



INVESTIRE NELL'EFFICIENZA ENERGETICA:

LE MIGLIORI PRATICHE IN ITALIA NELL'USO DEGLI STRUMENTI FINANZIARI

02 MARZO 2017 ore 9

The proposal

Promote energy efficiency during the refurbishment of public buildings and street lights with Energy Performance Contracts and Third Party Investments



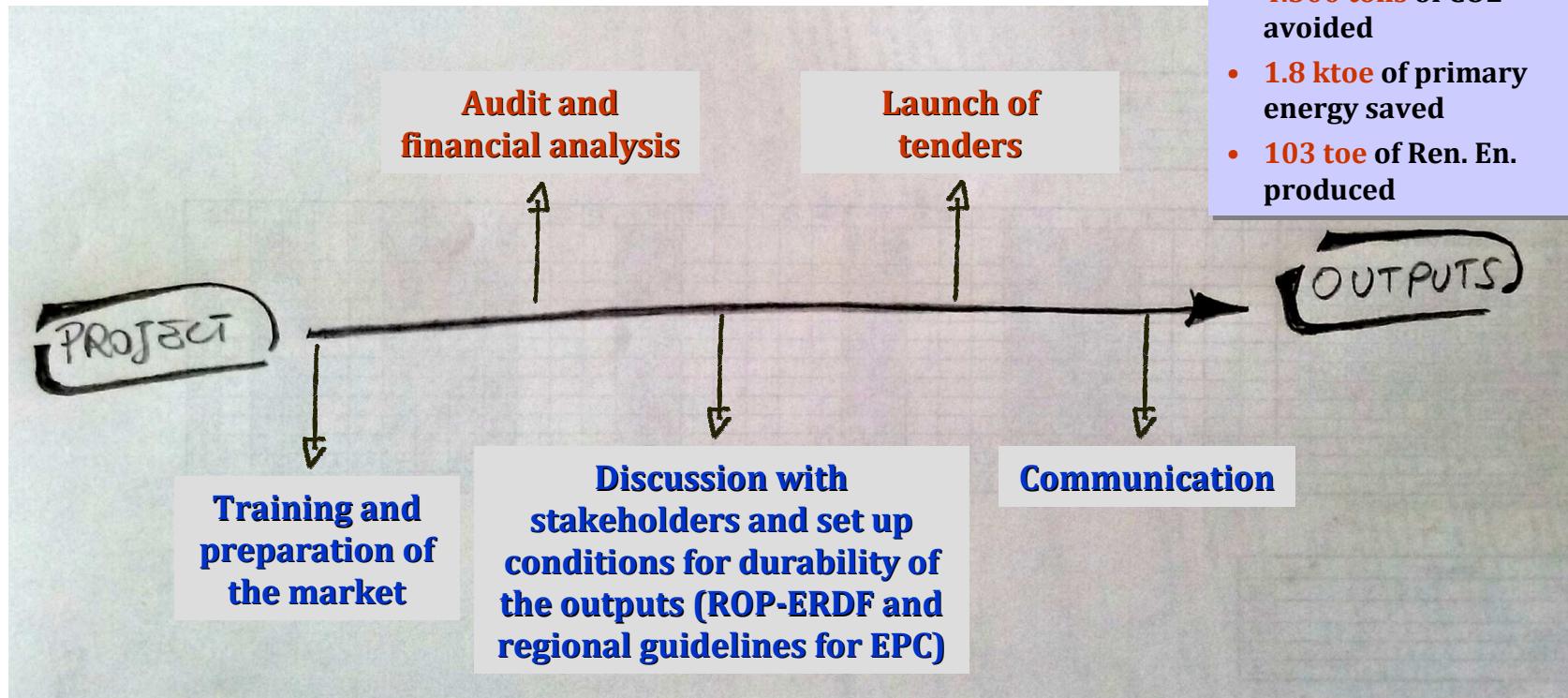
CITTA' DI TORINO



Co-funded by the Intelligent Energy Europe
Programme of the European Union

The project: outputs and WPs

Tasks for the Investments



- **9.5 M€** of investments in energy efficiency
- Leverage factor: **19**
- **4.300 tons** of CO2 avoided
- **1.8 ktoe** of primary energy saved
- **103 toe** of Ren. En. produced

Tasks for the market

Role of the partner inside the project

- 1 Regional Institution (main tasks: provide durability of the outputs) – Piedmont Region
- 1 Regional institution (main tasks: act as tender contracting authority and coordination of Municipalities) – the Metropolitan City of Torino
- 1 technical partner (main tasks: elaboration of energy audits and financial assessment) – Environment Park
- 1 large City (main tasks: test and replication in the future) – The City of Torino

Public Buildings

- *One large investment for the City of Torino*
- *Bundling Investments for small and medium municipalities*

.....*Main achievements*.....

Large investment for heating boilers in the City of Torino - *Revamping*

WHAT: Change and management of heating systems in 118 public buildings

HOW: EPC with 5 years of duration

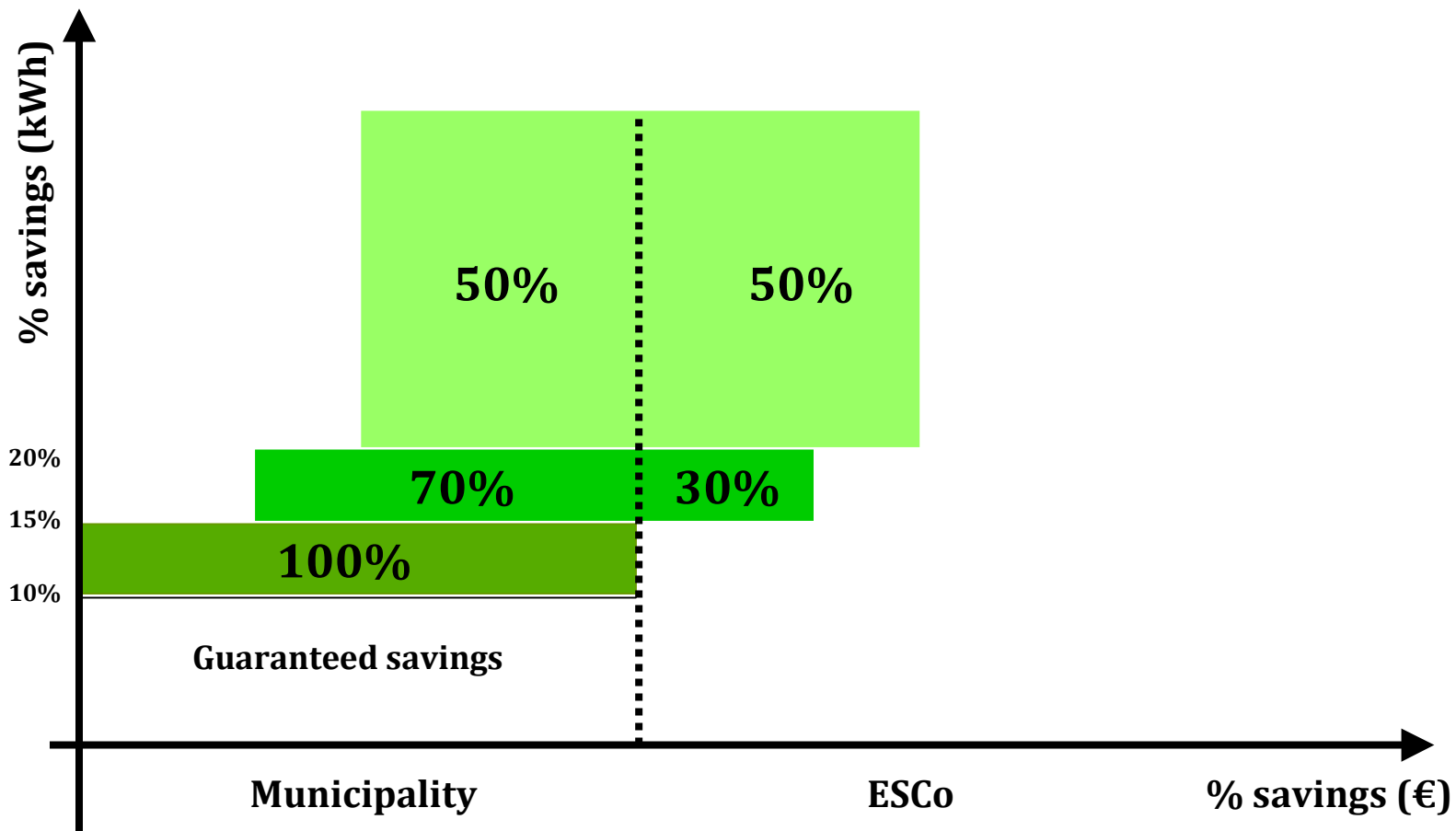
WHO: The City of Torino and the local Utility IREN

Expected savings: 30%

Guaranteed savings: 10% with shared savings in case of over-performance

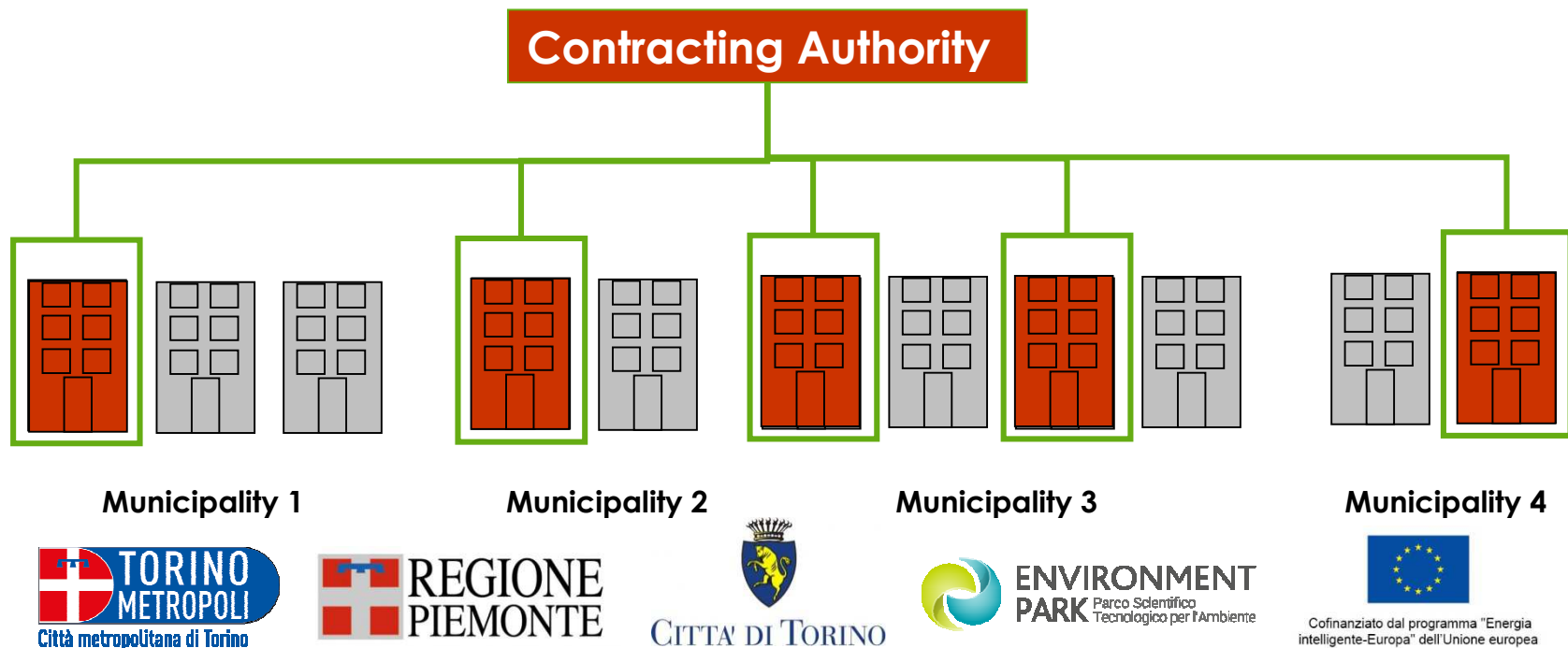
<i>Investments:</i>	11	M€ (7.7 M€ for EE works)
	<i>1.7</i>	<i>M€ (grant of the City of Torino - 15%)</i>
	<i>2</i>	<i>M€ (National incentives - 18%)</i>
	<i>7.3</i>	<i>M€ (fees during 5 years - 67%)</i>

Shared saving in case of overperformance

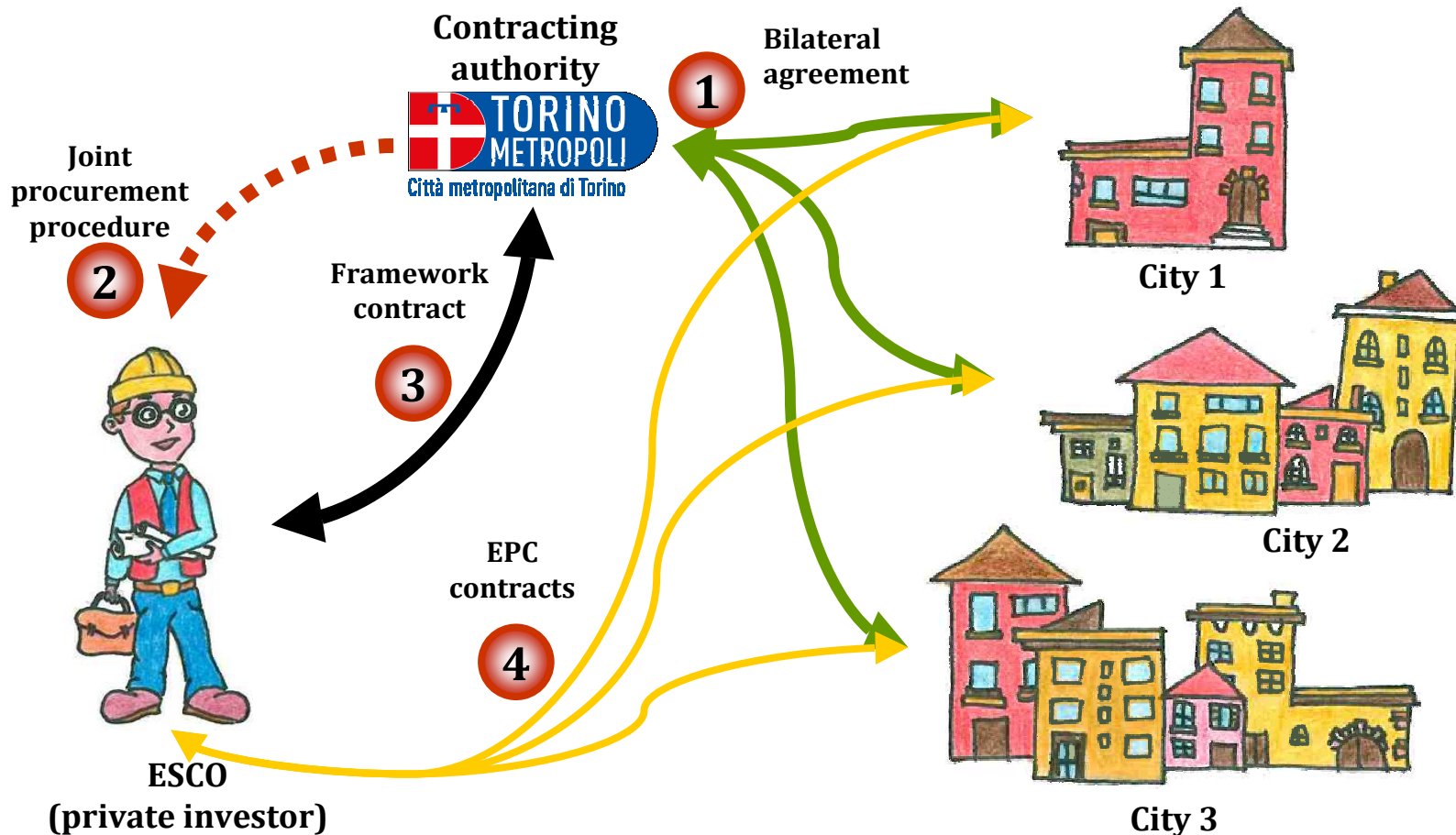


The model of the bundling contract: technical/administrative issues

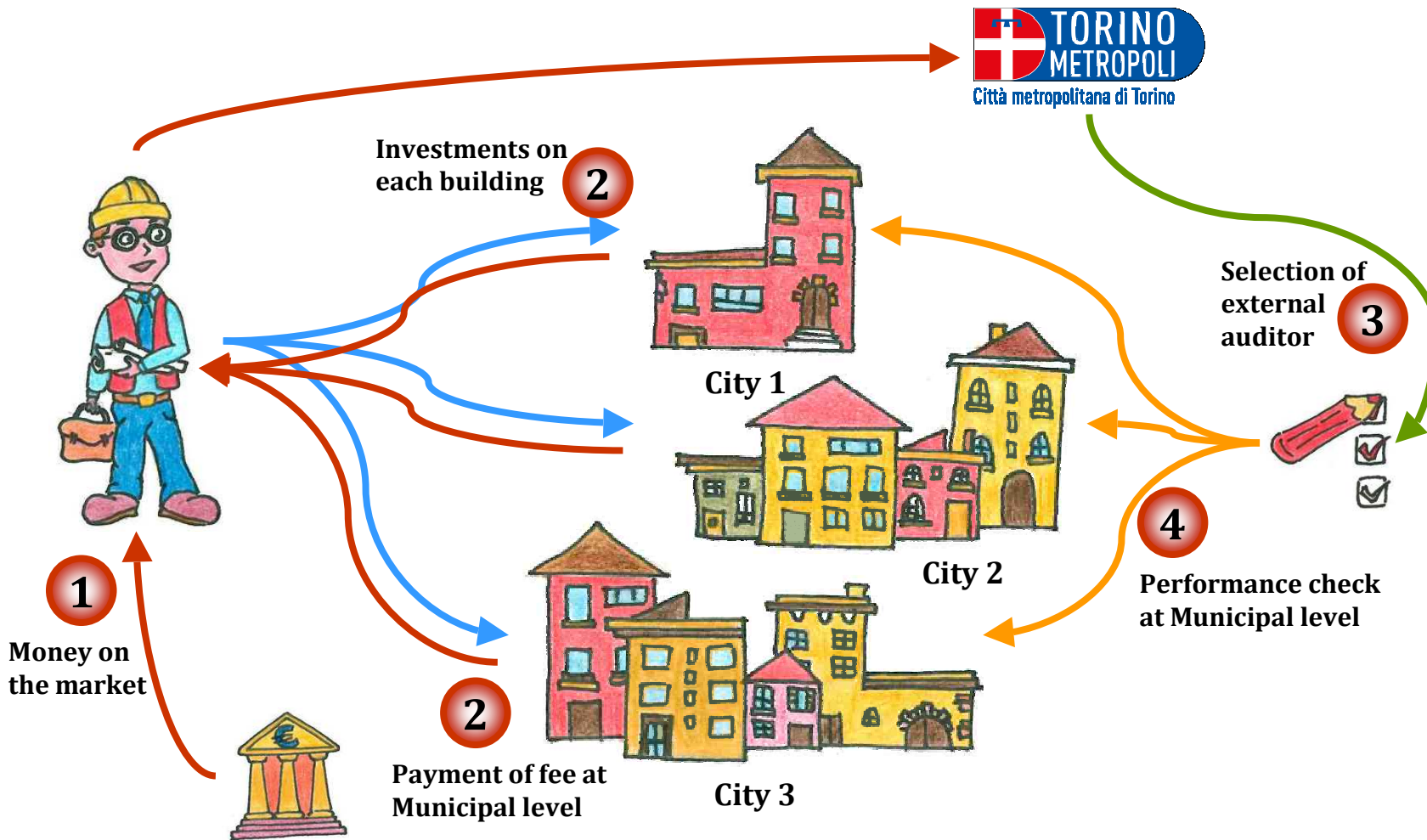
- Few buildings belonging to a range of Municipalities
- Selection of buildings on the basis of their attractiveness for ESCOs
- A binding agreement was signed by beneficiaries Cities and Contracting Body



The model: administrative scheme



The model: financial scheme



.....*Main achievements*.....

Deep renovation of public buildings

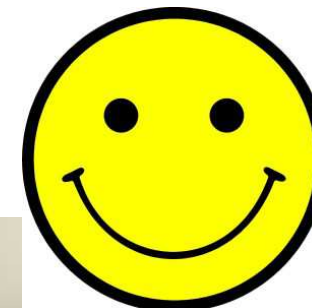
WHAT: energy renovation of 18 public buildings with fuel supply and energy management

HOW: EPC with 13 years of duration (1 year for investments + 12 years for management)

WHO: 5 Municipalities, the Metropolitan City of Torino and Bosch Energy and Solutions Italy

Guaranteed savings: 61% with shared savings in case of over-performance (70-30)

Investments: 3 M€



**Framework Contract signed
on the 22° of November!!**

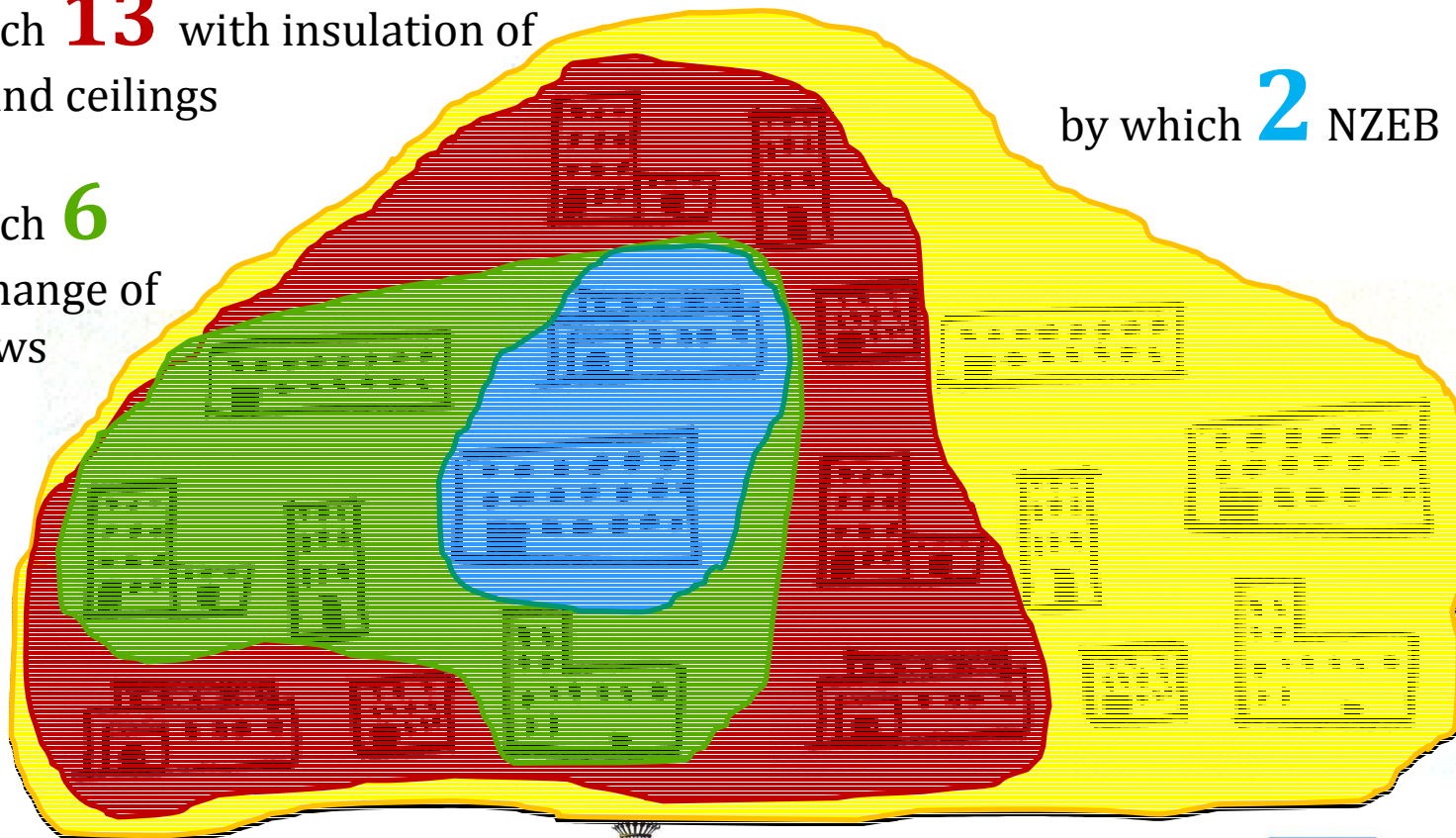
Planned investments for deep renovation

18 buildings with replaced space heating and energy management systems

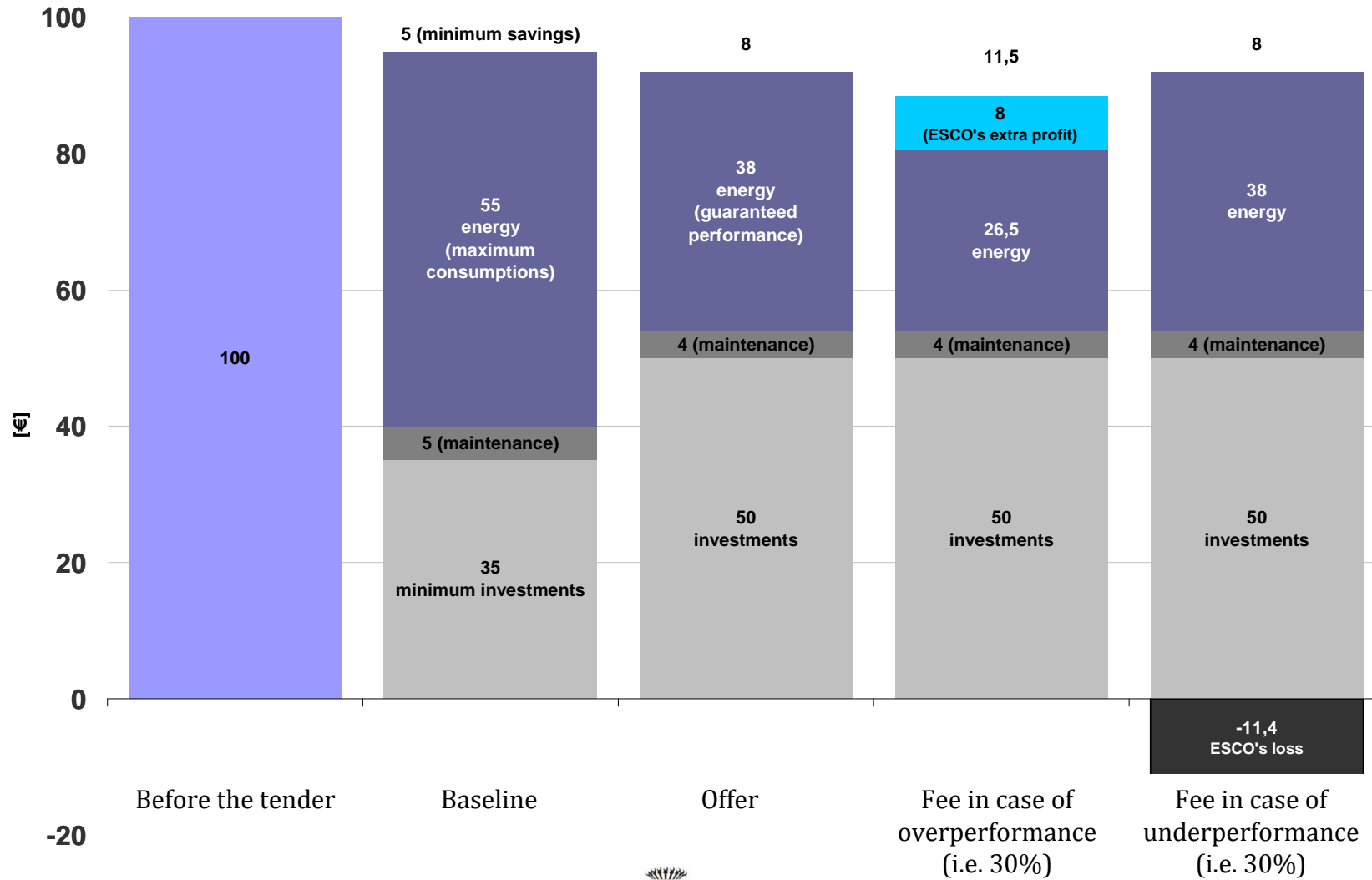
by which **13** with insulation of walls and ceilings

by which **6** with change of windows

by which **2** NZEB



Fee (an example)



Public Light

- *Bundling Investments for small and medium municipalities*

Open call for tender.... !

WHEN: bids to be submitted by April the 5th

WHAT: energy renovation of 3000 street light points

HOW: EPC with 13 years of duration (1 year for investments + 12 years for management)

WHO: 6 Municipalities, the Metropolitan City of Torino and ESCO to be selected

Minimum Guaranteed savings: variable from 22% to 44% with shared savings in case of over-performance

Minimum Investments: 1.4 M€

Minimum economic savings: variable from 5% to 16%

Project indicators

KPI	Planned	Achieved
Investments	9.5 M€	12.5 M€
CO2 emissions avoided	4.300 tons	4.360 tons
Primary energy saved	1.800 toe	1.895 toe
Renewable energy produced	103 toe	33 toe
Leverage factor	19	25

The website

The screenshot shows the website for the Torino Metropoli project. At the top, there is a blue navigation bar with the following items: LA CITTÀ METROPOLITANA, INFO E SERVIZI, NOTIZIE ED EVENTI, and CANALI TEMATICI. Below this is a sidebar menu with categories like HOME AMBIENTE, AGENDA21, and AUTORIZZAZIONE INTEGRATA AMBIENTALE (AIA). The main content area features a section titled 'Intelligent Energy for Europe / Mobilizing L measures to improve energy efficiency of b for a minimum amount of approximately € 9. and private investors.' This section lists main actions such as energy audits, involvement of small and medium-sized contracts, research and promotion of new forms of finding new opportunities for financial support, coordination of Municipalities and group terms and conditions, and launch of one or more tenders for the project. A highlighted box contains a 'Short presentation of the project (pdf 251,2 M)' with a thumbnail image showing a map of investments, energy audits, project documentation, and events/newsletters.

- **Tender documents**
- **Guide on EPC**
- **Final Publication**
-and coming soon:
- **Public report on ERDF Energy Fund**

The website

Cofinanziato dal programma "Energia intelligente-Europa" dell'Unione europea

2020 TOGETHER
torino is getting there

I CONTRATTI EPC PER LA PUBBLICA AMMINISTRAZIONE
2020 TOGETHER: il modello e i risultati

risparmio economico complessivo 29%
fonti rinnovabili 58 MWh
investimenti proposti € 500.000

di costruzione: 1981
Volume lordo riscaldato: 2.263 mc
sostituzione infissi: 83 mq • cappotto esterno: 335 mq •
rifacimento centrale termica: 67,6 kW • impianto solare termico:
10 kWp • telegestione e termoregolazione

costruzione scuola 1976 - Costruzione palestre 1983
Volume lordo riscaldato: 15.874 mc
cappotto esterno: 1225 mq • isolamento copertura: 1171 mq •
10 kW • telegestione e termoregolazione



SCUOLA MATERNA MONTESSORI Anno di costruzione: 2006
Superficie utile riscaldata: 1225 mq - Volume lordo riscaldato: 5680 mc
Tipologia di interventi proposti • cappotto esterno: 740 mq • rifacimento centrale termica: 120
kW • impianto solare termico: 10 mq • telegestione e termoregolazione

Final publication available on
the website

INVESTIMENTI SUGLI EDIFICI

Volvera

Risparmio energetico garantito 64% Risparmio economico complessivo 79%
Risparmio energetico 740 MWh Produzione da fonti rinnovabili 115 MWh
Emissioni CO₂-eq evitate: 150 t Valore degli investimenti proposti € 1.200.000



SCUOLA ELEMENTARE DON BALBIANO Anno di costruzione: 1960-1966
Superficie utile riscaldata: 1.366 mq - Volume lordo riscaldato: 6.387 mc
Tipologia di interventi proposti • sostituzione infissi: 78 mq • cappotto esterno: 1032 mq •
isolamento sottotetto: 629 mq • rifacimento centrale termica: 280 kW • telegestione e
termoregolazione



SCUOLA PER L'INFANZIA DON MILANI Anno di costruzione: 1972-1973
Superficie utile riscaldata: 658 mq - Volume lordo riscaldato: 3.069 mc
Tipologia di interventi proposti • sostituzione infissi: 102 mq • cappotto esterno: 582 mq •
isolamento sottotetto: 724 mq • rifacimento centrale termica: 67,6 kW • impianto fotovoltaico:
10 kWp • telegestione e termoregolazione



SCUOLA ELEMENTARE PRIMO LEVI Anno di costruzione: 1979
Superficie utile riscaldata: 1.291 mq - Volume lordo riscaldato: 5.000 mc
Tipologia di interventi proposti • cappotto esterno: 710 mq • isolamento sottotetto: 450 mq •
rifacimento centrale termica: 280 kW • telegestione e termoregolazione



ISTITUTO COMPRENSIVO SCUOLA MEDIA CAMPANA - Anno di costruzione: 1977
Superficie utile riscaldata: 3.318 mq - Volume lordo riscaldato: 14.906 mc
Tipologia di interventi proposti • cappotto esterno: 1570 mq • isolamento copertura: 425 mq •
rifacimento centrale termica: 640 kW • telegestione e termoregolazione



SCUOLA MATERNA RODARI Anno di costruzione: 1973-1974
Superficie utile riscaldata: 1.496 mq - Volume lordo riscaldato: 6.376 mc
Tipologia di interventi proposti • sostituzione infissi: 122 mq • cappotto esterno: 625 mq •
isolamento copertura: 772 mq • rifacimento centrale termica: 169 kW • impianto solare termico:
10 mq • impianto fotovoltaico: 10 kWp • telegestione e termoregolazione



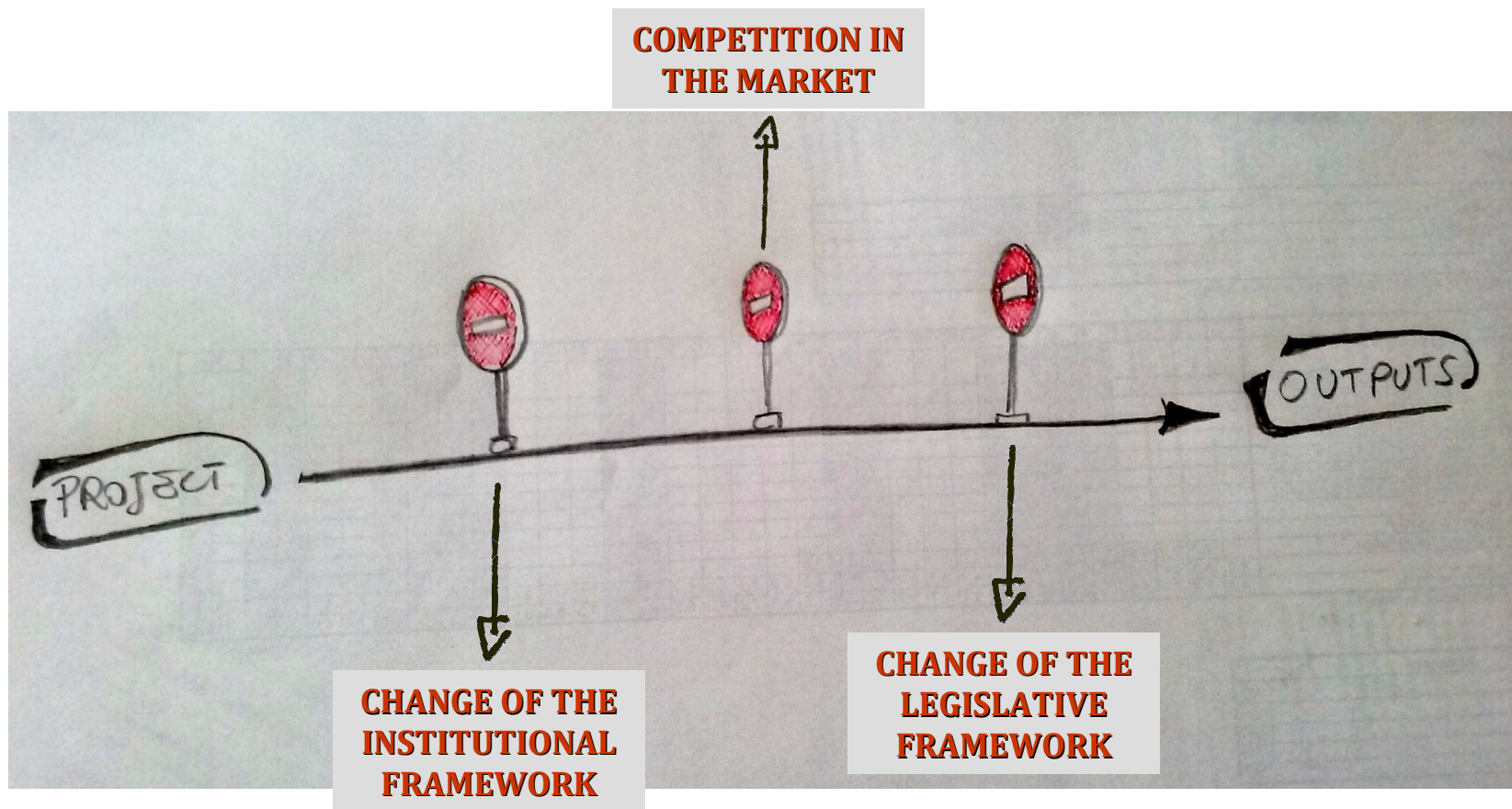
PIOSSASCO Roberta Maria Avola Feraci, sindaco

Il contratto con finanziamento tramite terzi attivato con Bosch fa confluire importanti investimenti per
la ristrutturazione energetica di 3 edifici scolastici altrimenti non realizzabile. La funzione di stazione
appaltante che ha svolto la Città metropolitana ha, inoltre, supportato significativamente il Comune
che non avrebbe avuto le risorse umane necessarie.

BOSCH Energy and Building Solutions Carlo Papi, responsabile commerciale Pubblica Amministrazione

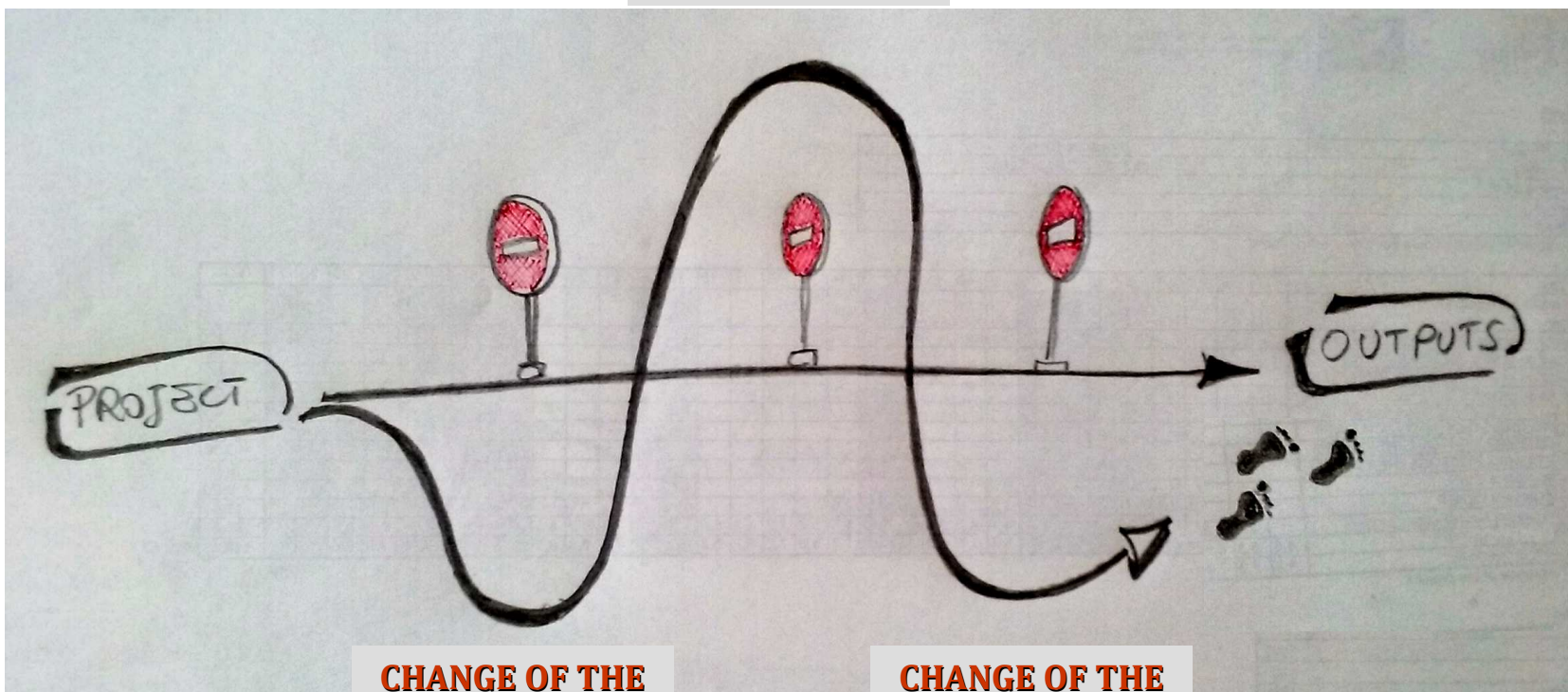
I contratti EPC comportano vantaggi per le Amministrazioni Pubbliche quali l'ammodernamento degli
edifici, la riduzione dei costi per le bollette termiche, la riduzione delle emissioni inquinanti e il trasfe-
rimento del rischio tecnico e finanziario sulla ESCo. Lo scenario futuro non può che essere di sviluppo del
mercato, sia locale sia nazionale.

.....from planning to implementation



.....so we decided to find our way....

COMPETITION IN THE MARKET



CHANGE OF THE INSTITUTIONAL FRAMEWORK

CHANGE OF THE LEGISLATIVE FRAMEWORK

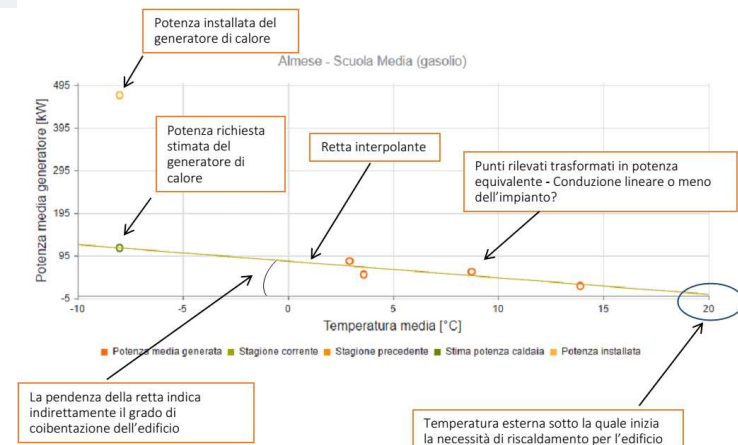
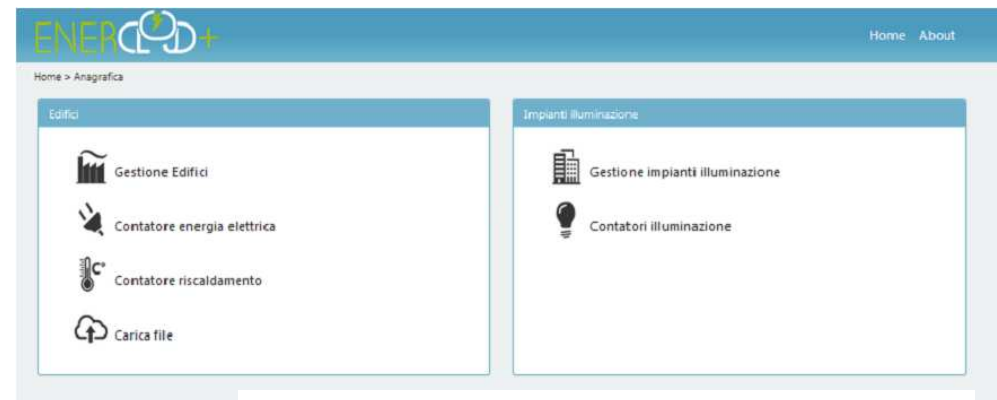
.....*what's next?*

PEACE_Alps



Setting up centralized solution for enhancing the implementation of pooled SEAPs, in the framework of energy management and energy refurbishment of public buildings and street light services

- Implementation of a cloud IT tool for energy management: ENERCLOUD+
- Replication of improvement of 2020Together experience:
 - 10 Municipalities for 2 M€ of investments already in the pipeline
 - 8 additional municipalities to be involved in the next 6 months for energy retrofit of public buildings
 - 4 municipalities to be involved in the next 6 months for energy retrofit of public street light (tentative)



.....*what's next?*



STEPPING

2017-2019 – Piedmont Region as LP of a consortium made by 9 PP from Italy, Spain, Portugal, Slovenia, Greece, France, Malta.

Main objective: To adapt the application of EPC investment for public building in Mediterranean Area

- Prepare 8 investment plan in MED AREA
- Launch 4 investment plan in 4 countries
- Deliver MED guidelines for EPC in public buildings for wider dissemination



Project co-financed by the European Regional Development Fund

Thank you!

Silvio De Nigris

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