SCIENCESPRINGDAY

FACULDADE DE CIÊNCIAS E TECNOLOGIA
UNIVERSIDADE NOVA DE LISBOA

Department Environmental Science & Engineering

Integrative Smart City Planning

CENSE/ Climate Change and Sustainable Energy

Júlia Seixas

Prof. Dep. Environmental Sci. & Eng.
Coodinator of the Climate Change and Sustainable Energy Group @ CENSE

Objectives

"to assist cities in achieving their sustainability targets through the development and implementation of a comprehensive methodology for an integrated strategic sustainable planning".
"to assist cities to substantially reduce GHG in an innovative and integrative manner".

Obj. 1: Provide a comprehensive understanding of the energy system of each city
Obj. 2: Identify the optimum mix of measures and interventions towards sustainability
Obj. 3: Pave the way towards implementation of the sustainability measures
Obj. 4: Promote integrated sustainable city planning

Methodology

OM 1.1: Analyse the current energy system of each city (Fig. 1)
OM 1.2: Improve data availability through an energy survey in each city (Fig. 2)

OM 1.3: Develop the GIS energy database for each city
OM 1.4: In depth analysis of the major energy sectors of each city

OM 2.1: Energy system optimisation analysis for each city (IEA-TIMES model)
OM 2.2: Multi-criteria analysis of measures

OM 3.1: Provide detailed economic analysis of measures for each city
OM 3.2: Develop a mid-term implementation plan for each city
OM 3.3: Presentation of each city's strategic plan to relevant stakeholders

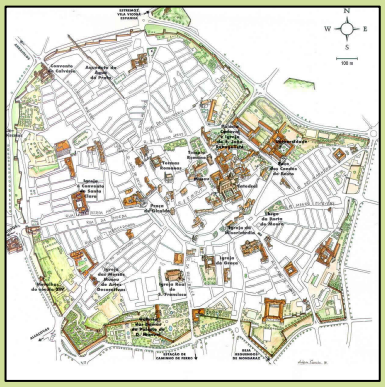

Fig. 1 – Évora City spatial view

Expected Results

Current Status City Analysis (Évora, Cesena, Nottingham)
GIS energy database (for each city)
Simulation on building typologies (for each city)
Energy use and carbon emissions arising from transport (for each city)
Analysis of the city energy system (for each City)
Optimum sustainability pathways (for each city)
Multicriteria methodology, the process and the results of the decision making (for each city)
KPIs for every city
Mid-term implementation action plan (for each city)

Fig. 2 – Smart meter

Funding: FP7-ENERGY-SMARTCITIES-2012, Project number 314164