



## LABORATOIRE DE THERMIQUE, ENERGETIQUE ET PROCÉDES LABORATORY FOR THERMAL SCIENCES, ENERGY AND PROCESSES

### APPLICATION SECTORS

- Energy production, storage and conversion
- Industrial cooling and air conditioning
- Motors, cogeneration
- Chemical and oil industries
- Environment
- Biomass, biofuels

### PARTNERSHIPS

#### INDUSTRY

AIR LIQUIDE, ALSTOM, ARAMCO,  
AREVA, ARKEMA, CIAT, CETIAT,  
EADS, EDF, EUROPLASMA,  
FONROCHE GEOTHERMIE,  
FRANCE TELECOM, GDF SUEZ,  
GERG, PROSIM, THERMYA, TIGF,  
TOTAL, VEOLIA...

#### INSTITUTIONAL

ADEME, BRGM, IRSTEA, IFP...

### EUROPEAN AND INTERNATIONAL PROJECTS

- Ecometals (France, Germany, Poland)
- ETS Montréal (Canada)
- CREVER Taragonne (Spain)...

### STAFF

- 24 researchers and teacher-researchers
- 19 PhD students and post-PhDs

### RESEARCH AREAS

- Functional analysis of energy systems
- Energy conversion and displacement motors
- Energy storage using PCMs
- Underground energy storage and distribution
- Treatment of air and waste gases
- Treatment of residual sludges
- Thermal treatment of waste

### SKILLS AND KNOWLEDGE

- Experiments, modelling and simulations in the fields of:
  - Thermodynamics of multi-phase reactive systems and energy systems
  - Thermal and material multi-phase transfers
  - Transport and reactions in porous media
  - Intensification of transfers and combining processes

### PRINCIPAL EQUIPMENT

- Special operational units: filter press, tangential filtration, crystallisation units, reactive absorption, reactive distillation...
- Cold storage system with encapsulated phase change materials
- Heat transfer test benches
- Mechanical dehydration tools (electro-dehydration, belt press filter, press filter, filtration-compression cells)
- Pressure equilibrium cells and reactors

#### ( CONTACT LATEP )

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