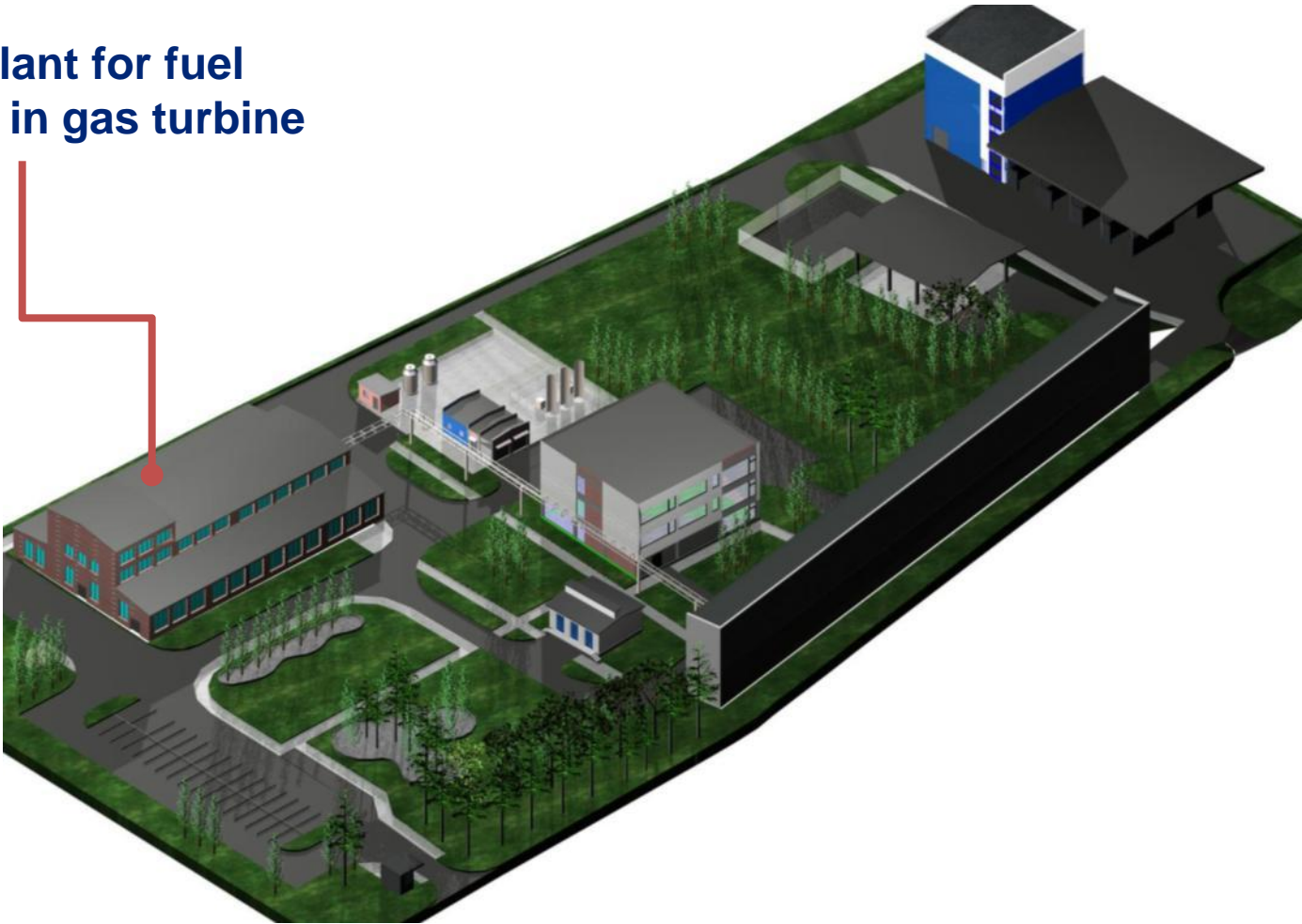


CLEAN COAL TECHNOLOGY CENTRE

Testing plant for fuel combustion in gas turbine



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
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DEVELOPMENT FUND



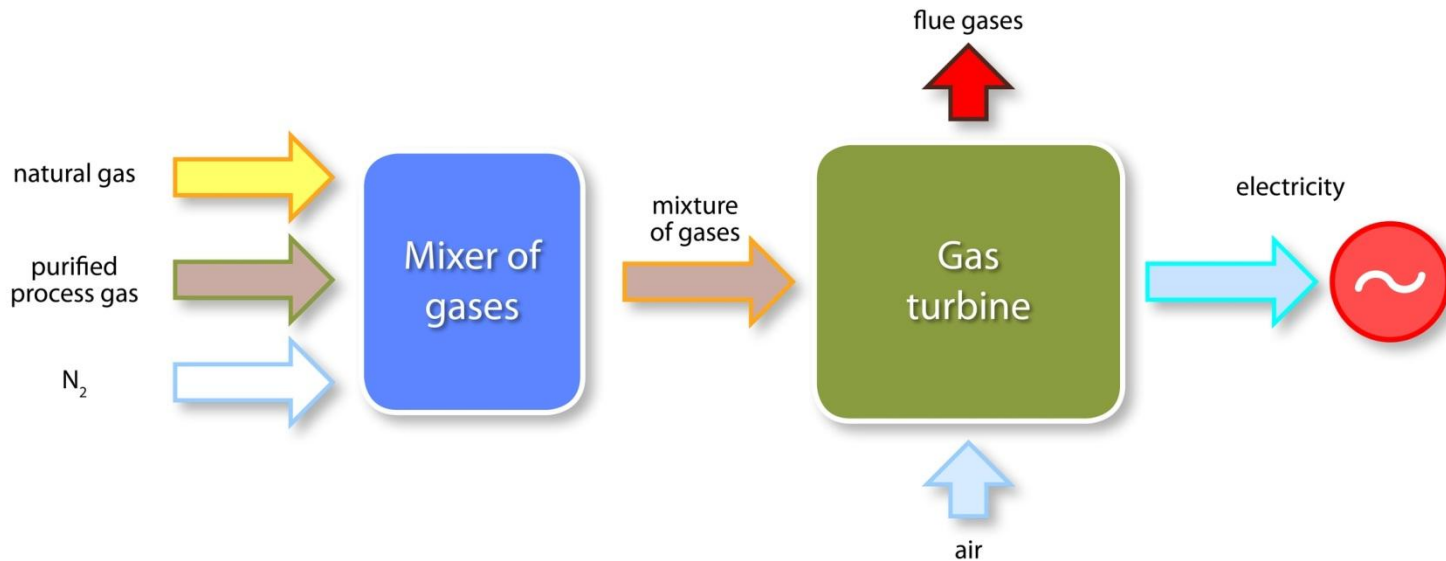
Testing plant for fuel combustion in gas turbine

The plant is designated to evaluate energy and ecological effects of combustion of natural gas and process gas mixtures in gas turbine.

The plant is equipped with gas microturbine, mixer of gases, emitter (stack) and gas pipelines for: natural gas, process gas and nitrogen.

The following gases are delivered to the plant:

- process gas from testing plant for pressurized gasification and oxy-combustion of solid fuels in Circulating Fluidized Bed,
- natural gas



Technical characteristics

Microturbine electric capacity	28 kW _{el}
Natural gas flowrate	0 - 10 kg/h
Process gas flowrate	0 - 10 kg/h
Microturbine electrical efficiency	25% (for natural gas)
Operating pressure	atmospheric installation
Temperature	275°C
Control system	automatic

Testing plant for fuel combustion in gas turbine

RESEARCH AREA

Research on natural gas combustion in a gas turbine.
Research on co-combustion in a gas turbine of natural gas and process gas resulting from pressurized coal gasification.
Research on influence of fuel mixture composition on gas turbine operating parameters.

SUBJECT OF COMMERCIALIZATION

Technology of combustion of mixture of natural gas and other gases of low calorific value in gas turbines.
Support for industry producing gas microturbines within the field of experiments on combustion of mixtures of process and natural gases.



POTENTIAL RECIPIENTS OF THE RESEARCH RESULTS

Enterprises and institutions operating in energy sector.
Designers and producers of gas microturbines.



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