OUTPUT O.T1.2

CitiEnGov Toolkit

Version 1

Project index number and acronym	CE496 CitiEnGov
Lead partner	Sipro Development Agency - Ferrara
Output number and title	O.T1.2 CitiEnGov Toolkit
Responsible partner (PP name and number)	PP6 Goriska local energy agency, Nova Gorica
Project website	https://www.interreg-central.eu/Content.Node/CitiEnGov.html
Delivery date	01.2018

Summary description of the key features of the tool (developed and/or implemented)

The CitiEnGov Wiki-Toolkit
http://toolkit.citiengov.eu/index.php?title=Main_Page
is meant to be an on-line, open to all public and updatable tool, addressed to technicians and decision-makers deaing with energy issue from a public authority perspective. Even if the wiki-tookit is aready concluded, i twill be further updated with the results coming from the other technical WP (T2 and T3) especially in terms of good practices and examples to be shared at transnational level.
The wiki-toolkit contains:

- information about **energy data** in the different regions of the project;
- information about the **role of energy topics play within Public Authorities**

The Toolkit is structured in the following topics:

- **Buildings**
- **Mobility**
- **Public lighting**

The Toolkit wants to be a source of knowledge and inspiration for cities involved in energy planning. It addresses cities which are just beginning to implement energy plans as well as cities with Sustainable Energy (and Climate) Action Plans (SEAPs/SECAPs) already defined, endeavoring for even smarter and more efficient solutions.
The CitiEnGov toolkit includes methodology, guidelines,template of documents, technical solutions(software..),based on a interoperability concept,thus enabling the data update and the sustainability of the proposed solutions.
The Toolkit deals with energy policies, best practices at EU and local levels, and energy related data and tools already used or suggested

In the CitiEnGov project, Participant Partners have been asked to describe energy-related data about buildings, transport and public lighting.
The medium-term goal is to made these data available (whole datasets or subsets) based on a harmonized "energy data model" together with ICT services for sharing energy-related data. This document describes a transnational methodology, based on one hand on the evaluation of tools implemented by CitiEnGov partners, and on the other hand on standards and technologies already available at European scale for sharing interoperable energy-related data.
Due to the technical its nature, the text presented here is mainly addressed to ICT and geo-ICT experts, with sufficient skills on:

- Data and database modelling, data extraction/transformation/load
- Web services for presenting and sharing data
- Standards for interoperability, in particular related to geographic information

NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

ITH5, Emilia Romagna
PL61, Kujawsko-Pomorskie
AT22, Steiermark
HR03, Jadranska Hrvatska
PL12, Mazowieckie
SI02, Zahodna Slovenija
HU32, Eszac-Alfold

Expected impact and benefits of the tool for the concerned territories and target groups

The importance of sharing the same semantics about energy-related data can be simply clarified with the following example: on March 2017, during a CitiEnGov videoconference (SIPRO, GOLEA, DEDAGROUP PUBLIC SERVICES) it was discussed a practical requirement coming from Slovenian regions, where data about energy consumptions are usually shared from utilities (data providers/custodians) and Public Authorities. Data about consumption are:

- temporally aggregated on annual basis
- divided by fuel (e.g. gas, electricity, district heating, …)
- divided by "building" categories
- …

In the case of building "categories" GOLEA mentioned that they usually get these data divided in terms of "uses of buildings":

- residential
- industrial
- offices

- commerce
- …

Indeed, even though these categories are quite similar in different countries, often they do not have the same meaning. That's why we need to look at INSPIRE in terms of semantics (and not merely in terms of Directive's principles, data requirements or technical specifications); semantics practically means that we already have some basic concepts like buildings' typologies, or (better) "uses of buildings" as already defined by INSPIRE: http://inspire.ec.europa.eu/codelist/CurrentUseValue

Sustainability of the tool and its transferability to other territories and stakeholders

Transferability of the O.T1.2 was one of the main considerations taken into account in creation of the Toolkit. Majority of the content that was gathered from the project partners, was then elaborated in the manner that could be useful elsewhere or could serve as an inspiration/possibility for target groups in other territories of Central Europe.

Lessons learned from the development/implementation process of the tool and added value of transnational cooperation

The idea presented here is to build up the "transnational template" starting from initiatives already defined at European level by the data specifications related to the **INSPIRE Directive**.
The conceptual model starts from the Data Specifications defined by the INSPIRE Directive as baseline, and considers all requirements and characteristics of energy data that partners provided.
Even though the implementation of INSPIRE data models is not the focus neither the goal of CitiEnGov they will be used as a starting point and as a common approach to get a common view and common semantics about energy-data.
Therefore, the objective of this activity will be twofold:

- a common conceptual data model, to be considered as a possible target schema for exporting and sharing data outside the local context and outside the organization;
- a reference implementation, as SQL-based relational database (possibly for Oracle and PostGIS platforms)

It is noteworthy that the final goal is not to force CitiEnGov partners to change the way they use energy-related data internally, but to help them to generate a neutral and standardized semantics.

References to relevant deliverables and web-links
If applicable, pictures or images to be provided as annex

- The tool references to deliverables D.T1.3.1, D.T1.3.2.
- http://toolkit.citiengov.eu/index.php?title=Main_Page

Pictures

Conceptual model