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IRC Offices and Labs

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The Combustion Research Institute (IRC) belongs to the DIITET, Department of Engineering, Infomation and Communications Technologies and Energy and Transportation Technologies of the CNR (Italian National Research Council).

The activity of IRC is organized in the framework of six strategic projects:



- Fossil Fuels Processes and Technologies: Clean Energy and Chemicals Production.

 Process optimization for efficiency and sustainability. Novel concepts for low carbon technology.
- Processes and Technologies for Renewable Energy.

 Development and integration of processes and technologies and of their integration for low-cost and low-carbon production of energy and materials from renewable sources.
- Processes and Technologies for the Valorization of Wastes and Biomasses.

 Definition, development and integration of processes and technologies for the valorization of waste and residual biomass aiming to a sustainable nutrients cycle with a focus on energetic issues.
- Process Safety and Accidental Combustion Phenomena. Development of experimental prototypes/protocols and predictive mathematical models for analysis, prevention and mitigation of the risk associated with explosions, fires and release of toxic substances.
- Gaseous and Aerosol Pollutants: Formation, Diagnostics and Abatement.

 Formation mechanisms of pollutants, new diagnostics for the monitoring of regulated and unregulated pollutants, and systems for pollutant emissions reduction from combustion/gasification sources.
- Advanced Catalysts and Materials for Sustainable Chemistry and Energy. Synthesis and development of novel and advanced materials/catalysts for process intensification and/or new alternative processes compared to traditional ones.

IRC facts:

29 researchers, 24 technicians and administrative assistants, 7 research fellows, 3 laboratories equipped with pilot and pre-pilot scale facilities, 10 laboratories equipped with lab-scale facilities, 4 advanced diagnostics laboratories, 620 ISI papers and 15 patents in the last decade.

