



## Smart City Energy Assessment Framework: An Overview

### Introduction

The main objective of the Smart City Assessment Framework (SCEAF) is to assist cities in the transition to becoming a “Smart City” through energy use optimisation. Two versions have been developed, focused at the municipal building level and at the city level respectively. The SCEAF highlights potential strengths, vulnerabilities and opportunities based on the existing energy strategy, environmental policy, municipal facilities and related infrastructures.

The SCEAF which is applied at a municipal building level, provides city authorities with a systematic and independent evaluation of the actions taken towards energy efficiency, in parallel with the transition to becoming a “Smart City”.

### Structure of the framework

The SCEAF consists of indicators that are structured under three major assessment pillars:

- Political Field of Action.
- Energy & Environmental Profile.
- Related Infrastructures-Energy & ICT

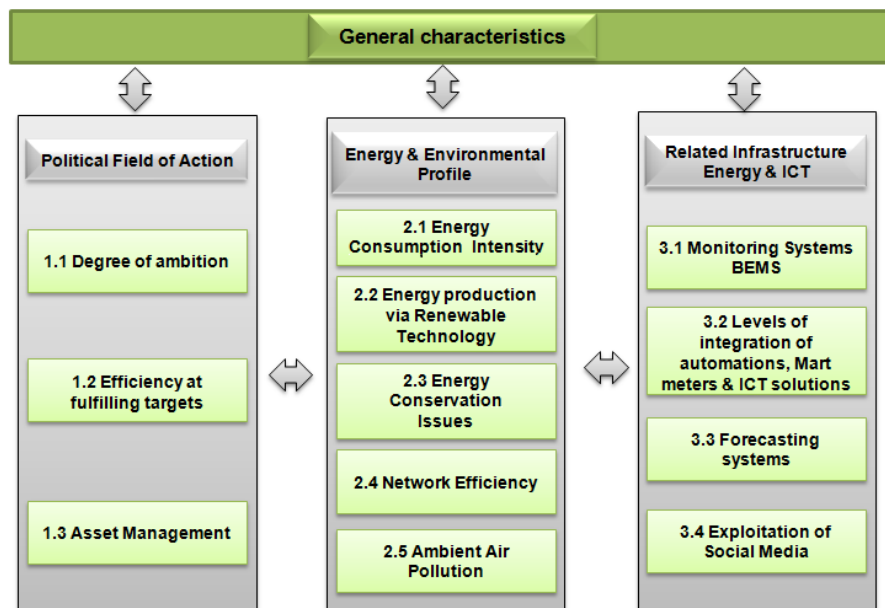


Figure 1: SCEAF pillars and axes

The ‘*Political field of action*’ pillar evaluates the level of ambition and activity of the city, its efficiency at fulfilling the targets set, and its performance regarding asset management. It assesses the awareness of the city regarding environmental and energy problems as well as its environmental consciousness and its degree of adoption of the EU directives.

The ‘*Energy & Environmental Profile*’ pillar evaluates the energy consumption intensity of the city, the penetration degree of renewable energy sources (RES), the efficiency of the city energy networks and its energy conservation features, as well as the city’s emission intensity. Evaluation of these pillars is based on city-level data, including energy consumption of municipal buildings, households, commercial buildings, public transport, municipal fleet, water treatment units, recycling centres and other related facilities.

The ‘*Related Infrastructure & ICT*’, pillar evaluates the integration of ICT solutions, automations and smart meters in the city, aiming to energy optimisation. It also includes the exploitation of monitoring systems, Building Energy Management Systems (BEMS), weather and energy consumption forecasting systems, and social media.

### SCEAF rating

The SCEAF enables the main outcomes to be presented in the “*OPTIMUS Rating Chart*” that supports classification according to the result of the analysis. Such configurations are presented in the following graphical layouts of Figure 2.

### More information on:

- **Baseline assessments of the three pilots can be found [here](#).**
- **The SCEAF can be found [here](#).**



Figure 2: OPTIMUS Rating Chart

<http://sceaf.optimus-smartcity.eu>

### The OPTIMUS project

OPTIMUS aims to design a Decision Support System (DSS) to help towns and cities reduce CO<sub>2</sub> emissions by optimising energy use in public buildings.



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