DATA4ACTION in Metropolitan City of Torino, IT

Data Sharing: Key Issues & Local Needs

30th August 2015

Introduction

The main objective of the Data4Action project is to improve local authorities' access to energy data. Organizations from eleven different European countries participate in this project, which is co-funded by the Intelligent Energy Europe Programme. This document summarizes the situation and objectives of Data4Action in the territory of Metropolitan City of Torino.

Objectives

Even if the Metropolitan City of Torino is engaged in collecting energy data and updating final energy consumption balance and Emission Inventory since 2000, the participation in the DATA4ACTION Project will strengthen the existing activity through the sharing of experiences with other European countries. The formal constitution of an Energy Observatory is the first and the most important step to respond to the several needs, the most important of which are:

- the widespread of the Covenant of Mayor Initiative at regional level and the will of Public Institution to support a further development of such Initiative;
- the will of Regional Public Authorities to build up a shared data system among institution in charge of energy policies.
- the overcoming of some deficiencies in the availability of data at local level, mainly related to oil products and thermal renewable energy sources.

Several actions should be further implemented as a way to improve the activities of the Energy Observatory, as listed in the following paragraphs, which will mostly carried out in the framework of Data4Action project:

- Data collection, every 2 year, from data providers (energy distributors and producers) in the metropolitan territory of Torino, from statistical offices operating at national and regional level and from the main end-users at local level;

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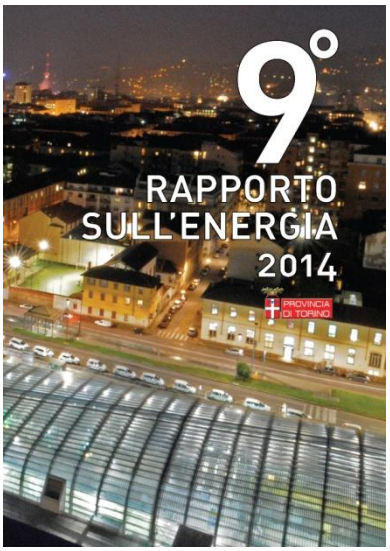
- Editing of periodic Energy Reports with the update of the energy balance and emission inventory related to the use of energy;
- Strengthen data collection of the Local Authorities and define common and standard methods of estimating/analysis;
- Improve the effectiveness of the supporting activities toward Municipalities in the framework of the COM Initiative;
- Training activities addressed to Local Authorities and other potential Energy Observatories;
- Signing of agreements with stakeholders, in particular with the data provider;
- Mapping main data from power plants operating at metropolitan level;
- Carrying out assessment studies for energy saving potentials and energy infrastructures;
- Trying to explore big data digging as a way to elaborate more reliable and fast estimation of data deficiencies on thermal renewable at local level;
- Enter the obligation to provide information in calls for gas supply;
- Create a web platform where it is possible to share information and best practices;
- Peer learning activities with other European Energy Observatories;
- Strengthen relationship and EU networks.

Sharing information on sustainable energy in Metropolitan City of Torino



The Metropolitan City of Torino is the local authority engaged in collecting energy data related to it's territory, and updating final energy consumption balance and Emission Inventory since 2000. During this period 9 editions of an Energy Report have been released: the report provides a general overview of the global trends in energy consumption and production, the monitoring of the CO2 related emissions and forecast for following years.
The Energy Report is a public document, published on the Metropolitan City website. The last one was presented during the "Energy day" organized the 17th of December 2014, in the framework of D4A project.

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Most of data are collected at Municipal level, so that such activity helped the Metropolitan City to build up an energy database useful for Municipalities. Since February 2010 the Metropolitan City of Torino became Territorial Coordinator of the Covenant of Mayors Initiative and the activity of data collection is strictly connected with it and with the technical services provided to the signatories. First of all a Baseline Emission Inventory (BEI) for all the 315 LAs of the metropolitan territory was elaborated: it is delivered by request of the Municipalities free of charge and within few working days. This activity will be improved and directly available online during the implementation of Data4Action project. Furthermore TOMETRO is also providing technical assistance in order to draft customized SEAPs and elaborate development scenarios for the final energy consumptions of the Municipalities. Up to now nearly 60 Local Authorities joined the COM and are supported by the Metropolitan City of Torino. So far nearly 50 SEAPs have been approved using the energy observatory data center and guidelines. Some of those already started the monitoring phase, exploiting again the data collection activity carried out by the Metropolitan City of Torino.

Sources of information at local level

Energy	Sector	Information source	Quality
All energies	Municipal facilities	For some sectors the resellers provide tools to summarize all the invoiced energy during a period. If not, invoice-by-invoice analysis by the municipality is required. The smart meters will ease such activity in the future.	Very high
Electricity	Private households Service&commerce Industry Transport Agriculture Public Administration	Electricity distribution system operator provides the information broken down by sectors. Information are also available for sub sector, helping the assessment of data more in details.	Very high
Natural gas	Total per municipality, broken down per type of use	Natural gas distribution system operator gives the information divided by tariffs (centralized heating, cooking, hot domestic water, summer conditioning, heat for process, mixed uses). Estimation for the segregation by sectors is required.	Medium/high
Diesel oil,	Transport	The sales of oil products are available on a	Low/Medium

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Energy	Sector	Information source	Quality
gasoline, Heating oil, LPG	Heating Agriculture	Ministerial Bulletin published on a trimester basis and broken down at provincial level. In order to have data at municipal level a Top-down estimation is required, using auxiliary indicators. Estimation must be carried out even to have data broken down for building sector and process heating.	
Thermal Renewables (biomass, solar thermal, geothermal)	All sectors	Estimation from different sources, mainly from Industry Associations and market lobbies. Estimations are required to break down data per sector or per Municipalities. Esteems are made mainly from National data. Ad hoc survey can be carried out on the basis of available cost. Data coming from National census might provide very detailed information as soon as they are made available.	Low
Solar PV, Wind, hydro	Electricity production	Data are taken directly from power plant managers from the largest installations. For small scale plants, data are derived from the National Authority managing the Transmission Network, even though data are provided at least at provincial level.	Medium/High

Main problems to overcome

In the following table main problems facing to collect data, and the proposed solutions are provided.

Problems	Proposed Solutions
Lack of skills in the staff of Municipalities regarding energy balance and CO2 inventories	- Capacity building workshops in order to increase the understanding of issues. - Technical centralized support provided in order to harmonize methodology, data and scenarios.
Very poor information at local level for the use of	- The standard solution is based on an estimation of data from regional/national database and publications. The

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Problems	Proposed Solutions
thermal renewable energy sources	estimation is based on envisaged share of market or using other socio-economic indicators or any other figures that might be considered useful. The level of quality of data is in this case rather low and based mainly on average value. - Local surveys are another option. The outputs are fare and interesting, even though the approach based on survey is costly and not replicable often to keep data updated. - Good quality data might come from the assessment of the National census (carried out every 10 years) where in the last one, specific questions on renewables have been introduced. So far data related to 2010 are not available yet. - Within Data4Action an innovative low cost solution is going to be explored. The idea is to use web-based search as a way to break down national data with a higher quality and level of reliability. Methods are still to be fine-tuned.
The National Institution (the Managers of the Electric Transmission Grid, the Manager of National subsidies for RES, the Technical Office for Finance, etc.) are not open to provide data at local level due to privacy constrains and excessive workload.	- The standard solution to break data at local level is based on an estimation from regional data, using other information available based on the peculiarity of local Municipalities. - In the future it is envisaged to create a more complex system of indicators in order to obtain more reliable estimations of data.
No obligations in the provision of data have been	Here we figure out a bucket of solutions: - The first one is based on informal relationship and

Problems	Proposed Solutions
formalized so far by Public Authorities to local energy operators which give certainty in terms of time and quality availability.	networks established along the years with data providers. Keeping the activity of data collection alive along the years and providing the periodic release of energy Publications spread out the idea that providing data is something useful and meaningful. Such situation helps the improvement of the cooperation along the years; - The second approach is more "command and control". The provision of data is made compulsory whenever possible. Mainly during the permitting procedures (for power plant managers) and during the selection procedure for local distributors (specific clause are introduced in the call for tenders). - Finally, partnership agreements can be an option for residual cases and specific needs.
No obligations are fixed for Local Authorities to set up energy management systems and collect energy data from their own consumptions	- Capacity building workshops in order to increase the understanding of issues. - Technical centralized support provided in order to collect data and process the information. An online tool, called Enercloud, has been released for empowering the energy management of public building and street light among Municipalities. Such tool and its use must be straightened and centralized in order to be more effective in the future.

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