



Integrated Master Degree in Electrical and Computer Engineering

THESIS DESCRIPTION

Academic year 2013/2014 Semester I / II

Subject

Title: Net metering: definition of methodology and case study

Objectives / Description

In view of the consequences of the economic and financial crisis, governmental intervention related to micro and mini photovoltaic generation business models is decreasing or even ending. However, dispersed generation, namely through photovoltaic (PV) generation, continues to represent an opportunity worth analysis, especially considering investments already made and acquired knowledge. In this context, this work focuses the concept of net metering.

Thus, the intention of this work is to develop a computer tool which allows, considering load profile of a determined residential consumer, evaluating economic as well as technical viability of solutions under net metering model. This tool must provide the optimal rated power of a PV installation, determining modules and inverter, considering the renewable resource and the geographical location and characteristics of the house.

Net metering corresponds to renewable energy production, usually PV, which is exported to the grid when it surpasses consumption. This approach differs from direct self-consumption because production surplus is in fact exported to the grid, netting a benefit for the *prosumer* (producer-consumer) which may consist in simple fare reduction – due to the reduction of net consumption – or in credit assignment. This approach is not yet covered by legislation in Portugal, and the software tool must consider different scenarios.

This work is based in a residential case study, comprising field data collection and the analysis of the existent installation, and will be conducted in partnership with the company Engibase, Engenharia e Construção, Lda.

Thesis scientific supervisors

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