



**INSTITUTE OF ENERGY AND FUEL
PROCESSING TECHNOLOGY**

Zamkowa 1
41-803 Zabrze
Poland

tel. 4832 271 00 41
fax 4832 271 08 09
office@itpe.pl

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www.itpe.pl

ENERGY BOILERS

TESTING AND EMISSION MEASUREMENTS

**Firing and co-firing of solid
fuels should be regarded
through:**

- combination of complex industrial processes
- heterogeneous fuel system
- gaseous and dust emission

Optimization of unit operations is necessary for assurance of energy efficiency, ecological safety and fulfilment of environmental standards assigned for fuels' firing and co-firing plants.

OFFER

- Energy balances and analysis of technological processes including determination of energy and environmental indicators
- Determination of energy consumption for plant internal load
- Determination of explosion hazards at fuel preparation site
- Determination of retention time of flue gases in combustion chamber required by standards for thermal waste processing (TWP) units
- Emission measurements of particulate and gaseous pollutants present in exhaust gases (CO , CO_2 , SO_2 , NO , NO_2 , N_2O , NH_3), VOC, HCl, HF, hydrocarbons and other organic and inorganic substances as well as dioxins and furans
- Determination of O_2 , CO , NO , SO_2 i CO_2 in flue gases in accordance to the standard PN-ISO 10396:2001 "Emission from stationary sources. Collection of samples for automated measurement of gaseous components concentrations".
- Determination of dust concentration in flue gases and its emission in accordance to the standard PN-Z-04030-7:1994: "Air protection. Measurements of dust concentration".



Accredited measurements of particulate and gaseous pollutants are made according to reference methods, which are listed in The Regulation of Minister of Environment from 30th of October 2014 on requirements stated for emission measurements and water uptake monitoring.

APPARATUS

- Multiparameter analyzer (GASMET DX4000) enabling simultaneous determination of 50 chemical substances, including water soluble compounds i.e. NH_3 , HF or HCl, but also H_2O and hydrocarbons
- The set for samples collection for PCDD, PCDF and PCB analysis
- Cascade impactor for determination of PM10 and PM2.5 concentrations



REFERENCES

- TAURON Wytwarzanie S.A. – Jaworzno III and Łaziska Power Plants
- Wrocław Heat and Power Plant KOGENERACJA S.A.
- EDF Polska – Kraków and Rybnik Power Plants
- GDF SUEZ Energia Polska S.A.
- PGE Polska Grupa Energetyczna S.A. – Dolna Odra Power Plant
- ENERGA Wytwarzanie S.A. – Ostrołęka Power Plant
- Skawina S.A. Power Plant
- Andrychów Sp. z o.o. Heat and Power Plant
- ZE PAK S.A.
- ZC Racibórz
- PECiGWŚ ENWOS Sp. z o.o.

