

## **Overview**

The general aim of EREL is the production of scientific know-how and innovative tools for research and provision of services.

EREL activities serve sustainable development purposes by focusing on a number of topics such as:

- Environmental Impact Assessment of climate change, extreme events and land use changes
- Security and Emergency Response to accidental release of hazardous / harmful substances in the air (radioactive, toxic, flammable)
- Reduction of environmental impact of energy technologies
- Alternative fuel technologies

In line with current international trends, EREL places emphasis in R&D activities relevant to:

- Simulation of atmospheric pollutant dispersion and air chemistry in realistic conditions - Applications in the areas of air quality, climate change, and acid rain
- Diagnostic and prognostic meteorological modelling
- Contribution of anthropogenic and biogenic pollutants to global warming and urban air pollution
- Climate change impact on: Infrastructure, Society & Economy (tourism, agriculture), Energy Sector
- Hydrogen Technology (Storage and Safety)
- Characterization of and Transport in Porous and Composite Media
- Energy technologies simulation-assessment (hydrocarbons recovery, porous membranes, gas separations)
- Gas storage in solid materials (CO<sub>2</sub>, H<sub>2</sub>)
- CFD developments and applications in Biomedical and other systems
- (Lattice Boltzmann method, Non-Newtonian fluids, Molecular Simulations)

In parallel, EREL continues to produce and publish original methods and results in the wider area of computational fluid dynamics.

EREL carries out several research projects with substantial external funding, in several of which it acts as coordinator of European Union projects.

The merits and prospects of EREL at the national and regional level have been acknowledged by the EC and a RegPot Grant.

## **Link to weather forecast**

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