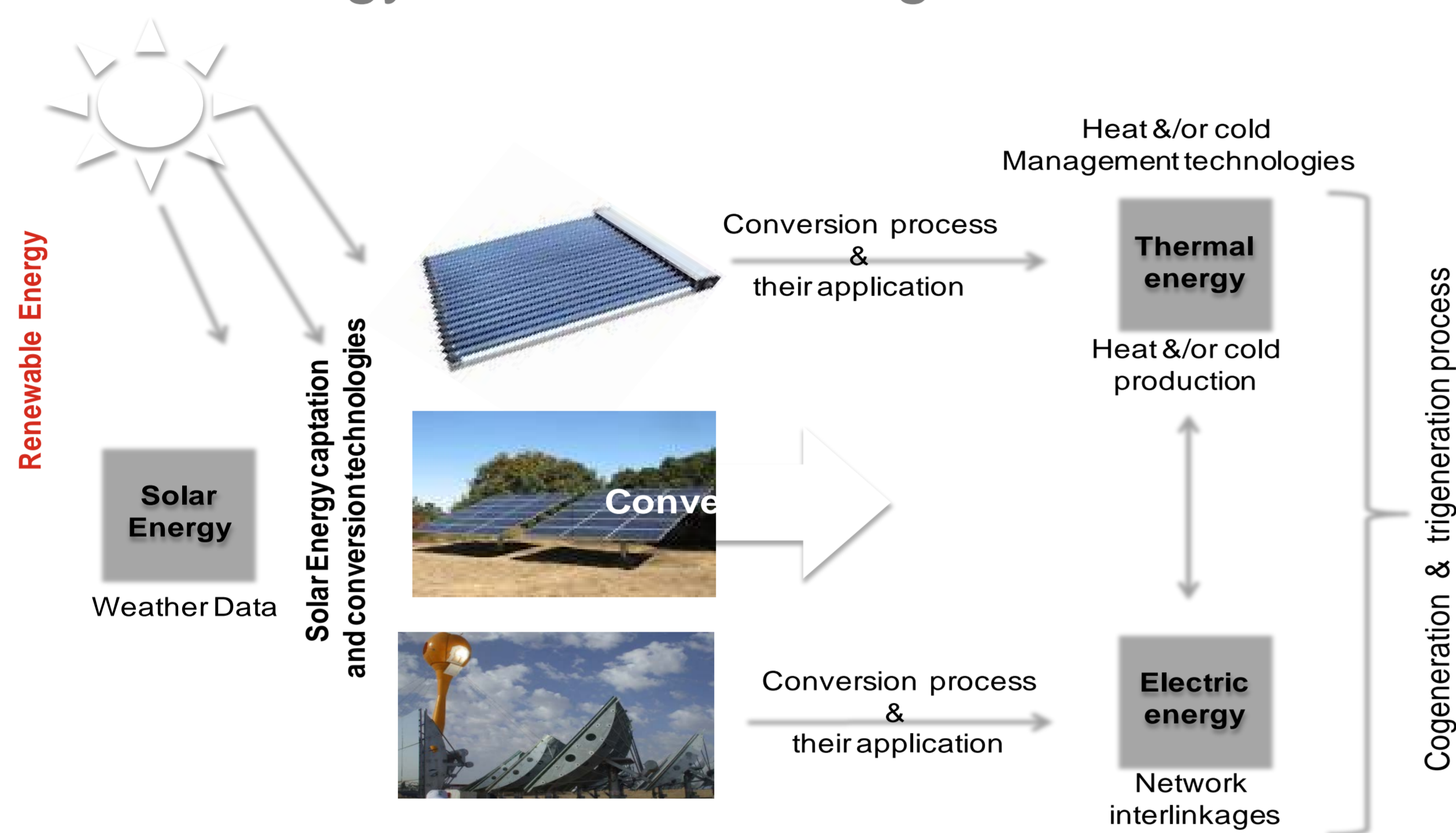




> LABORATORY FOR SOLAR ENERGY AND ENERGY SAVINGS (LESEE)

Scientific challenge

Contribute to the development of industrial innovation capacities in Africa in solar fields (PV, thermal : low and high temperatures) for the generation and the efficient use of electrical/thermal energy at small and large scales.



Research axis

> Axis 1

Solar Energy Conversion in Hot and Harsh Environments

- PV systems in harsh environments;
- CSP for mini-grids;
- Bioclimatic buildings

> Axis 2

Optimal Management for Sustainable Energy: production, transmission, distribution

- Hybridation of energy systems;
- Interaction- sources-smart grid-users.



Research team

- > Four (5) Researchers
- > Four (6) PhD students
- > Seven (7) Research Engineers
- > One (1) training and research assistant
- > Three (3) Adjunct professors

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Research facilities

- > 01 prototype of hybrid PV/Diesel power plant (2.85 kWp/11.5 kVA)
- > 01 Hybrid platform for experimentation and management of energy (PHEGEK) : 61.2 kWp + 10 500 Ah / 2x22 kVA + 44 kVA
- > 01 I-V testing ground : characterisation and study of PV modules
- > 04 weather stations
- > 01 photovoltaic pumping station (800 Wp, 45 HMT)
- > 01 prototype of solar air cooling system (8 kWf)
- > 01 platform of concentrating solar power plant of 100 kWth



Main R&D projects

> "Flexy Energy"

Two hybrids solar PV/DG power plants (100-150 kW) will be installed, one in Burkina Faso and one in Mali (innovation with smart management of energy production and loads)

- Start: 01th June, 2011
- End: 30th November, 2014
- Duration: 48 months

Under the second ACP-EU Energy facility, Budget: **3 391 654 € with 71% by the European Union comission.**

> CSP4Africa

A cost effective small central tower (100kWth) for mini-grids is designed, installed and tested in Burkina Faso (innovation with multi-faceted heliostats and Tesla turbine)

- Start: March, 2012
- End: March, 2015
- Duration: 36 months

Budget: **1.3 million € with 74% by European Union through African Union**

Partners

