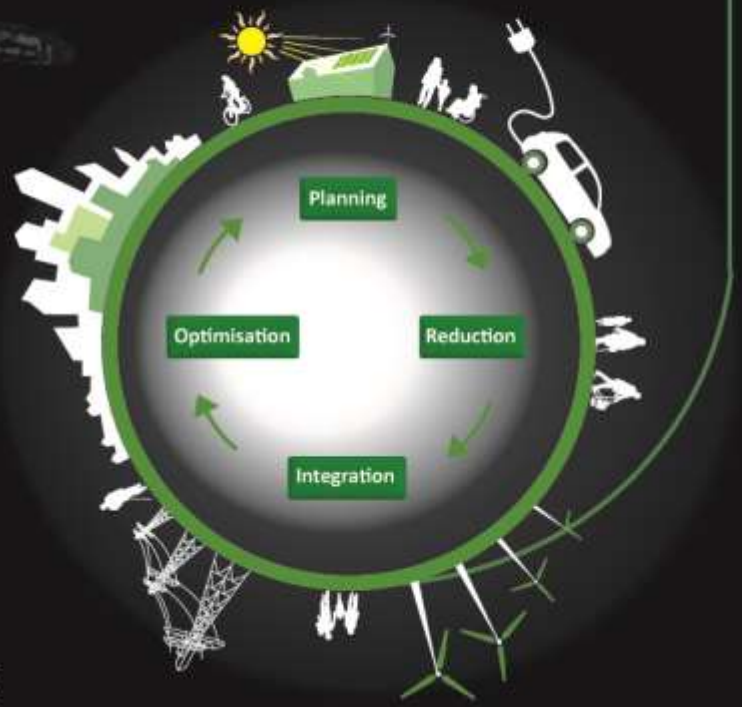
Devising a Suite of Sustainable Energy Indicators

INDICATE

www.indicate-smartcities.eu



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INDICATE Consortium

- Integrated Environmental Solutions
- Esri
- Future Analytic Consulting
- D'Appolonia
- Trinity College
- Dundalk Institute of Technology
- Galliera Hospital
- Louth County Council

INDICATE Concept

FutureAnalytics
Planning • Research • Economics

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.

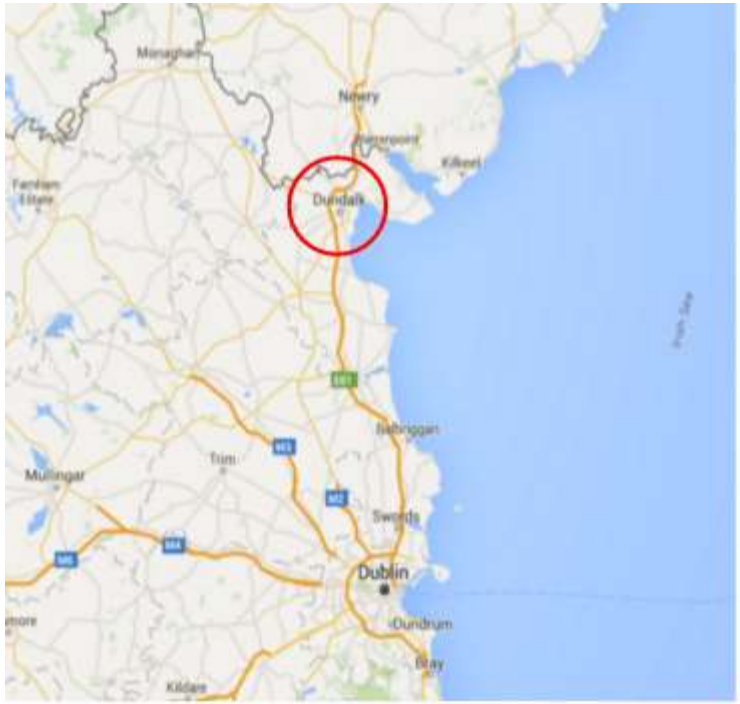
OPTIMISE existing installed systems, to enable local balancing through demand response analysis and tariff analysis via Dynamic Simulation Modelling, which will model the interactions between the buildings the installed systems and the electricity grid, across multiple buildings in the urban environment.

INDICATE Project Objective

Project Objective

Develop a decision support tool that will provide dynamic assessment of the interactions between buildings, the electricity grid, and Renewable Technologies and Information Communication Technologies…

INDICATE Test Sites



Dundalk, Ireland

Genoa, Italy

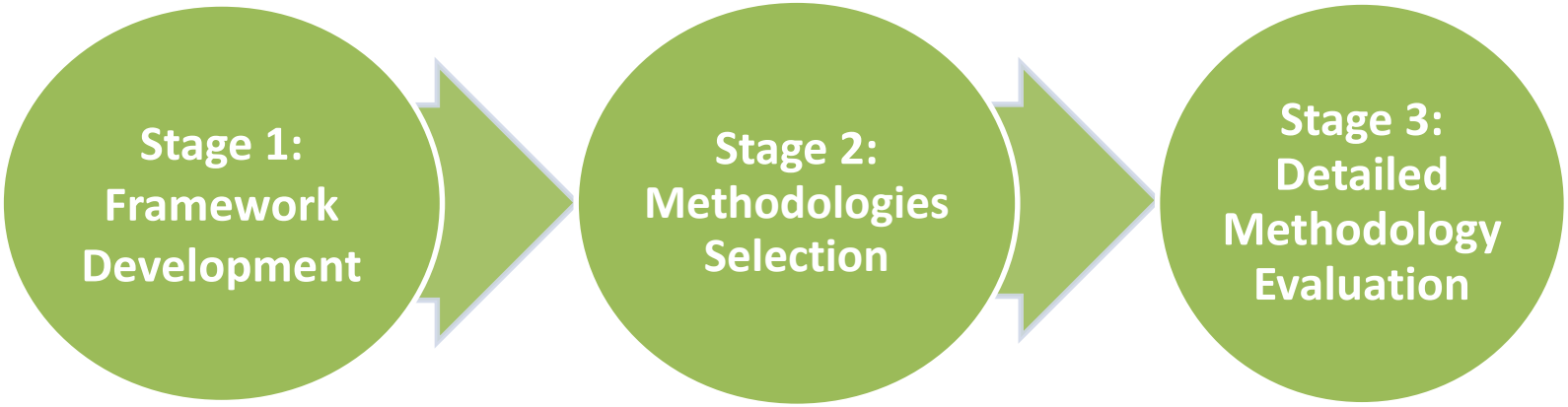
INDICATE Sustainable Urban Indicators

- The aim is to **integrate the energy characteristics of buildings** with other components of a **city's infrastructure and governance**.
- The Sustainable Urban Indicators will be used to **aid decision support** within the urban environment.
- The selection of **Sustainable Urban Indicators** will be cognisant of differences in **climate, culture, life styles, governance and building typology**
- The **Sustainable Urban Indicators** will contribute to the development of the **Common City Index (CCI)**

Pre Drafting Tasks

FutureAnalytics
Planning + Research + Economics

Evaluating Urban Energy Efficiency Methodologies



IPre Drafting Tasks

Data Catalogue

Type and composition of data **best suited to determine efficiencies in energy generation, transmission and consumption**

Key input into the development of **D3.3, D3.4 & D4.3**

Conceptual Framework

3 Key Domains

Indicator Structure

No.	Indicator	Scale	Definition	Unit of Measurement	Pattern of Use
			Domain: Carbon Emissions Reduction		
1.	**Consumption of renewables**	City Level	Renewable energy consumption as a % of total energy consumption in the urban area.	% of renewable energy consumed by the city	Temporal + Seasonal

Methodological Overview

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Shortlisted Sustainable Urban Indicators

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10

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Sustainable Urban Indicator Consultation

Operationalisation

Decision Support Tool Prototype Genoa Test Site

Thank you for your attention

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