

Chieti Towards 2020. The ELENA facility supporting energy efficiency for small and medium municipalities in the Province of Chieti.

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Abstract

Chieti Towards 2020 is the Project of the Province of Chieti, funded under the European Local Energy Assistance, for the implementation of investment projects in the fields of energy efficiency and renewable energy sources in the 2012-2014 period. The ELENA Programme, which aims to mobilize private investment in the public sector, following the "Third Party Financing" and "Saving Shared Contract" mechanisms, provides for the Province of Chieti investments estimated at 80 million Euros that will be made for a share of 60 million, from loans provided by the European Investment Bank and for the remaining 20 million, from resources provided by the ESCo (Energy Service Company) which will be responsible for carry out the interventions.

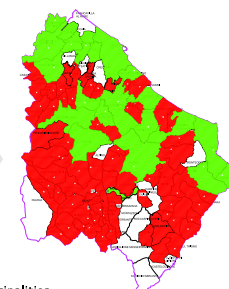
Project framework and organization

The role played by the Province of Chieti concern the coordination and supervision of technical and legal activities, from preliminary technical stages to call for tenders and subsequent contract arrangements for interventions included in the Project. The local targets for energy efficiency, renewable sources and CO2 reduction are stated in the Sustainable Energy Action Plans (SEAPs) that each of 104 Municipalities of the Province of Chieti has drafted within the Covenant of Mayors agreements. In order to implement the investment program, the Province of Chieti has adapted administrative and technical structure, working through its own offices and in particular through the ENVIRONMENT - ENERGY (which will act as overall co-ordination of the initiative), CONSTRUCTION, TRANSPORT and GENERAL ACCOUNTING departments. It is technically supported by the participated companies ALESA Srl and OPS Spa, as well as by the technical services of the participating municipalities, a supporting staff and an external Legal-Technical Advisor that provide legal, technical and administrative assistance and accounting services. During the project implementation, and just from the early stages and project start up a program of communication, engagement and dissemination of results, at all stages for implementation and with the various players at the process has been structured.

Problems encountered to date concern 'non immediate' availability from the municipalities to cooperate in the activities, the reluctant attitude to release documents, information and data in relation to the management of their public buildings, their public lighting systems and maintenance contracts and agreements. Through the detailed energy audit activities, thermal and electrical energy consumption mean values, grouped by building type, as collected through energy audits represent the baseline scenario for energy efficiency interventions.

CHIETI TOWARDS 2020 KEY FACTS

EIB CONTRACT N.	ELENA-2010/004
Territorial extension	2,600 sq km
Estimated overall investment	80 M€
Overall Municipalities involved	87
Municipalities over 4,000	21
Total buildings	188
Total estimated high points	50,000



Location of Province of Chieti and geographical distribution of Municipalities involved in the "Chieti Towards 2020" Project. Municipalities over 4,000 inhabitants are highlighted with green hatch



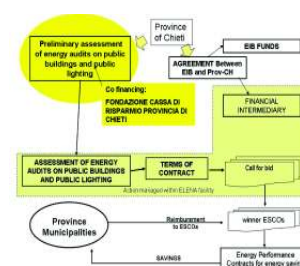
Covenant of Mayors, Brussels, May 4th 2010



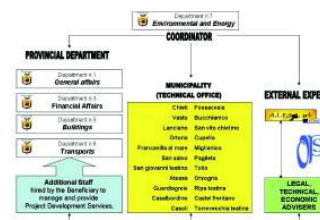
Chieti Towards 2020 Project undersignment Chieti, November 3rd, 2011



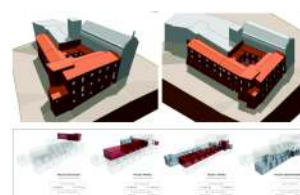
EUSEW Awards 2013 Ceremony Brussels, June 24th, 2011



Flowchart of EPC mechanism with public-private partnership funded by European Bank of Investment



Framework of organization and support structures within the "Chieti Towards 2020" Project



3D model of thermal analysis of the city hall building in Buccianico municipality performed during energy audit activities (courtesy: Landbau srl)



Infrared thermographies (IRT) carried out during energy audit: Province of Chieti office building at Chieti / Nursery School "S. Giuseppe" at Ortona



Results, lessons learnt and further development steps

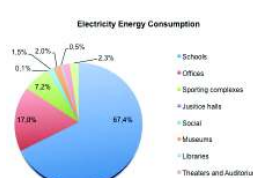
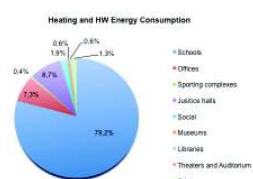
The auditing reports on municipalities buildings were completed on May 14th 2013 and submitted to the ELENA office with report and annexes, such as data, information, drawings, photographs, graphs and spreadsheet information in order to facilitate energy efficiency standards and evaluation. The audit activities on public lighting system are still under execution for a total of approximately 50,000 estimated light points. The next development stages of "Chieti Towards 2020" Project within 2014, concern the completion and assessment of energy audits activities, the preparation of documents for calls for tenders, tenders execution and start of ESCOs contracts and interventions.

Type of public building	Municipalities ownership	Province of Chieti ownership	Total
Schools	22	4	26
Offices	22	3	25
Sporting complexes	21	-	21
Court houses	2	-	2
Social	3	-	3
Museums	2	-	2
Libraries	2	-	2
Theaters and Auditorium	4	-	4
Other	4	-	4
Total	144	44	188

Type of buildings included in the ELENA Project

Type of public building	Municipalities ownership	Province of Chieti ownership	Total
Schools	22	4	26
Offices	22	3	25
Sporting complexes	21	-	21
Court houses	2	-	2
Social	3	-	3
Museums	2	-	2
Libraries	2	-	2
Theaters and Auditorium	4	-	4
Other	4	-	4
Total	144	44	188

Energy Consumption (mean values 2010-2012 period)



Heating and electricity consumption breakdown by building type

One of the most important lessons learnt is that complex and wide projects as ELENA request an adaptive and "fluid" problem-solving approach. It is necessary to carry out a constant review of the procedures and timing with which implement from time to time the different project steps. In fact, the technical and regulatory framework, the social and economic conditions and the market variables, changes quickly and following trends are not always predictable. We hope that sharing "Chieti Towards 2020" experiences could be useful to other public bodies to overcome problems or find new pathways along the EU energy efficiency roadmap.