

OSSERVATORIO ENERGIA

Città metropolitana di Torino [IT]

Città metropolitana
di Torino
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Italy

Key Achievements

- Metropolitan territory energy balance – reports on biannual basis
- Strictly cooperation with local authorities and data providers for data exchanging
- Technical support to local authorities for developing and monitoring SEAPs
- Development of a cloud tool that helps municipalities for monitoring and evaluating energy consumption of public buildings and lighting
- Development of Web-GIS instruments

Context & Rationale

The Metropolitan City of Torino is one of Italy's 14 Metropolitan Cities and represents an intermediate level of government between municipalities and Region. It has, among Metropolitan Cities, the highest number of municipalities, 315, and is one of the largest in terms of size. Its demographic density is almost double than the Italian average. Main competences are related to Land Planning, Environmental protection, mobility, transport and high school buildings management.

In energy field, the Metropolitan City of Torino authorizes power plants, controls energy performance of boilers and promotes renewable and energy efficiency as a driver force for a low carbon economic growth. The latter activity has been carried out with an increasing commitment during the last years.

The Energy Observatory was formally established in January 2014, with the endorsement of the Sustainable Energy Action Plan of the Metropolitan City of Torino: it is, indeed, one of the main actions identified by the document in order to reach the 2020 objectives of a 24% of energy reduction, a use of RES between 18% and 21% and a CO2 emission reduction of the 42% (compared to 1990).

Anyway it is since 1999 that, formerly as Provincia of Torino, the Metropolitan City has an internal structure which plays the role of observatory, collecting data from major

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distributors and energy producers operating in the metropolitan area, getting information from official statistical sources, supporting municipalities, as well as promoting sustainable energy.

Moreover since 2010 the Metropolitan City of Torino is territorial coordinator of the Covenant of Mayor

Description

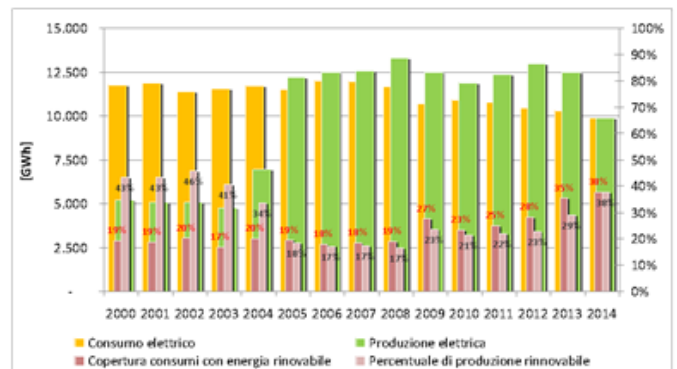
The Energy Observatory is monitoring final energy consumption, energy production, and GHG emissions at local level

Every 2 years, the Metropolitan City of Torino collects energy data and draw up an Energy Report. In addition to the energy balance, the report includes the calculation of CO₂ emissions associated with the energy use and the elaboration of several energy performance indicators.

Data are collected both with a bottom-up approach from municipalities and from local energy dealers and stakeholders, and with top-down approach from national and regional main institutions.

The document contains:

- a description of the metropolitan energy balance in terms of energy supply by analyzing the energy carriers and the energy transformations that take place in the region: the energy carriers are divided in four groups –



electricity, natural gas, oil products and renewable sources - otherwise the energy transformations are distinguished for the production of electricity and heat production. The baseline year is 2000 for data at Municipal level and 1990 for data at provincial/metropolitan level;

- the end-use energy consumption by sectors, divided in civil uses (sum of the domestic and tertiary), productive activities (sum of industry and agriculture) and transports: all the observations highlight the main trends in place throughout the available time series;

Programma di sviluppo economico del Comune		Spesa pubblica annuale (Migliaia Euro)	
Recepiti	Spesa	2011-2012	2013-2014
2011-2012	2013-2014	100,000	100,000
2013-2014	2015-2016	100,000	100,000

Settore	Consumo (MWh)	Costo (M€)	Target (MWh)	Target (M€)	Spesa per MWh (€)
2010-2012	2013-2014	2015-2016	2017-2018	2019-2020	2021-2022
Industria	10,000	1,000	10,000	1,000	100
Agricoltura	5,000	500	5,000	500	100
Trasporti	15,000	1,500	15,000	1,500	100
Civili	70,000	7,000	70,000	7,000	100
Totale	100,000	10,000	100,000	10,000	100

- the rendering of the energy use in greenhouse gas emissions: the trends allow to monitor the progress of emissions compared to the objectives of the Kyoto Protocol and those planned for 2020 in the region;

- the energy efficiency indicators and monitoring of the development scenarios to 2020;

- the description of the methodology used for the energy balance.

The collected data allow to define an energy balance at the metropolitan level, then, thanks to a model developed together with the Polytechnic of Torino, it is possible to extrapolate data at municipal level. This is quite essential for the identification of the Emission Inventory in order to implement SEAPs.

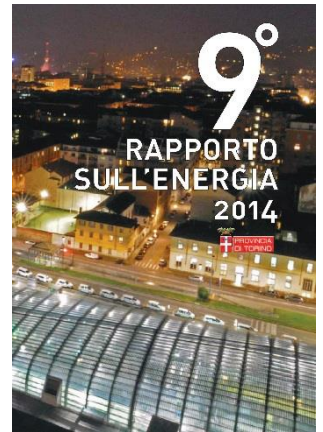
To provide technical support to local authorities for developing and monitoring their SEAPs is another important task for the Energy Observatory: nowadays about 45 municipalities have their own SEAPs.

The Observatory facilitates communication and dissemination of by publishing a report and a leaflet with the main results, uploading them on the website and organizing public presentations. Moreover the Observatory publishes a leaflet.

- the publication of energy reports on a biennial basis started in 2000 and still ongoing;

Main Results

- the work in close cooperation with municipalities, and the good results obtained in terms of SEAPs developed and, thanks to several European projects, the goals achieved with pilot projects and the ongoing application of EPC contracts;
- the good relationship and strictly cooperation established with most of the energy companies and stakeholders working in the metropolitan territory. The Observatory contacts them directly to collect the data needed for the drafting of the Energy Reports;
- the development of Enercloud: a software that can monitor and evaluate, on the basis of data available from energy bills, the consumption of electricity and heat in buildings and the energy consumption of lighting lines public. It requires the registration of the consumption of electricity and heat from the bills of each building or lighting line owned by the municipality, and returns summary reports, easy to understand, with the identification of parameters and target values and the identification of potentially anomalous situations. The system is based on "Cloud Computing": the data storage and processing is carried out on a remote system, in order to avoid the user to adopt complex infrastructures or to have specific skills;
- the development of two web-GIS instruments.
 - Solar Portal: it evaluates the potential production of solar and geothermal energy in residential buildings, in order to meet the existing needs and gradually replace fossil fuels.



- Energy production plants on the metropolitan territory subject to environmental licensing: the system shows both renewable energy plants and fossil fuels powered ones and, in addition to the geographical location, it also provides some technical information on installed capacity and type.
- the realization of several study and analysis documents, especially on RES sources.

targeted at citizens with several useful tips applicable in everyday life to save energy.

Lesson Learned & Success Factor

One of the strengths for an observatory is to gather and process in a centralized way data and other related indicators coming from different sources and levels by using reliable, but also, inexpensive methods. The data must be kept up to date and communicated to local authorities and stakeholders, supporting them to understand and use the information: this contributes to give credibility to the work of the observatory.

To reach good results it is not possible without creating and implementing collaboration agreements with local authorities, data providers as energy suppliers or producers and stakeholders: this is one of the main objectives of the Metropolitan City of Torino Observatory. Besides, the Observatory is continuously seeking innovative ways to present data and to get the ones hard to find with common methods.

Participating to European projects, as Data4Action, allows to overcome problems related to local lack of funds and to implement peer learning activities with other European energy observatories.

Implementing Structure & Partners - Governance

The Observatory's structure is part of the Metropolitan City of Torino, it is now located within the environmental area, in the Air quality and Energy resources department.

Thanks to the Data4Action project, the Observatory governance scheme now includes a steering committee involving the Piedmont Region, data providers and representatives of territorial energy stakeholders as well as IT, economic and social sectors.

Technical Structure

The technical structure is composed by three operators which are responsible for the collection and the analysis of the data, for the drafting of the metropolitan energy balance and for supporting municipalities in preparing and monitoring their SEAPs.

They implement and facilitate the local partnership system and the communication activities (website, editing of documents, and networking with other institutions).

The activities are carried out in close collaboration with Piedmont Region.

Financing and Costs / Time Frame

- Considering only the specific tasks of the Energy Observatory a rough estimation could be 1 full time employer.
- The observatory was formally established in January 2014, but the data collection, analysis and reporting has been done since 1999.

Contacts & Links

Observatory website: <http://www.cittametropolitana.torino.it/cms/ambiente/risorse-energetiche/osservatorio-energia>