



Public workshop on innovative financing for energy efficiency and renewables

Energy Efficiency - Covenant of Mayors (Province of Milan, Italy)



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The Context (included Monza-Brianza Province, established in 2010)



Surface Area	1.984 km2
Inhabitants [n°]	3.839.216
Density	1.900 inh/km2
Municipalities [n°]	189
Energy Consumption	9.647.000 toe
Energy Cons. per Capita	2,51 toe/inh.
CO2 Emissions	35.508.000 tons/y



The Genesis

The Province has joined the Covenant of Mayors as Support Structure in 2009, representing 65 small Municipalities in the Milan Hinterland.

Many SEAPs and more than 700 building audits granted by the Cariplo Foundation were made available to the Province.

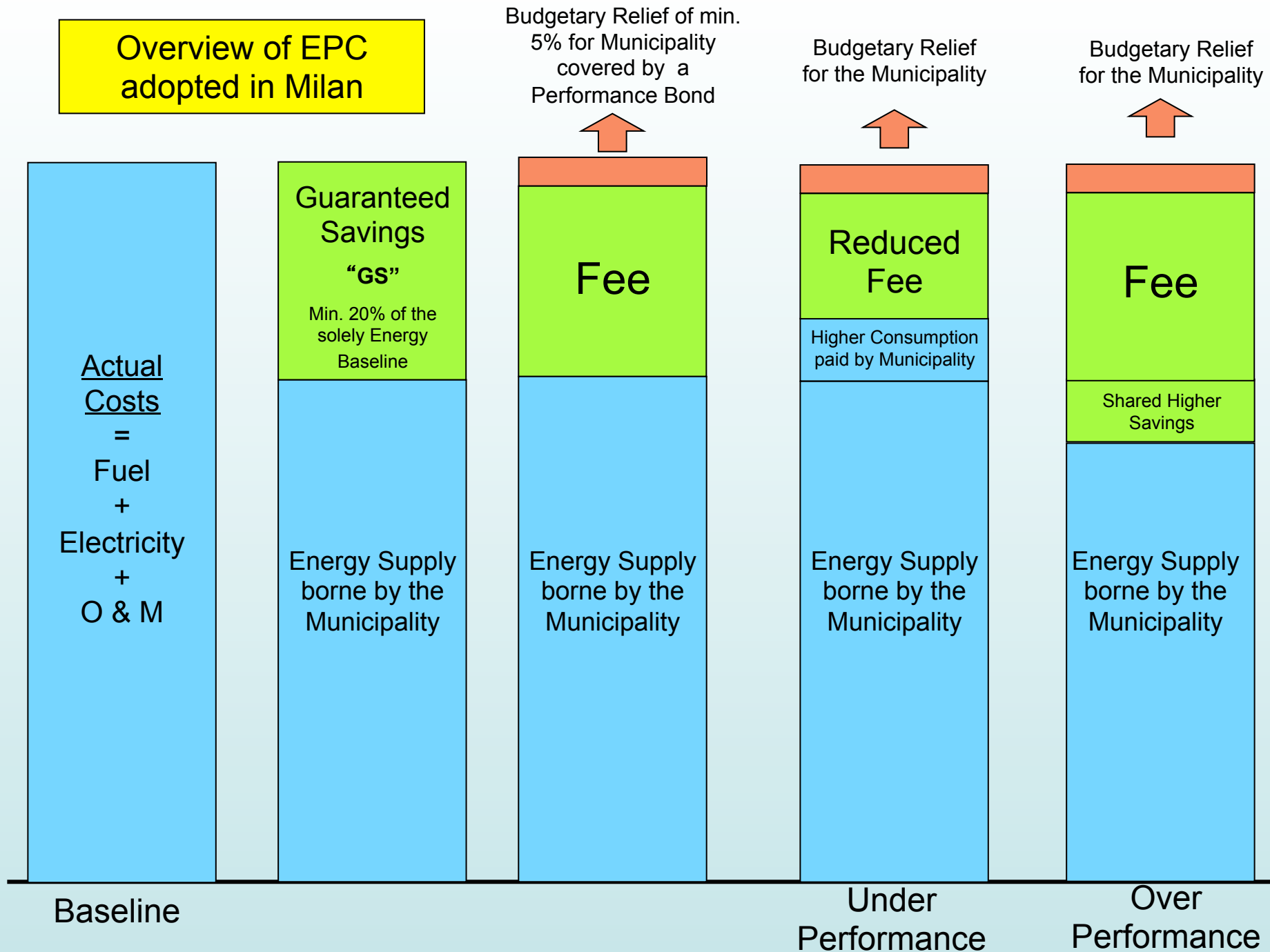
The Aim of the pilot project

Reduce significantly the energy final consumption of the building stock of small Municipalities.

Give birth of a mature ESCO market able to offer Energy Performance Contracts with Guaranteed Results

Increase the know how within the local Administrations in order to improve the Muni's Governance against inherited loss of Sovereignty.

Overview of EPC adopted in Milan



Planned objectives & Results

	Planned	Results Achieved	Results NOT achieved & Notes
Number of Munis	30-40 Small Munis (< 30.000 inh)	16 Small Munis (200,000 inh.) + the City of Milan (1.5 M.inh.)	31 Small Munis (400.000 inh.) (foresaw within the void tenders)
Number of Bldgs.	350 Buildings	98 Bldgs. in the 16 Munis 38 Bldgs. in Milan city	197 Bldgs. (foresaw within the void tenders)
Investments	€ 90 Mln	€ 13 Mln for small Munis € 5 Mln for the city of Milan	Expected € 18-20 Mln within the void tenders.
Of which From EIB credit line: Mediocredito Italiano (Intesa Sanpaolo)	€ 65 Mln	€ 5 Mln	Of 4 ESCOs winning the first tender, three got the EIB loan.
Technical Assistance (90% Elena Funding)	€ 2,1 Mln	€ 1,8 Mln	Lower Costs by € 300.000

Detailed Results

First tender (98 buildings in 16 Munis) **awarded** – (August 2013).

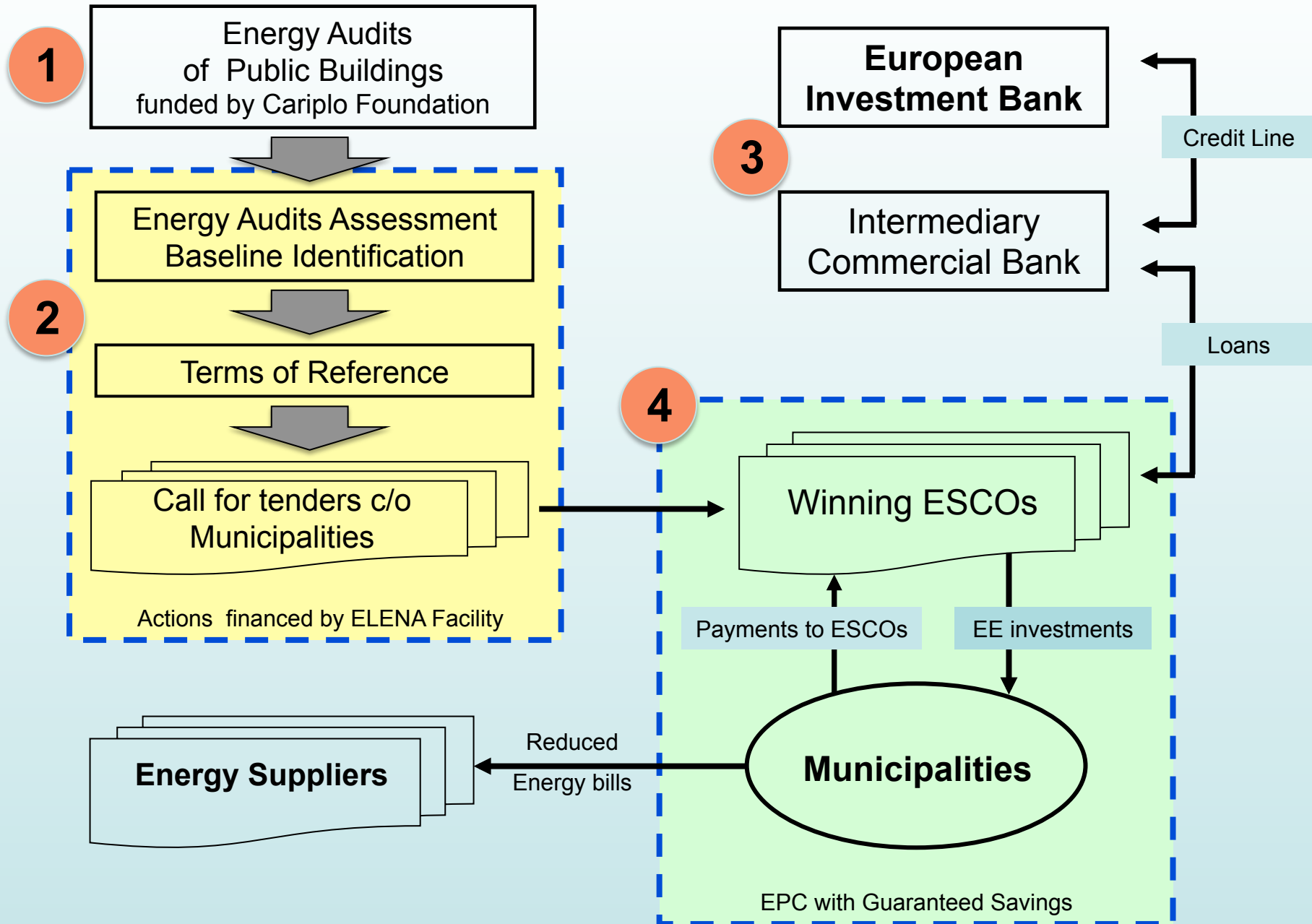
- Energy + O&M Baseline: € 3.8 Mln.
- Minimum Investment Required: € 5.4 Mln.
- Awarded for € 13 Mln.
- Proposed Interventions: Envelope insulations, Micro-Cogen, Heat Pumps, Condensation boilers, Solar Thermal, Lighting sensors, BEMS, etc ...
- Guaranteed Savings: 35%
- Budgetary relief for Munis: 5% of Guaranteed Savings
- Concession duration: 15 years

Third tender awarded for the city of Milan (38 schools) – (August 2014)

- Energy + O&M Baseline: € 2.3 Mln.
- Minimum Investment Required: € 3.5 Mln.
- Awarded for € 5.14 Mln.
- Proposed Interventions: Envelope insulations, Condensation boilers, Solar Thermal, Solar PV, LED installation, Lighting sensors, BEMS, etc ...
- Guaranteed Savings: 35.5%
- Budgetary relief for the City of Milan: 15.5% of Guaranteed Savings
- Concession duration: 15 years

The Second tender (two lots - 197 buildings in 31 Munis) with 7 ESCOs pre-selected (short list) went void for two consecutive times. (June 2013 and May 2014)

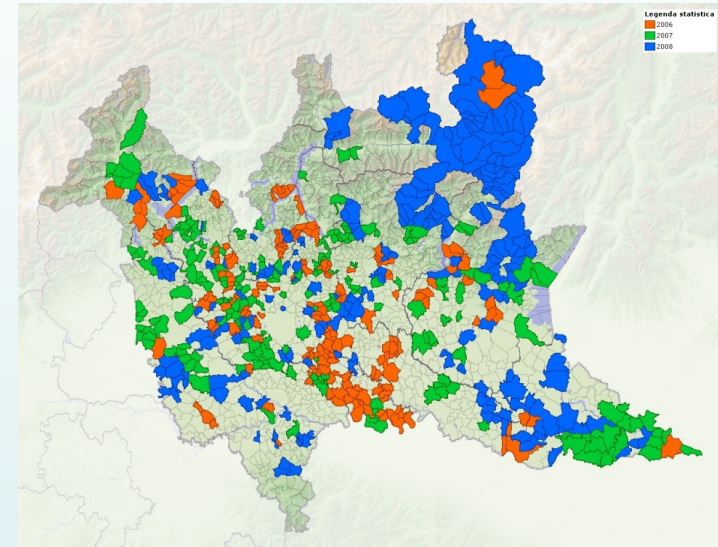
Simplified Technical-Financial Flow-Chart of the Programme



1

Fondazione Cariplo (FC) is one of the largest Italian banking foundations. Founded in 1991, mainly operates in Lombardy and Piedmont.

Between 2006-2008, the Foundation has funded, between 3.700 building energy audits of smaller Municipalities, of which 700 in the Province of Milan, through a call known as: ENERGY AUDITS OF PUBLIC BUILDINGS OWNED BY SMALL & MEDIUM MUNICIPALITIES.



A survey of the Observatory of the Foundation found that in general the energy audits did not significantly stimulated the implementation of energy efficiency measures by municipalities, mainly because of the lack of economic resources and the Stability Pact.

The project “Energy efficiency - Covenant of Mayors” of the Province of Milan, is based on these audits.

AUDIT DATA BASE <http://www.webgis.fondazionecariplo.it>

2

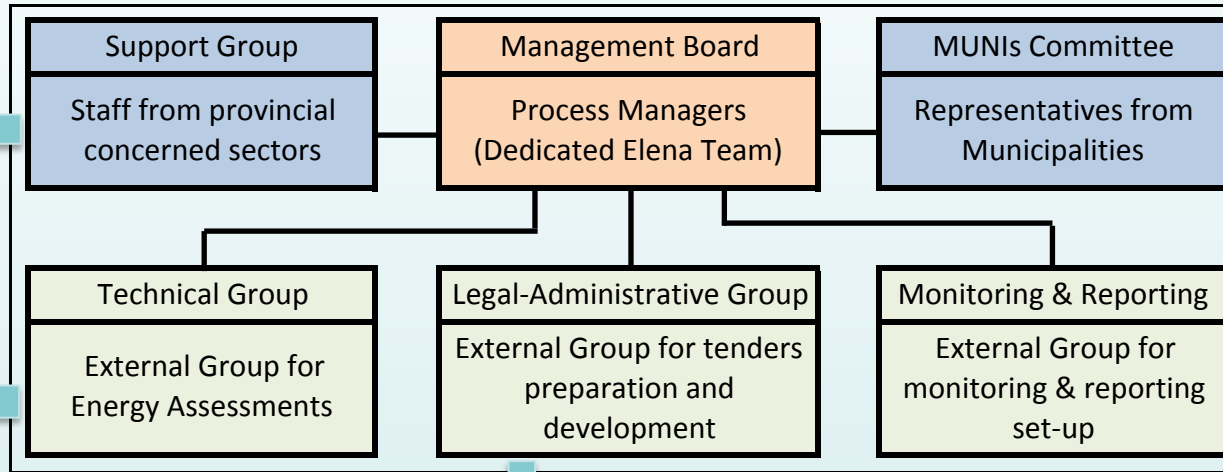
Internal Administrative Support

- Task carried out under the leadership of the "Procurement & Contracts" sector.
- Admin. activities by Energy/Budget/Others sectors
- Main key difficulty: Administrative deadlines not always met

MUNIs Committee

- Full mandate to the Province as Central Purchasing Body
- Contracts & ToRs shared among Munis
- Main key difficulty: lot of legal support for local peculiarities

The T.A. structure



Audits, Baselines, Potential, Costs Assessment

- Task assigned primarily to a dozen of the engineering companies that had issued the previous CF audits.
- Coordination & Control assigned to the in-house Provincial Energy Agency (InfoEnergia).
- Well structured and reasonable cost (€ 1,000 + VAT x Bldg)
- 4-6 months work per tender
- Main key difficulty: lack of reliable consumption data

Legal & Administrative Support

- Tasks assigned to a leading international law firm.
- Coordination & Control directly played by Mng.Board
- Well structured, effective but costly (1/3 of budget)
- Not important key difficulties.

Monitoring & Auditing tasks.

- Standard IPMVP adopted
- Energy Management Systems compliant with ISO 50.001
- Main key difficulty: Trade off Sovereignty/Governance

The selection of financial intermediary (Commercial Bank)

Spring 2010 – early contacts with Commercial Banks ... (all seems to be fine) ...

October 2011 – closing of first tender – Void ...

April 2012 – closing of second tender – Void ...

May 2013 - contract signature between EIB and the Commercial Intermediary Bank (MedioCredito Italiano – Intesa Sanpaolo Group).

Then ... black-out on the negotiations among ESCOs & the Commercial Bank.

But ... of 4 ESCOs grouped in the Consortium winning the first tender:

- 1 got the EIB loan from MedioCredito Italiano ... only for 5 years;
- 2 got the loan, but by means of the above ESCO;
- 1 where not financed by MedioCredito (not enough creditworthiness);

Other than Corporate creditworthiness, main reason probably was the refusal (or impossibility) to build a Special Purpose Vehicle as required by MedioCredito

Contractual instrument: Concession of Services, off-balance for the Municipalities, in accordance the Eurostat decision of February 2004 and enforced by Italian Government (Circular 03/27/2009)

Procedure adopted: Restricted – two steps - (pre-qualification and invitation to tender)

Step 1 - Pre-qualification containing the general information (baselines & sums involved), based on self-declarations

- Standard legal & economic requirements (tailored to the sums involved);
- Compliance with ISO 9001:2008 and UNI-CEI-11352 (ESCo Certification) standards

Step 2 - Documents produced within the Invitation to Tender:

- Invitation to tender
- O&M Terms of Reference – (shared with Munis)
- Draft of Framework Contract: Provincia - ESCo
- Draft of Operating Contracts: ESCo – Municipalities. (shared with Munis)
- Complete Assessed Energy Audits (Cariplo Foundation borne)
- Baselines (Assessed directly with MUNIs)

The whole procedure took 8 months

Evaluation tasks: 2 internal dedicated committees with technical support of Elena Team.

The Framework Contract, Prov → ESCo, signed within one month from the end of stand-still period.

The Operating Contracts, Munis → ESCo, signed after individual negotiations with the support of the Legal Advisor and the Project Team. (delayed by one year because of the mismatch with the agreement with the Commercial Bank)

The Epilogue - 1

The negotiation of the first 16 operating contracts, have been badly delayed due to the mismatch of the agreement with the commercial bank.

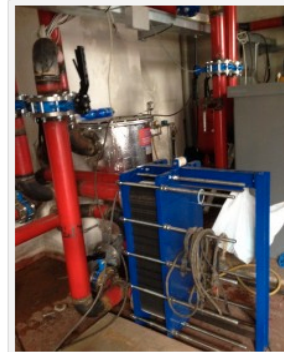
As results, the final design and the executive drawings, took more than one year to be approved by Munis and the summer 2013 slot was lost.

Refurbishment works for a first group of 8 Munis has been implemented in the 2014 summer slot.



E' in fase di cantierizzazione il progetto ESCO della Provincia di Milano che prevede la riqualificazione energetica di 98 edifici pubblici appartenenti a 16 Comuni della Provincia di Milano. In particolare sono stati avviati i primi cantieri per il rifacimento delle centrali termiche, la realizzazione di cappotti termici su alcune scuole e la riconversione degli impianti termici delle palestre. Inoltre sono in fase di installazione i primi cogeneratori, previsti per soddisfare gli autoconsumi dei Comuni interessati.

Le immagini riportate nel presente articolo si riferiscono ai cantieri avviati da Carbotermo SpA e Prima Vera SpA, due delle Escos coinvolte nel progetto.



According to preliminary data, the results look better than expected, although ESCOs have complained about the underestimation of the envelope losses in the energy audits
Works for the second group of Munis are expected in the 2015 summer slot.

The Epilogue - 2

The tender for the City of Milan went differently:

It was spent one year to prepare the tender documentation, missing the 2013 summer slot (The relations with the municipal offices were not the best).

The tender has been awarded in July 2014 and the Framework Contract has been signed in October 2014 by the Province with the winning ESCo.

The City does not intend to sign the contract, claiming a best deal with an other ESCo, chosen independently without notifying the Province.


Meanwhile, from January 2015, the Muni of Milan and the Province have merged in the so called "Metropolitan City"

Injunctions and lawsuits are under way between all the actors concerned ... and perhaps the disputes will be resolved by the anti-corruption authority ...


Sed fugit, interea fugit, irreparabile tempus ... (Virgilio)

[illegible]


Addressed Barriers – market side




The Italian EPC market is at the very beginning and Energy Supply Contracting is predominant over Energy Performance Contracting.




The Major ESCOs, well capitalized and well inserted in the public market, tend to boycott tenders for EPC with Guaranteed Results ... because they prefer embedded contracts (Refurbishment, O&M, Fuel Supply) without cost separation and thus without full transparency.



On the other side, Small & Medium ESCOs do not have sufficient capitalization to hold long and complex contracts and have difficult access to bank loans.




Banks tend to not accept the cash flows generated by energy savings as main collateral and thus they adopt a very tight precautionary behaviour versus ESCOs against the risk of insolvency.




Lack of a market for Performance Bonds issued by independent Insurance Companies in order to insure customers if ESCOs fail to satisfy their performance contracts.


Addressed Barriers – Public Administrations side




Lack of legal and technical knowledge on EPC for small Municipalities which can not afford the costs of an external consultancy when preparing and implementing complex tenders.




Inadequacy of Municipalities to comply with appropriate trade-off between Governance improvement and share of Sovereignty that PPPs imply.




Further on, the main phase of “Obligation to Perform” an Energy Saving Guaranteed Contract, requires the understanding and the application of a Monitoring & Verification protocol.



During the energy audits has been frequently detected a lack of reliable consumption data. A large number of Municipalities do not record, or often adopt rather arbitrary accounting systems of their O&M costs.



Still remains the technical problem to establish the heat losses of the building envelopes (the U-values are often Over-estimated)



Time and costs needed to train the personnel is often undervalued. Also time required to run the administrative procedures, is often underestimated.

Other Barriers (not addressed here)

There are still heavy institutional & market barriers:

- Legislative instability & complexity of bureaucratic procedures.
- Frequent administrative Stop & Go imposed by national and local regulations
- Due to the "Stability Pact", impossibility for Munis to allocate equity funds for measures with long pay-back times (e.g. intervention on the building envelopes coupled within ESCo contracts).
- Complex incentive systems and with different timing among all actors (EU, Member States, Regions, Local)
- Strong & powerful lobbies capable of hindering the diffusion of EPC
- Opaque relationships with Banks in general
- ...



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Thank you
for your attention

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