

CLEAN COAL TECHNOLOGY CENTRE



**Testing plant for fuel conversion
in chemical looping reactor**



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND

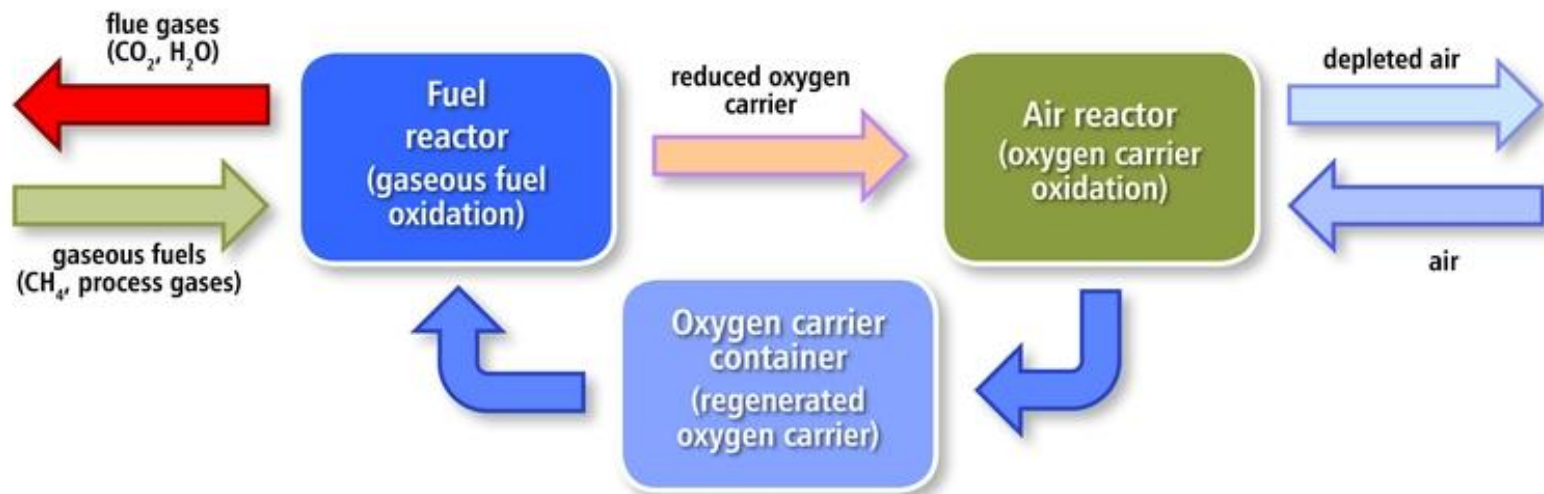


Testing plant for fuel conversion in chemical looping reactor

The plant is designed to investigate efficiency of gaseous fuels combustion in chemical looping process and to test the oxygen carriers for this process.

The plant is equipped with two fluidized bed reactors: fuel and air reactor. Following materials are delivered to the installation:

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



Technical characteristics

Maximum stream of gas fuel supply	1 m ³ /h
Maximum stream of air supply	15 m ³ /h
Maximum stream of solid carrier of oxygen supply	40 kg/h
Working pressure	atmospheric
Working temperature	800 - 1000°C
Dimensions of fluidized bed reactors	height 1m, diameter 0,133m
Control system	automatic

Testing plant for fuel conversion in chemical looping reactor

RESEARCH AREA

Research of gaseous fuels combustion with using of solid state carriers of oxygen
Research of the new solid state carriers of oxygen and optimization of chemical looping combustion process parameters.

SUBJECT OF COMMERCIALIZATION

Technologies of gaseous fuels combustion in chemical looping.
Technologies of solid fuels pyrolysis and gasification with sequential gas combustion in the system with chemical looping gasification.

POTENTIAL RECIPIENTS OF THE RESEARCH RESULTS

Enterprises and institutions in power sector.
Designers and suppliers of energy and environmental protection technologies.





INSTYTUT CHEMICZNEJ PRZERÓBKII WĘGLA
(Institute For Chemical Processing Of Coal)
Zamkowa St. 1; 41-803 Zabrze, Poland

Phone: **+48 32 271 00 41**
Fax: **+48 32 271 08 09**

E-mail: **office@ichpw.zabrze.pl**
Internet: **www.ichpw.zabrze.pl**

NIP: **648-000-87-65**
Regon: **000025945**

