

ESCOs, Italian experience

Vilnius, May 8th

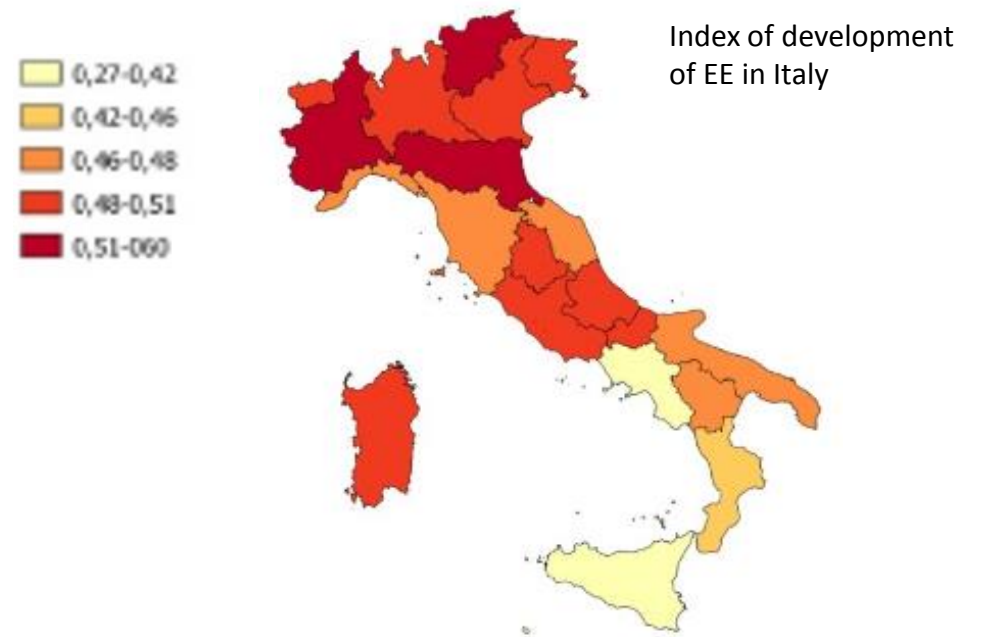
2014

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Investment Manager | *Energy & Renewables*

WHAT IS AN ESCO

- ESCOs are companies with a **fifty-fifty Engineering/Financial** background whose core business is to invest into the **renovation or upgrade** of energy systems of both private and public entities
- European directive 2006/32/Ce, (national regulation dlgs 115/2008)
- In 2012 , ~ 75.000 GWh/year EE savings , 30% over 2011.



**2012 EE Goals and 2016 Targets*

TPOLOGY	DLGS 192/05	WHITE CERTIFICATES	FISCAL DEDUCTION (55%)	ECO BONUS (443/09)	SAVINGS ACHIEVED AT 2012	SAVINGS GOAL 2016	Goal GOAL REACHED
Residential	24,450	15,237	8,246	0	44,109	60,027	73.5%
Tertiary	728	1,278	214	0	2,220	24,590	9.0%
Industry	1,773	18,283	439	0	20,507	20,140	101.8%
Transport	0	0	0	6,443	6,443	21,783	29.6%
TOTAL	26,951	34,798	8,899	6,443	73,279	126,540	57.9%

Why ESCOs

1. ESCOs are highly qualified players whose only core business is Energy and Energy Efficiency which means high expertise, full range of products and services “all-in-one”, performance guarantees
 2. ESCOs take over the whole risk of project financing. Client does not face any cost in order to benefit the full range of services related to an Energy Efficiency Measure
 3. ESCOs take over the whole risk of project construction as well as Operation and Maintenance.
 4. ESCOs provide a performance guarantee on the results settled onto the EPC contract
 5. Client can keep doing its own business
- **Third Party Financing (TPF)** ruled by the **Directive 93/76/CEE**
 - **Energy Performance Contract (EPC)**

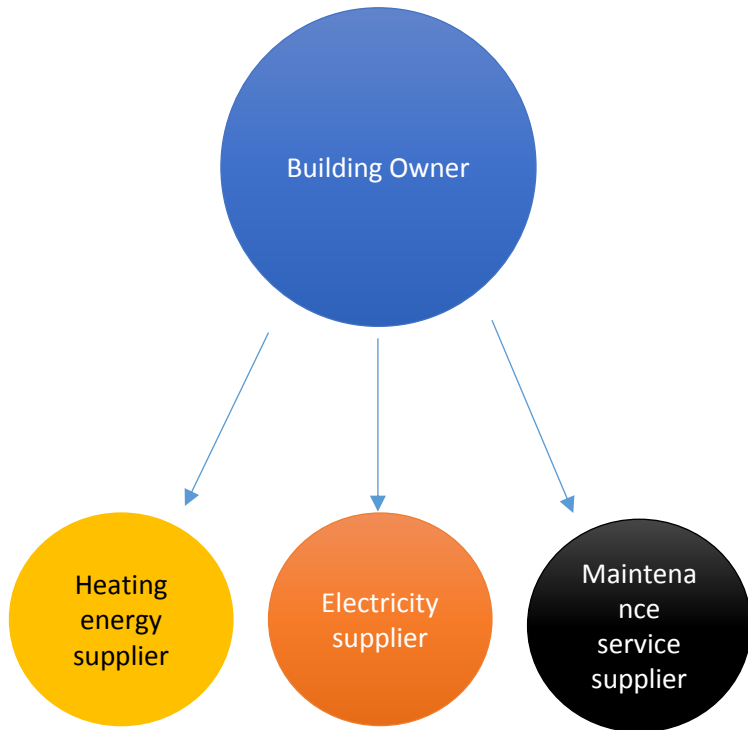
WHAT IS AN ESCO

- EPC Shared Saving and Guaranteed Saving.
- With **Shared Saving** formula, ESCOs provide to owner a percentage of financial benefit generated by the renovation of the energy system together with other benefits.
- With the **Guaranteed Savings** the ESCOs provide to the owner a certain amount of saving per year along the contract duration.
- at least 10% of reduction of **Coefficient of Specific Consumption** (kWh/Year/m³).

What are ESCOs tools?

- technologies :
 1. Heat pumps, heat pumps cooled by ammoniac
 2. CHP units GAS-fueled
 3. BIOMASS
 4. Renewable energies : Thermo-solar, Photovoltaic, Mini-wind Condensation boilers
 5. Hydro-sonic pumps
 6. LED lights
 7. BMS systems
- The Energy Audit reveals the best available (BAT) technology applicable to the case considered
- Risk assessment and Investment analysis merge the results in order to create the energetic model, decide the financing scheme and contract features.

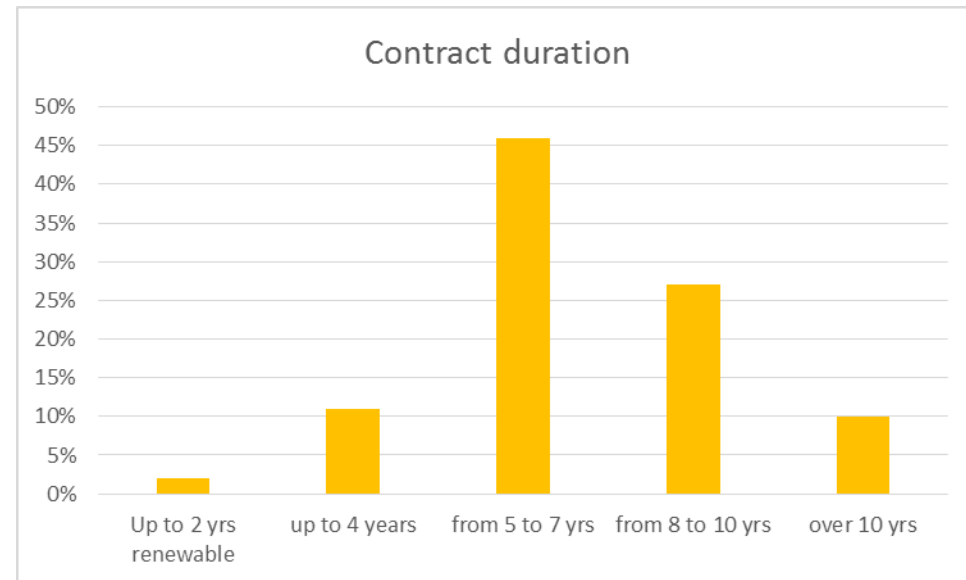
BEFORE



AFTER



WHAT IS AN ESCO



Market analysis

- ESCOs market 2012 turnover ~4.2 bln euro
- 80% of the Energy Efficiency has been done through ESCOs
- 9.6 Mil TOE (Tons of oil equivalent)
- Over 1900 ESCOs are currently present in Italy

Examples of successful renovation

RESIDENTIAL PROPERTY

Roma - Lazio



Solution applied:

Installation of a 350kWt condensation boiler

ADVANTAGES for building owner :

- 0 cost for ordinary maintenance
- Decrease of energy bill
- Asset value increase related to the new energy performance
- Single counterparty for Heating services and property maintenance

RESIDENTIAL BUILDINGS		PROPERTY AFTER ESCO	
Composition	Compound of 7 buildings	Project cost	60.000 euro / building
Flats	12 floors, 36 flats	Heating cost	9.000 euro / y
Thermal Station	Heating gasoil station 420.000 kcal/h (488 kWt)	White Certificates	5 TEP/ year per Building – (TOE)
Heatig cost	20.000 euro / y	Ordinary Maintenance	1.000 euro/year
Current system efficiency ratio	70%	Energy Saving in %	~25%
Heating season	137 days/ year	Project payback	~5 years
Maintenance costs	3000 euro / y		

Examples of successful renovation

COMMERCIAL PROPERTY

BRESCIA - LOMBARDIA



Solution applied:

Low-enthalpy Geothermal plant (extraction of warm from underground water through heat condensation pumps water/water, with an av. temperature of +7/+12 C Celsius. Installed cap. 1.1 MW (Coefficient of Performance 5.0 and Energy Efficiency Ratio 5.0)

ADVANTAGES for building owner :

- 0 cost for ordinary maintenance
- Decrease of energy bill
- Asset value increase related to the new energy performance
- Performance guarantee
- BMS System for Energy Management with GPS

SHOPPING CENTER		SHOPPING CENTER AFTER ESCO	
Gross Area Market	16.000 m2	Project cost	250.000 euro
Gross Area offices	4.000 m2	Primary Energy Expenditure	105.000 euro + VAT
Thermal Station Market area	- 1 Boiler 400 kW - 1 Boiler 900 kW	White Certificates	200 TEP/ year – (TOE)
Thermal Station Offices area	Gas unit generator 306 kW	Ordinary Maintenance	5.000 euro/year
Cooling	1 group air/water 263 kW	Energy Saving in %	64%
Primary Energy expenditure	256.000 euro	Project payback	~2 years

THANK YOU