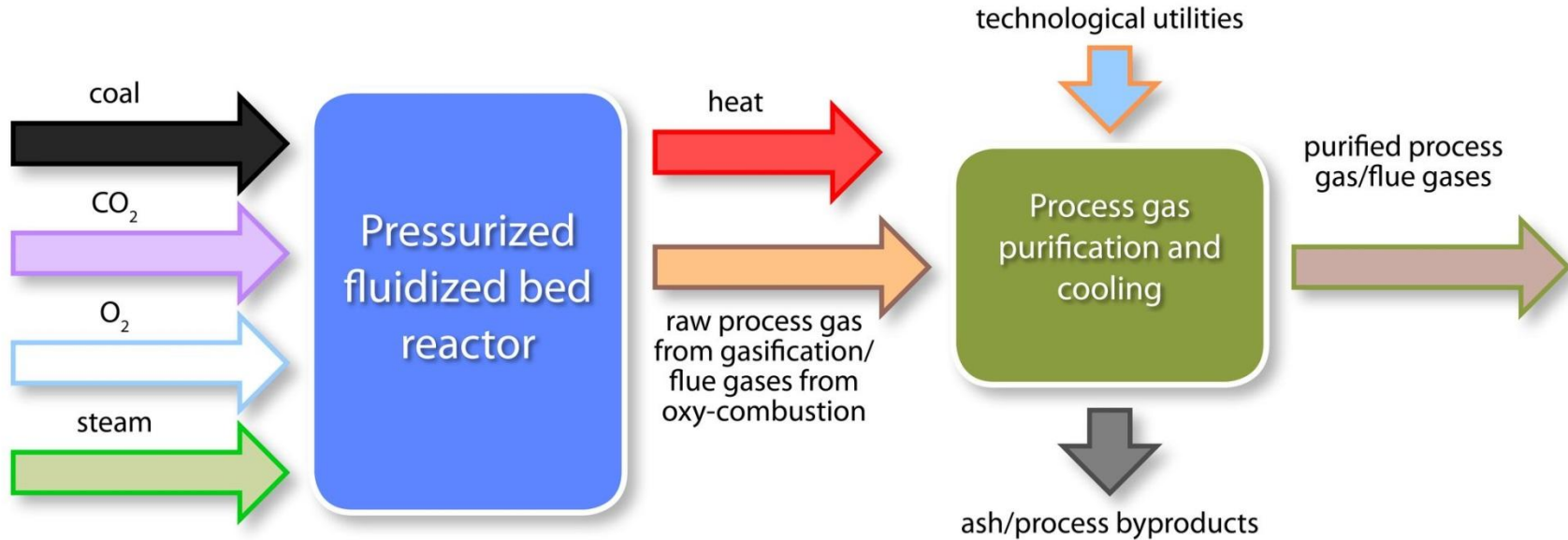
Testing plant for pressurized gasification and oxy-combustion

of solid fuels in Circulating Fluidized Bed

The main plants

The plant is designed to investigate solid fuels gasification and oxy-combustion in an increased pressure environment in a reactor with circulating fluidized bed.

The plant is equipped with the following facilities: media for coal gasification and dosage, gasification and oxy-combustion reactor, dedusting of process gas and flue gases, receiving of ash and char, cooling of process gas and flue gases, filtering of circulating water, desulphurisation of process gas and flue gases as well as combustion of process gas.



Technical characteristics

Maximum feed of coal	100 kg/h (gasification), 25 kg/h (oxy-combustion)
Maximum flowrate of gasifying agents	O ₂ - 100 kg/h, CO ₂ - 380 kg/h, H ₂ O - 40kg/h
Working temperature	800 - 1000°C
Working pressure	pressurized plant (0,1- 1,5 MPa)
Control system	automatic

Testing plant for pressure gasification and oxy-combustion of solid fuels in Circulating Fluidized Bed

RESEARCH AREA

- Research on oxy-combustion for zero emission power generation.
- Research on pressurized gasification of coal with the use of CO_2 for highly effective production of fuels and energy.
- Research on processes of gasification and combustion under pressure with continuous fuel supply.
- Research on solid fuel gasification and combustion in an oxidizing agent of any composition.
- Research on individual/separate purification and gas conversion processes.

SUBJECT OF COMMERCIALIZATION

- Technology of pressurized coal gasification with use of CO_2 as the raw material (chemical sequestration).
- Technology of purification and conversion of gases derived from coal gasification.
- Technology of oxy-combustion for the fluidized bed boilers integrated with the CO_2 removal.
- Reduction of greenhouse gases emission through CO_2 capture and management.
- Support for industrial implementation of coal gasification in Poland as well as coal oxy-combustion for zero emission energy production.



POTENTIAL RECIPIENTS OF THE RESEARCH RESULTS

- Enterprises and institutions from energy or chemical processing sectors.
- Producers of solid fuels, sorbents, catalysts and inhibitors.
- Designers and suppliers of energy and chemical processing technologies



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