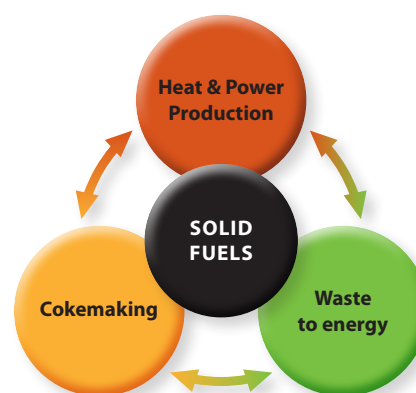




It is commonly known that the development and implementation of new technologies is crucial for successive and sustainable growth of our civilization. What we know is that present and future competences and competitiveness results of our past and our experiences. The effective participation of the Institute in the innovation chain accompanied with its elongation is our greatest honor and challenge.

The Institute participates in the realization of research projects of priority importance to the Polish economy, which are dedicated to the efficient use of fossil, renewable and alternative fuels. The competences of the Institute are focused on thermal processing of solid fuels by pyrolysis, combustion and gasification.



OUR COMPETENCES

- ▶ Fossil fuels, biomass and solid recovered fuels
- ▶ Power and heat production
- ▶ Gasification of coal and biomass
- ▶ Cokemaking
- ▶ Carbochemical products
- ▶ Waste to energy
- ▶ Modern residential heating systems and fuels for "low-stack emission" reduction
- ▶ Process modeling, technical, economic and environmental analyses



Clean Coal Technology Center

ECOLOGICAL SOLID FUEL FOR RESIDENTIAL HEATING



BLUECOAL
BŁĘKITNY WĘGIEL

Residential heating sector emission

is caused by poisonous air pollutants generated mainly by solid fuels combustion for household needs.

Sources:

- inefficient heating devices (boilers, stoves)
- poor quality of the fuel
- illegal household wastes combustion

Effects:

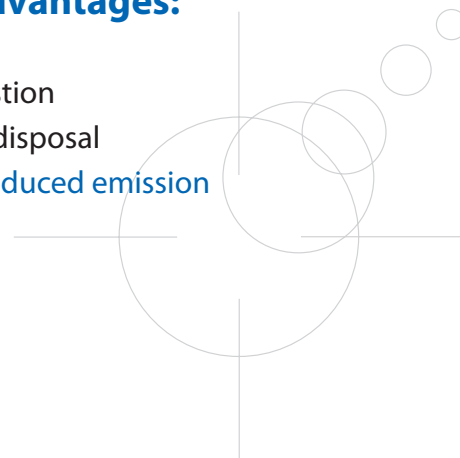
- high air emissions (NO_x, SO_x, dust)
- human health diseases
- allergies
- death rate increase in polluted areas

Solutions:

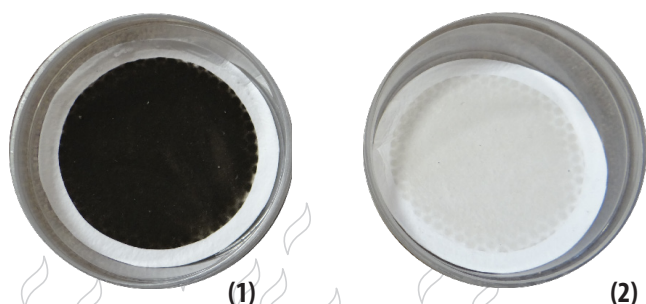
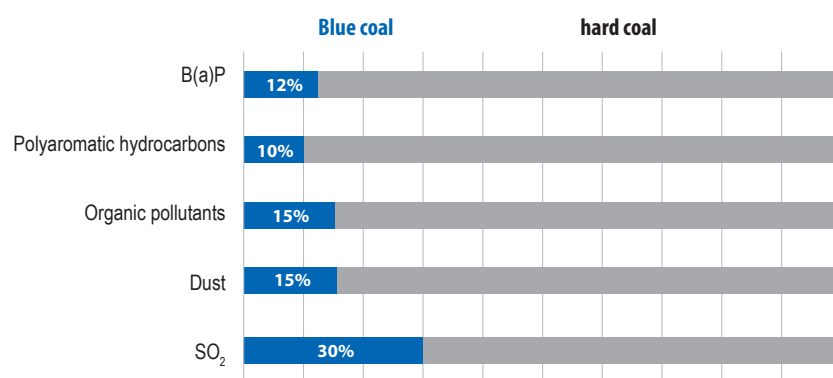
- modernization of heating devices
- **use of ecological fuels**
- thermomodernization of buildings
- information campaign in media raising the ecological awareness of individual household

“Blue coal” advantages:

- easy to ignite
- stable combustion
- easy ash/slag disposal
- **significantly reduced emission**



Emission results of combustion of hard coal and „Blue coal”



The dust collected on filters during combustion of (1) hard coal (2) „Blue coal”