



GRANT AGREEMENT NO. :	608775
PROJECT ACRONYM:	INDICATE
PROJECT TITLE:	Indicator-based Interactive Decision Support and Information Exchange Platform for Smart Cities
FUNDING SCHEME:	STREP
THEMATIC PRIORITY:	EeB.ICT.2013.6.4
PROJECT START DATE:	1 st October 2013
DURATION:	36 Months

INDICATE will support decision makers and other stakeholders towards transforming their cities to a ‘Smart’ City. This will be achieved through the development of an interactive **cloud-based tool**, which will provide **dynamic assessment** of the **interactions between buildings, the electricity grid, and Renewable Technologies and Information Communication Technologies (ICT)**. Recommendations will be provided with respect to the best technologies to install, the infrastructure that requires improvement to enable local balancing and the utility services that offer the best financial plan. To understand how the decisions made will affect the overall urban environment, a set of **Sustainable Urban Indicators** will be developed, which will account for the knock on effects from changes made to the buildings, infrastructure changes or introduction of new technologies, within the urban context. The interactive cloud based tool has the following goals:

- **PLAN** development through a dynamic simulation, energy-based decision support tool, which takes into account the buildings and their interaction with the urban environment
- **REDUCE** energy consumption and carbon emissions through an indication of the impact of best practice Energy Conservation Measures via Dynamic Simulation Modelling
- **INTEGRATE** new technologies and services in the city to better manage supply and demand, via Dynamic Simulation Modelling, Graphical Information Systems (GIS) and 3D urban modelling which will reliably inform the impact of the integrated technologies
- **OPTIMISE** existing installed systems, to enable local balancing through demand response analysis and tariff analysis via Dynamic Simulation Modelling, which will model the interactions between the buildings the installed systems and the electricity grid, across multiple buildings in the urban environment

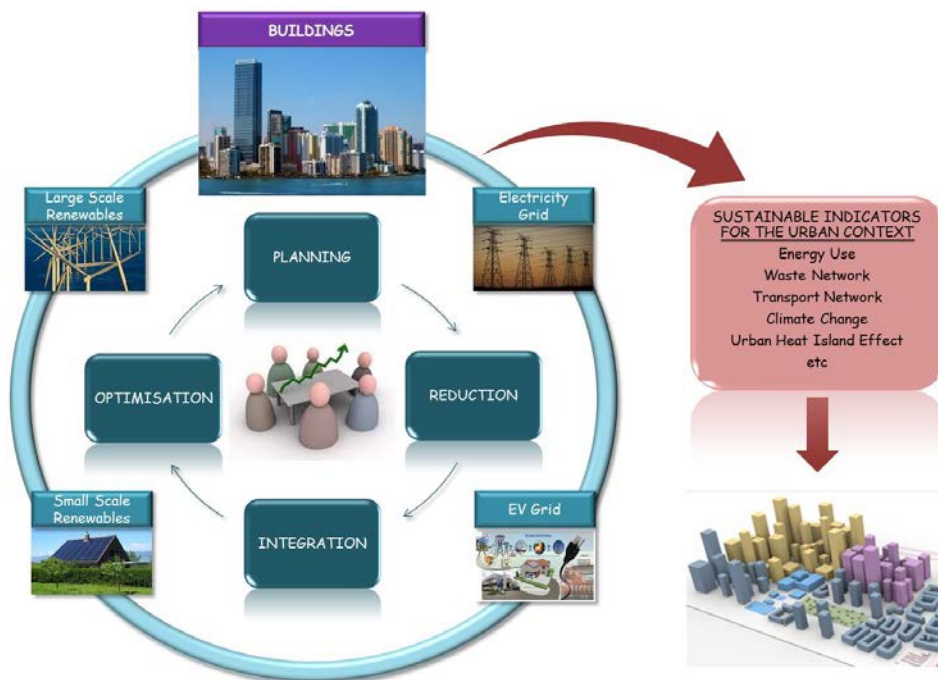
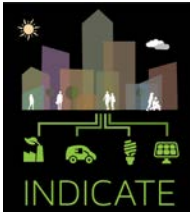


Figure 1 – INDICATE Concept

As a result, the INDICATE cloud-based interactive decision support tool, **can be used at any stage of development**; it can be used in a city where the buildings and their urban environment are at an early stage of sustainable development/redevelopment, or in contrast where the city has already installed smart grid infrastructure and where energy efficient technologies are present in many buildings. The project outcome will be the delivery of a cloud-based interactive decision support tool that can be used by City Architects/Planners, Urban Planning Consultancy Firms, the Public and Business Community, ICT/RET (Renewable Energy Technologies) system suppliers and potential investors and developers in a city.

The consortium is made up of a well balanced mix of Large Companies (2), SME's (2), Universities (2) and Public Authorities (2) from 4 different European countries (UK, Ireland, Italy and Switzerland). They bring expertise from the fields of Dynamic Simulation Modelling; Geographic Information System Development; 3D Urban CAD (Computer Aided Drawing) Modelling; Demand Side Management; Sustainable Urban Indicators; Business Model Development for Energy Retrofit in Cities; Integration of solutions to minimise Energy Consumption and Demand on Fossil Fuels.

Project impact will include; adoption of ICT measures to reduce energy consumption by 30%; uptake of Renewable Technologies to meet demand by 20%; better decision support mechanism for stakeholders to understand quickly where best to invest their limited resources; multiple level solutions to reach the end goals of a sustainable and Smart city; and an increase in market share of ICT and Renewable technologies by a minimum of 20%.