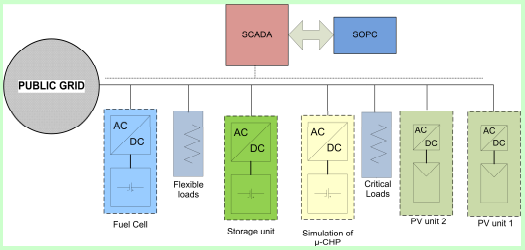
A) General Information

Acronym:	**SOPC-MicroGrids - 20100930-06**
Title of the User-Project:	Stochastic Optimal Predictive Control for MicroGrids
TA Call:	2nd Call of Proposals, 30th September 2010
Host Research Infrastructure:	Centre for Renewable Energy Sources and Saving, Dept. of PVs and Distributed Generation, DG Laboratory
Starting Date:	18/04/2011
End Date:	20/05/2011
Lead User:	Alessandra Parisio, Group of Research on Automatic Control Engineering (GRACE), Università del Sannio, Dipartimento di Ingegneria-ITALY
Additional Users:	--

B) Summary of the User-Project

The overall goal is to test a MicroGrid central control algorithm with error forecast processing. The specific algorithm dispatch decisions are corrected by a forecast error processing. The proposed control system also has to keep the balance between load and demand by controlling the MicroGrid.

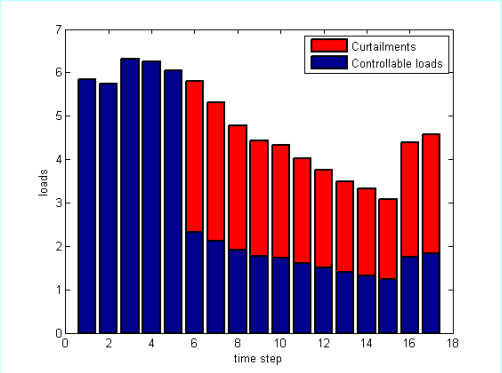


Block diagram of the test facility configuration

C) Main Achievements

Assessment of control strategies in terms of:

- -Energy savings
- -Constraints violations
- -Computational times
- -Performances under different tariff structures



Curtailment of flexible loads

D) Dissemination of the Results

Submitted paper to Control System Technology journal: “Microgrid Operation Optimization using Model Predictive Control”

E) Use of the Resources

Nr of Users involved:	**1**
Access Days/Units (CRES):	**20**
Stay Days (CRES):	**33**