



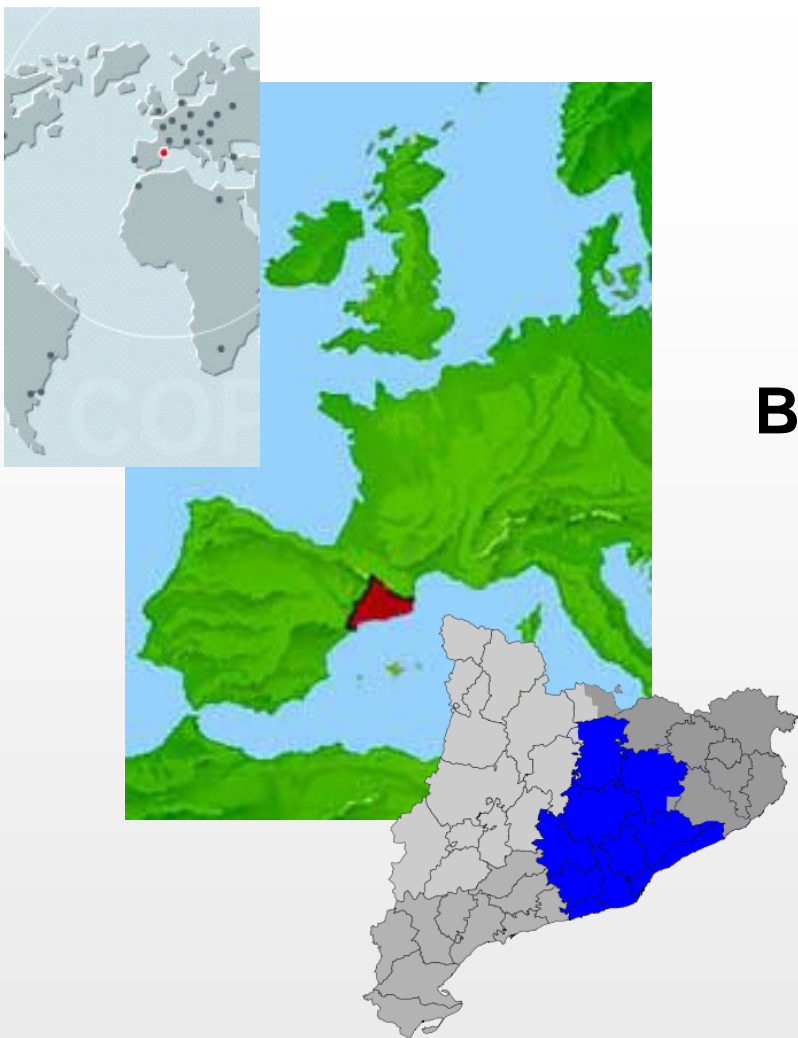
INTERNATIONAL CONFERENCE „TOGETHER FOR A GREEN,
ENERGY SUSTAINABLE EUROPE “

European Local ENergy Assistance – experiences in project implementation

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Barcelona Provincial Council – Diputació de Barcelona

Zagreb, 15 May 2013



Diputació  Barcelona
xarxa de municipis

Barcelona Provincial Council (DIBA)
is a **2nd level Local Government**
whose mission is to promote the
progress and welfare of citizens,
acting in the territory and in
cooperation (technically and
economically) with municipalities.

**311 municipalities, with a population of 5.6 m
inhabitants. Area: 7,719 km²
Budget 2013: 690 m EUR**

Process Milestones

DATE	EVENT
February 2008	Interview with European Commissioner for Energy, Mr Piebalgs
July 2008	First province municipalities signs the CoM
October 2008	EIB study of the province potentiality in EE and RES. Conclusion there is an important amount of feasible investment projects
November 2008	DIBA designed first Covenant Coordinator or Supporter
June 2009-April 2010	EIB loan approved- Agreement signature with local banks
May 2010	ELENA grant approved-REDIBA Project
June 2014	Finalization of ELENA-REDIBA Project

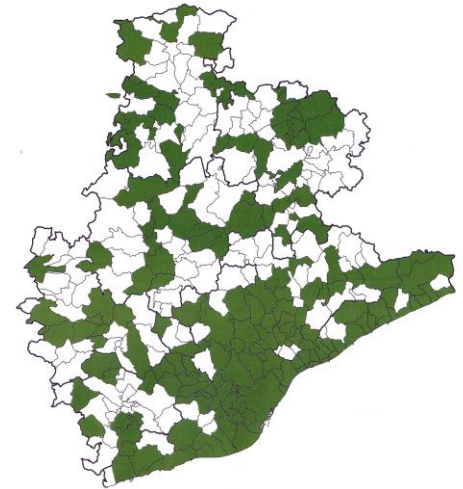


Covenant of Mayors

On May 2013 (www.eumayors.eu)
4,525 local authorities
166,746,975 inhab
210 Covenant Coordinators and Supporters

Barcelona province

196 Municipalities signed the Covenant
95% Population of the province
170 PAES finished with 3 M€ cost for DiBa
More than 1,100 M€ potential investments identified



SEAP: Some results

ACTIONS	
Number of SEAP considered	169
Number of actions	7,913
Expected energy savings (MWh)	5,453,148
Expected energy production (MWh)	599,945
Expected emissions reduction (tCO ₂)	2,668,354
Total expected costs (€)	1,163M€
Cost per Municipality (€)	897M€

http://www.diba.cat/c/document_library/get_file?uuid=60ff9afa-4430-4a54-89aa-7f25b3812abe&groupId=471041

How can we implement actions that need investments?



MUNICIPALITY

- Must provide basic services
- Reduction of income
- No investment capability
- No borrowing capacity
- **Forecast energy price increase**
- **Commitment to carry out SEAP actions**



130,1 % diesel oil for heating litre cost between
2002 – 2011.



85,9% Natural Gas kWh cost (2002-2012)

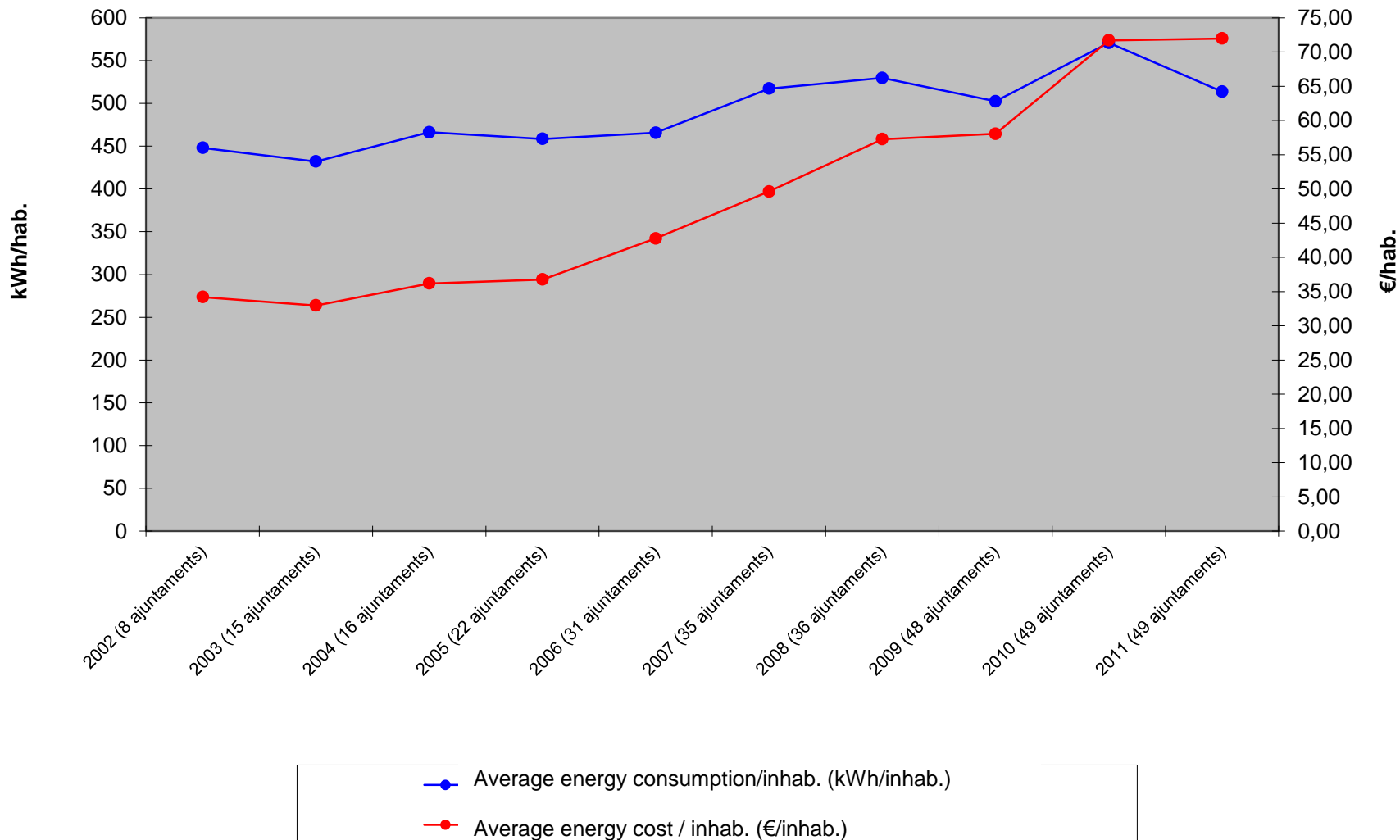


86,7% electrical kWh cost for **local public**
buildings from 2005 a 2012.



78,5 % electrical kWh cost at for **street lighting**
since 2002

Energy consumption and cost per capita in the municipalities of Osona county (Barcelona's province)

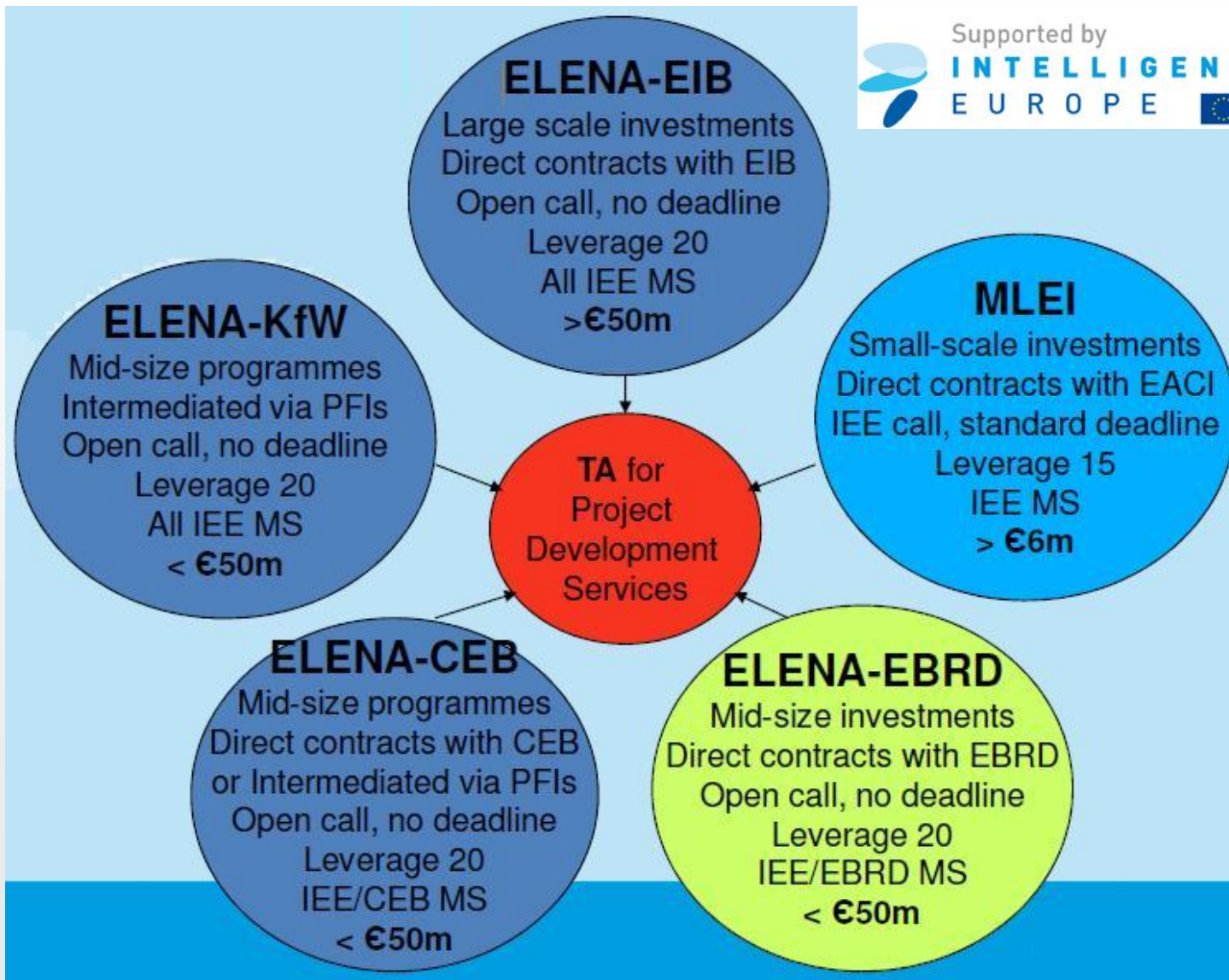


Response ERDIBA - ELENA

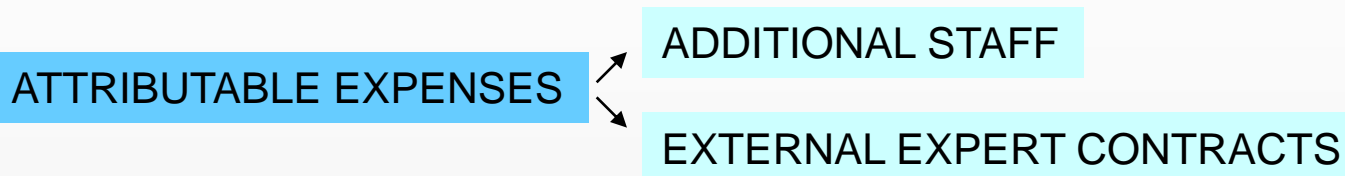
To identify actions that can generate enough:

- income (**renewable generation**) or
- economic savings (**energy efficiency**)

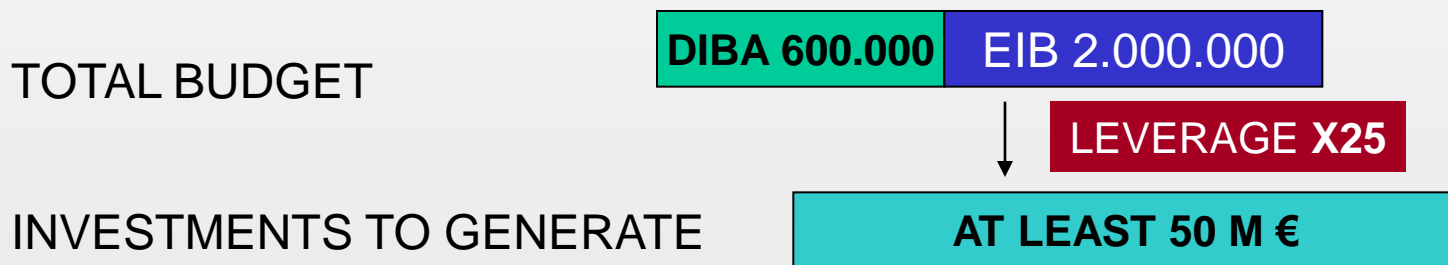
to finance the investments to implement them in a reasonable payback period



ELENA : European Local ENergy Assistance



REDIBA: RENEWABLE AND EFFICIENCY DIPUTACIO DE BARCELONA

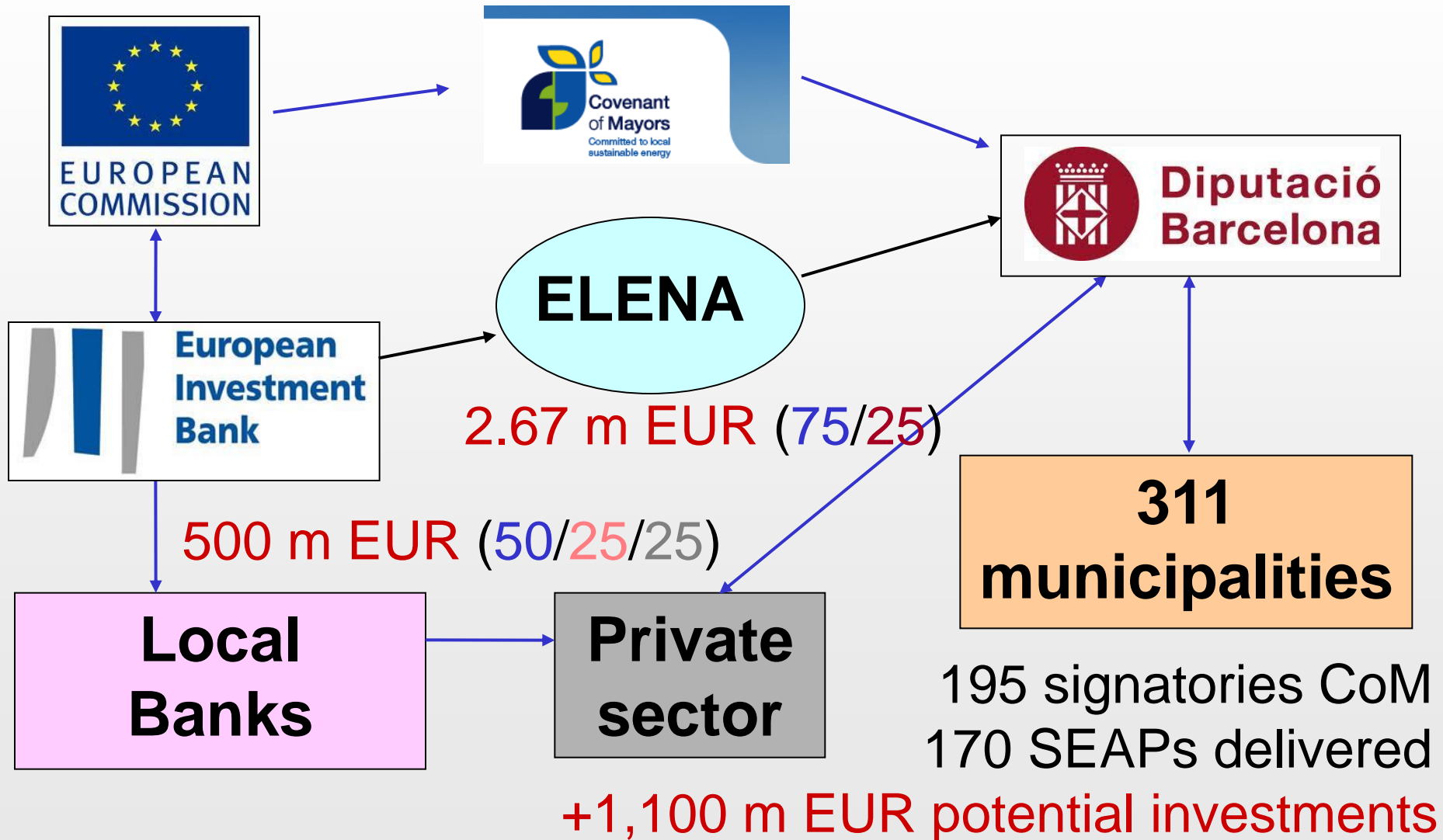


DURATION: 3 years (first until May 2013, now extended to June 2014)

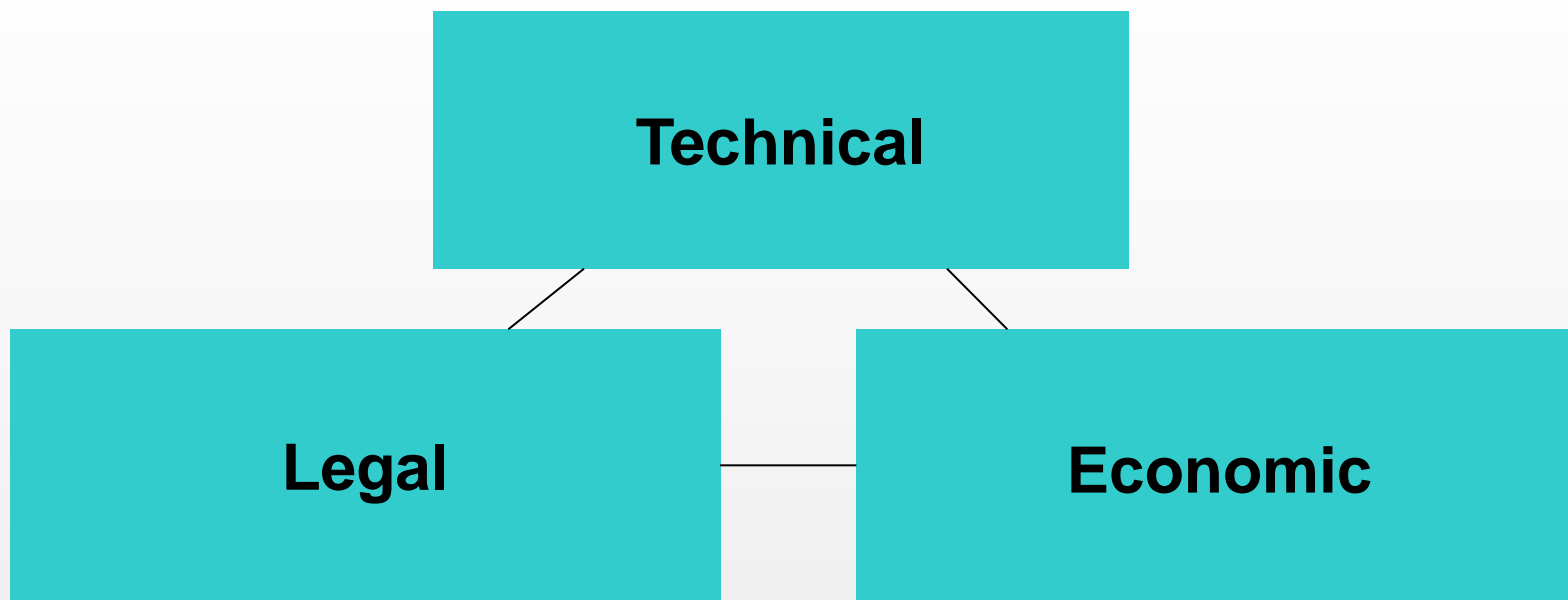
DIRECT STAFF COSTS: 449,067 EURO

EXTERNAL EXPERTS SUBCONTRACTS COSTS: 2,217,000 EURO

ELENA Grant - Financial Resources to Implement SEAPs



Types of support offered in the framework of the ELENA tool



Facilitating economic (**credits**), contractual (**call for tenders' templates**) and technical (**feasibility studies**) tools to implement actions without cost or debt by local governments

REDIBA investments in terms of its technology

20010-2011

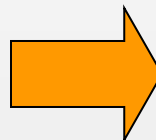
Renting Public Roofs for PV

EE in Public Lighting

Biomass Thermal Heating

CHP

EE in Public Buildings



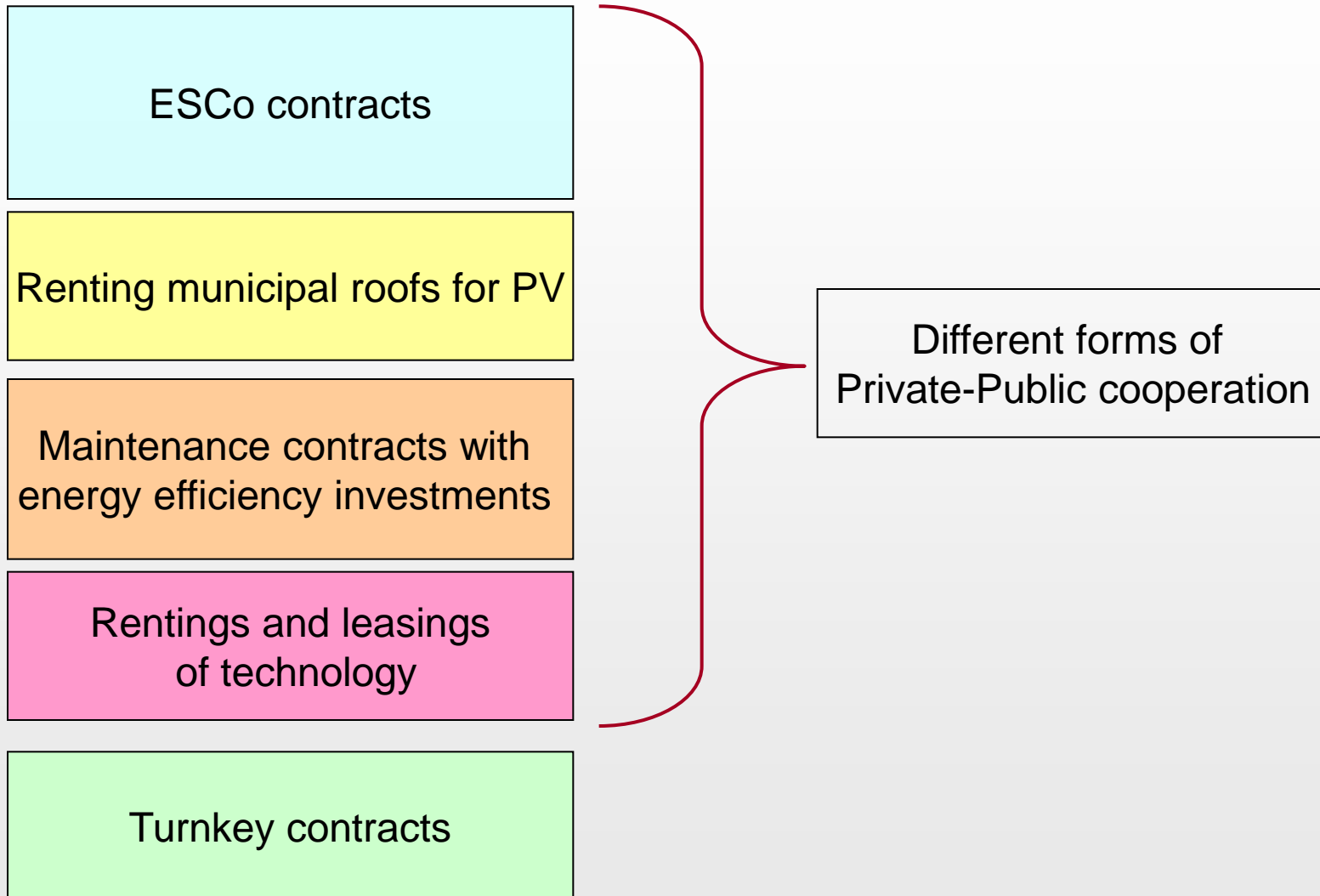
2012-2014

EE in Public Lighting

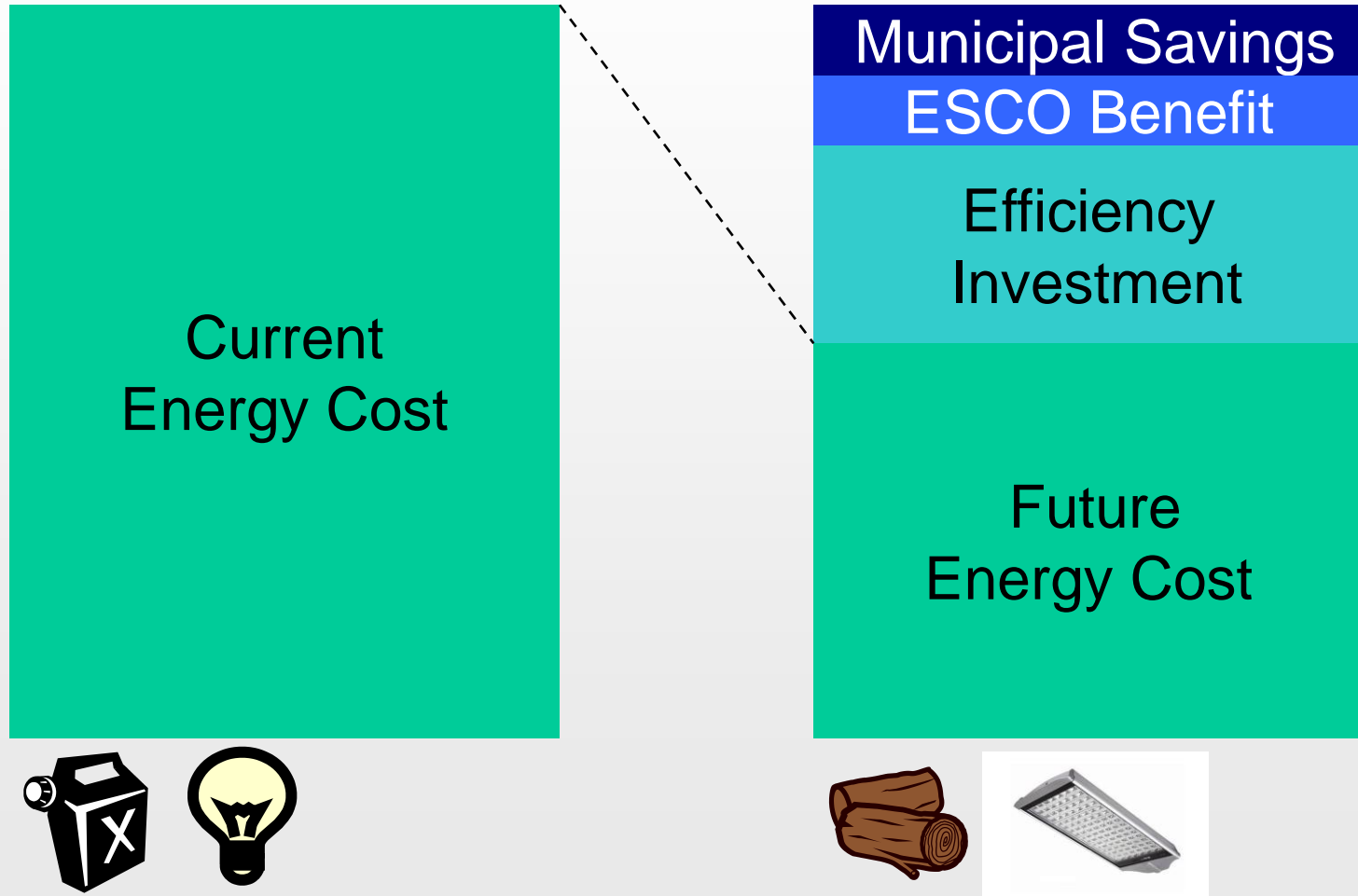
Biomass Thermal Heating

EE in Public Buildings

REDIBA investments in terms of its legal form



Energy Service Companies' Scheme



Characteristics of ESCO contracts

- **P1: Energy management.** Not always required to include energy supply, but always contents mechanisms to assure an energy reduction target, and incentives to go further in terms of energy savings via a 50/50 philosophy
- **P2: Maintenance** (in street lighting contracts includes lamp and ballast renewal at one or more points of the contract)
- **P3: Total warranty.** It means substitution of equipment when is broken
- **P4: Energy Efficiency Investments.** The initial investment the awarded company does once the contract starts
- **P5: Additional Investments** proposed in energy efficiency or renewables
- **P6: Proposal of costs for future works**



Public Lighting Projects

Cànoves i Samalús (960 SL)
Duration renting: 10 years
Contract Volume: 0.5 M €
Savings kWh/year: 518,000
Renovation with LED via renting

Martorelles (1,100 SL)
Duration ESCo: 10 years
Total investment: 0.6 M EUR
Savings 49 % kWh/year and 20% EUR

Santa Susanna (3,200 SL)
Total investment: 2 M EUR
Savings : 1.3 M kWh
Duration ESCo : 10,5 years



Tona (1,800 Street lamps- SL)
Duration ESCo: 13 years
Total investment: 1 M EUR
Savings 52% kWh/year and 10% EUR of current energy bill



Sabadell (29,500 SL)
Duration ESCo: 10 years
Contract Volume: 7.5 M EUR
Savings kWh/year 3.9 GWh
25% renovation with LED

Polinyà (2,000 SL)
Duration ESCo: 10 years
Contract Volume: 0.4 M EUR
Savings kWh/year: 410,000
P1 without energy supply

Biomass Thermal Heating



Municipality	Characteristics	Energy generation per year	Legal form	Contract duration/Pay back	Investment cost (€)
Vic	<ul style="list-style-type: none">•District Heating 5 buildings•Power 500 kW•Wood chip	416.8 MWh	ESCo	10	472,000
Sant Salvador de Guardiola	<ul style="list-style-type: none">•Power: 500 kW•5 buildings•Wood chip	474.5 MWh	ESCo	6,5	367,877
Caldes de Montbui	<ul style="list-style-type: none">•Power: 500 kW•4 buildings•Wood chip	922.6 MWh	Leasing	7	318,907
Les Masies de Roda	Power: 80 kW	96 MWh	Turnkey contract		66,787

Energy Efficiency in Public Buildings

- **Sant Adrià de Besòs**. Integral management of 6 buildings. Drafting of tender model for an ESC contract. Estimated date: June 2013
- **Sabadell**. Integral management of 12 to 18 buildings. Finished audits. Evaluation feasibility to define the best tender and contract model. Probably will be an ESC. Estimated date: 2n semester 2013
- **Sentmenat**. Audit phase. 22 buildings. No estimated date
- **Viladecans**. 24 buildings audits. Tender estimated in later 2013

Results at May 2013

Economic Impact

Total value of the contracts generated: **70 M EUR**

60 Investments generated according ELENA-EIB criteria: **31,7 M EUR** (63% target accomplished).

Currently in the tendering phase: **3,5 M EUR**

Estimated investments in the 2nd semester 2013: **11 M EUR**

Estimated investments in 1st semester 2014: **15 M EUR**

Environmental Impact of the awarded projects

Estimated annual energy savings: **+17 GWh/year**

Estimated biomass thermal energy generated: **1 GWh/year**

Main Barriers in Spain for RES and EE investments in public bodies

1. Renewables payment scenario is changing and uncertain.
2. Credit crunch: high difficulty to access to conventional financing
3. Low debt capacity by local governments
4. Low previous experience of the energy services market for the public sector and lack of clear legal models to promote ESCOs
5. Resistance to change and excessive focus on issues of municipal ownership
6. Low interaction with superior administrations with local authorities

Final conclusions

- Although the economical context is very hard, REDIBA is mobilizing investments in the province.
- Energy saving potential in public administration is high
- New models of contracting in public administration requires time. Once it “clicks” and we have reference projects, the investments start piling up.
- The challenge for the near future: small and medium sized municipalities are more challenging to get investments because of scale economy effects.
- The financial aspect is important but not the unique clue. The municipalities need coaching during all the process.



Thank you!

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