

Experiences on

# Technical assistance and energy services to residential Communities in Hungary

and their development perspectives

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# Retrofitting of residential blocks

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1. Before 2007: Partial retrofitting actions
2. Experimental district level projects
  - Budapest: Zagreb project
  - Raab-Sol project







## Experiences: Zagreb Project

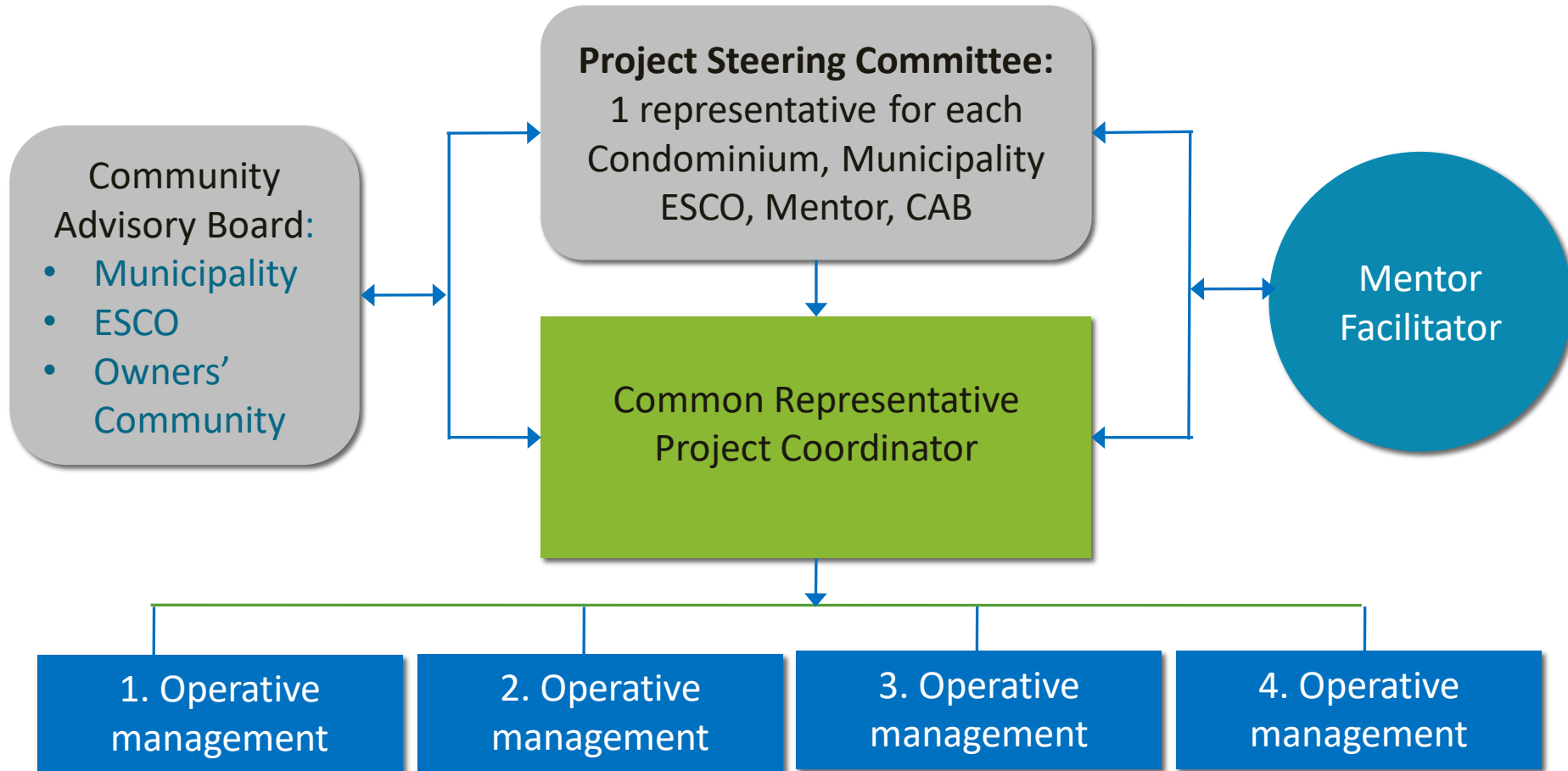
# Budapest: Zagreb project

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- Deep retrofitting of 758 flats in 4 inhabited buildings
- Municipality, ESCO and Owner's communities: agreement
- ESCO organized the Community participation and the project preparation
- LOW/MIDDLE/DEEP variations
- $\Delta E$ ,  $\Delta CO_2$ ,  $\Delta \text{€}$
- For each building and for each flat

# Community Development and Participation

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# Key model elements

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- Financing:
  - Guaranteeing ESCO model
  - Grants: 33+33% Municipality and Central government
  - ESCO supported financing: guaranteed Energy Savings 17%
  - Owners: 17%
  - 8 years bank loan
  - Calculated common cost and savings for every option for every flat
- Procurement: main contractor the ESCO
- Integrated Cooperation, Supervision and Monitoring with participation of all involved stakeholders: Community, Local and Central Government, Mentors.

# Communication and information channels

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## 1. presentations

- Technological information
- Financing
- New operation
- Payment order
- Construction process

## 2. front office

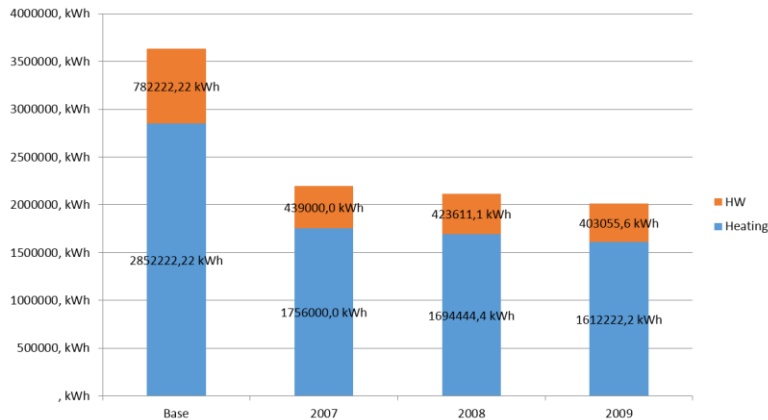
- Individual consulting, problem solving
- Individual requests
- Individual financing



# 2007 – 2015 Energy-savings: 47% of the baseline

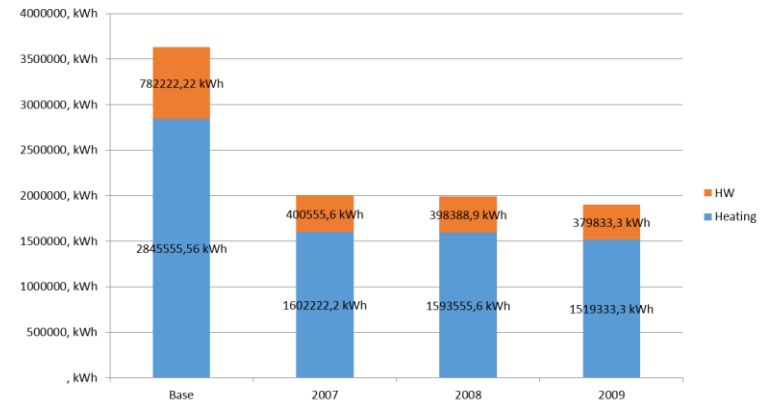
**Kékvirág street 2-16.**

**Yearly heating and hotwater consumption flow 2007-2009**



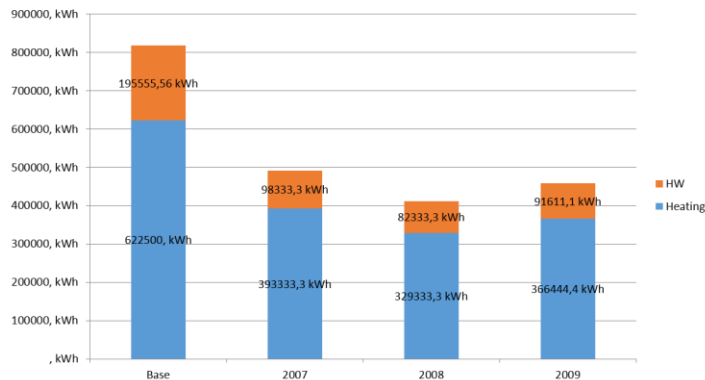
**Bihari street 3-5.**

**Yearly heating and hotwater consumption flow 2007-2009**



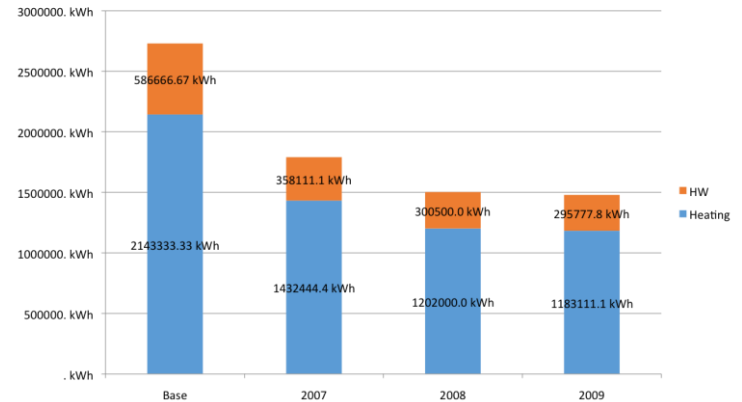
**Somfa street 11.**

**Yearly heating and hotwater consumption flow 2007-2009**



**Somfa street 2-12.**

**Yearly heating and hotwater consumption flow 2007-2009**

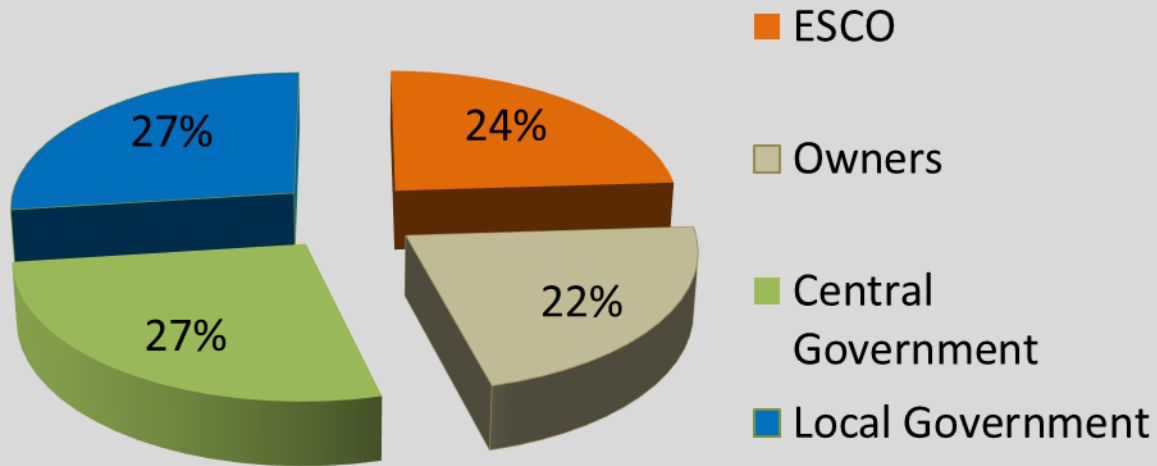




# Successful process of credit payments

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**Total Costs: 4.980.000 €**



Between 2007 and 2015 the communities have complied with their loan repayment obligations. The guaranteed energy savings covered 24 % of the project costs: 1 195 200 €

# Effects

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Better Quality of Life

Renewal of local social structure

Rising Real Estate Prices

Cityscape improvement

But...technology -driven





VERSENYI St. 11

ADY CITY



MARCAL CITY

ERFURTI St. 43-45

CUHA St. 26

SOPRONI St. 5-7



JÓZSEF ATTILA CITY



# GYŐR - RAAB-SOL DISTRICT LEVEL PROJECT



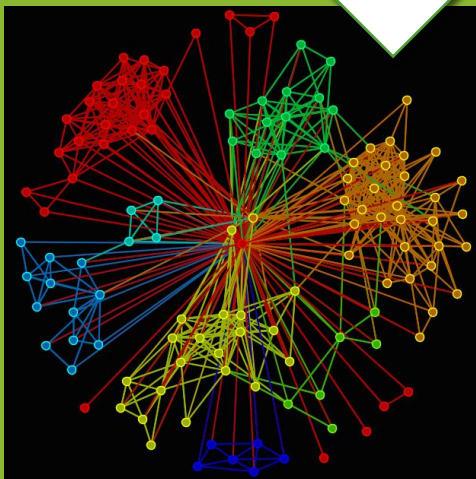
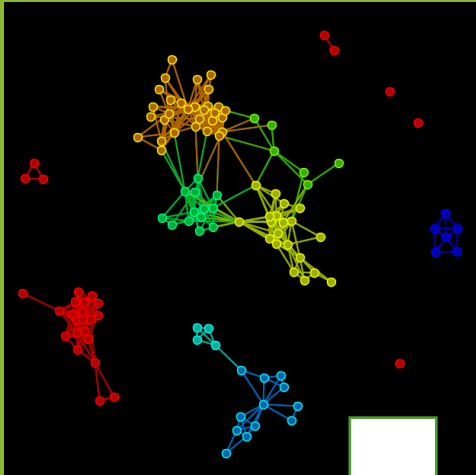
## Key model elements

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- Basis: contract between Municipality and ESCO, the Housing Association joined
- Boundary conditions: 80% votes, individual building level decision, RES
- Financing:
  - Low level granted project: about 25 % of total costs supported by local government and 15 % supported by EIB.
  - ESCO supported financing: guaranteed Energy Savings
  - Prefinanced Municipality Grant
  - 10 years
- Comprehensive Approach approved: Energy saving, improving IEQ and applying RES.
- Long term major project: 67 buildings with 1658 flats to retrofit in 5 years + financing plan
- Comprehensive technical and financial project preparation
- Online Measuring, Monitoring and regulation of individual consumption and comfort.



New task:  
market integrating  
force



## PHASE

LTS: LONG-TERM EE STRATEGY  
(5-10 YEARS)

MTP: MID-TERM PROGRAM  
(3-5 YEARS)

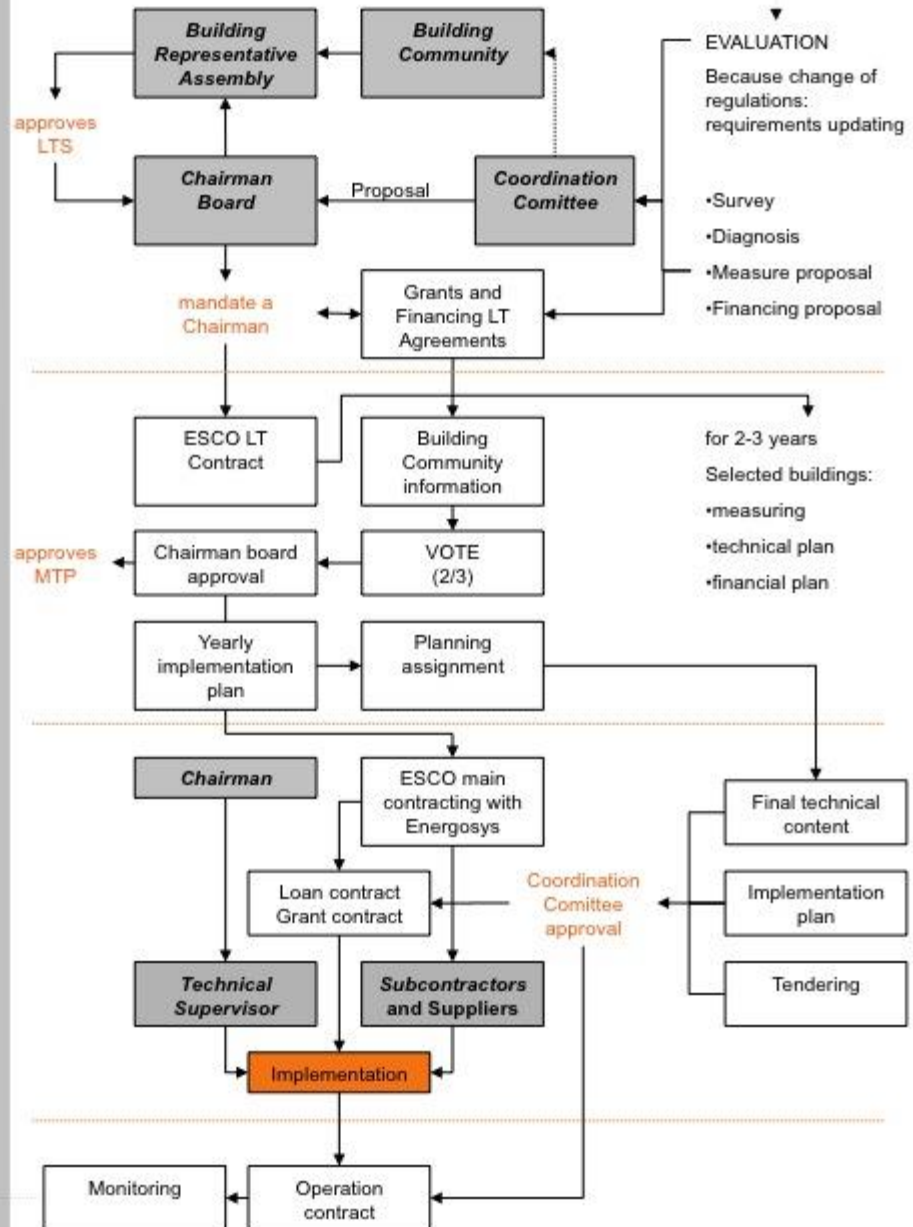
IMPLEMENTING AND  
MONITORING

OPERATION

## DECISION MAKING

## ASSISTANCE

ENERGOSYS

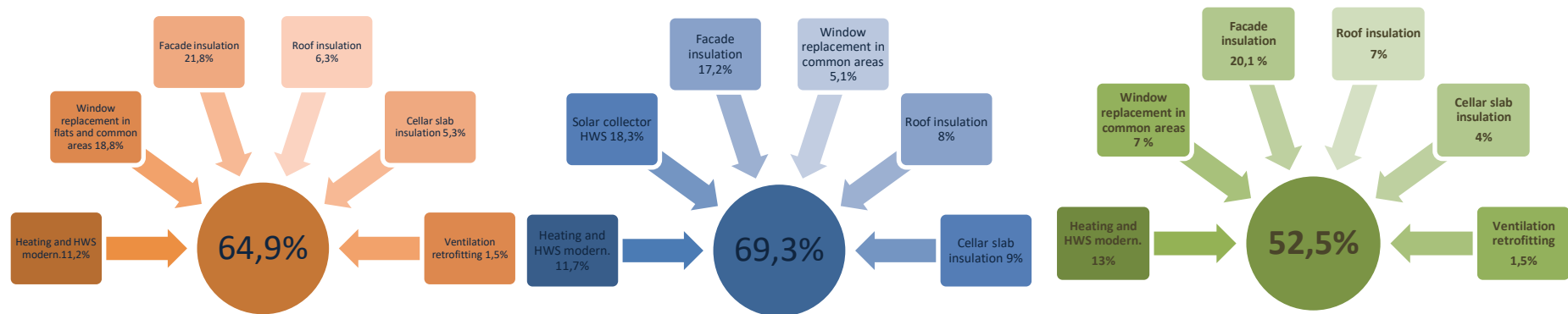




## Workshop

1. Experience and perspectives, regulatory framework
2. Preparation process of retrofitting projects and financing possibilities incl. grants
3. Technological possibilities of building retrofitting and the energy savings
4. Project implementation
5. Operation and monitoring

# Results



- Infrastructure development
- City district improvement
- Replicable
- Motivation of communities, raise awareness
- Ended in 2014 with withdrawal of Municipality and EIB
- Political pressure and reduction of energy fees



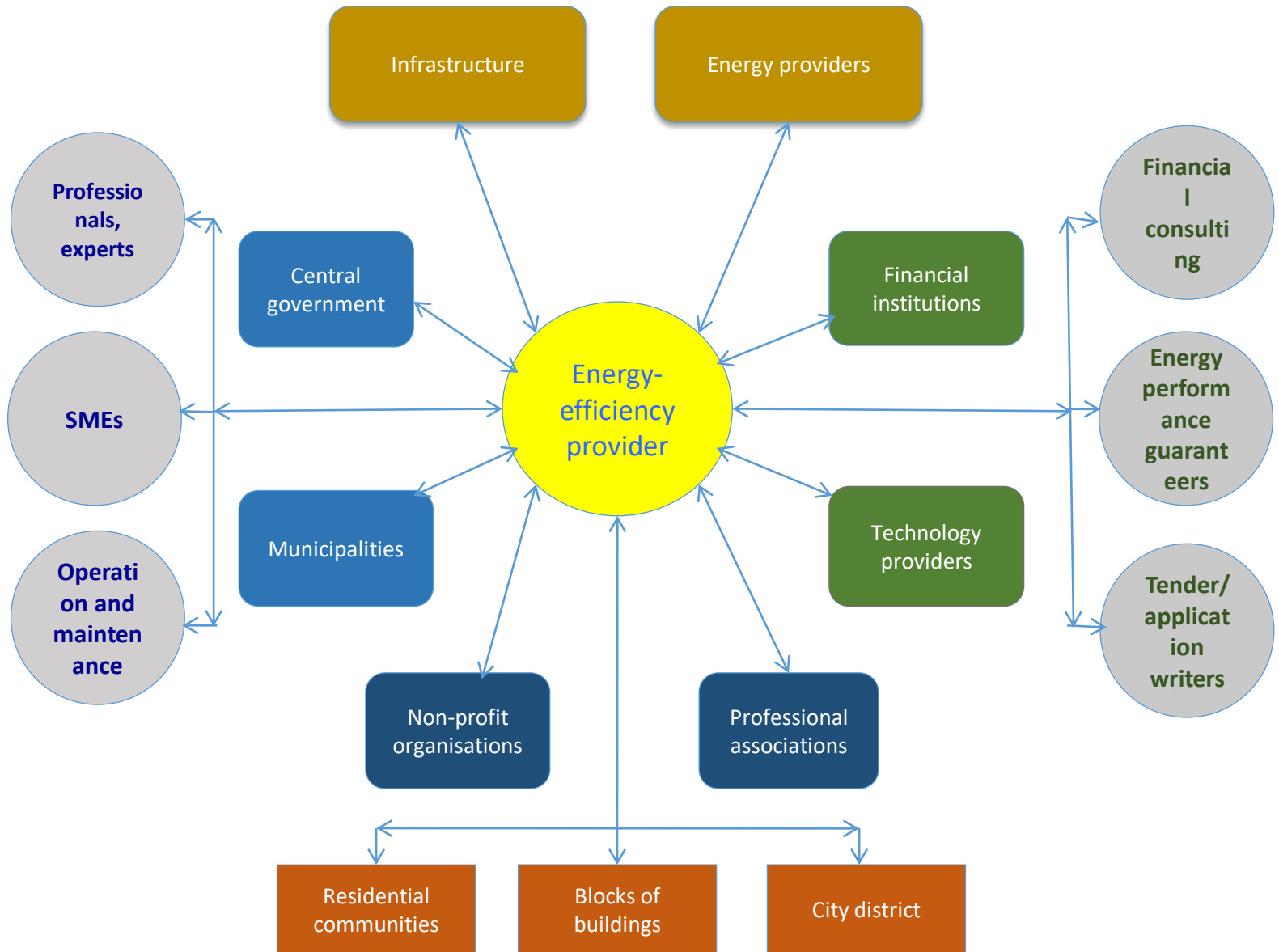


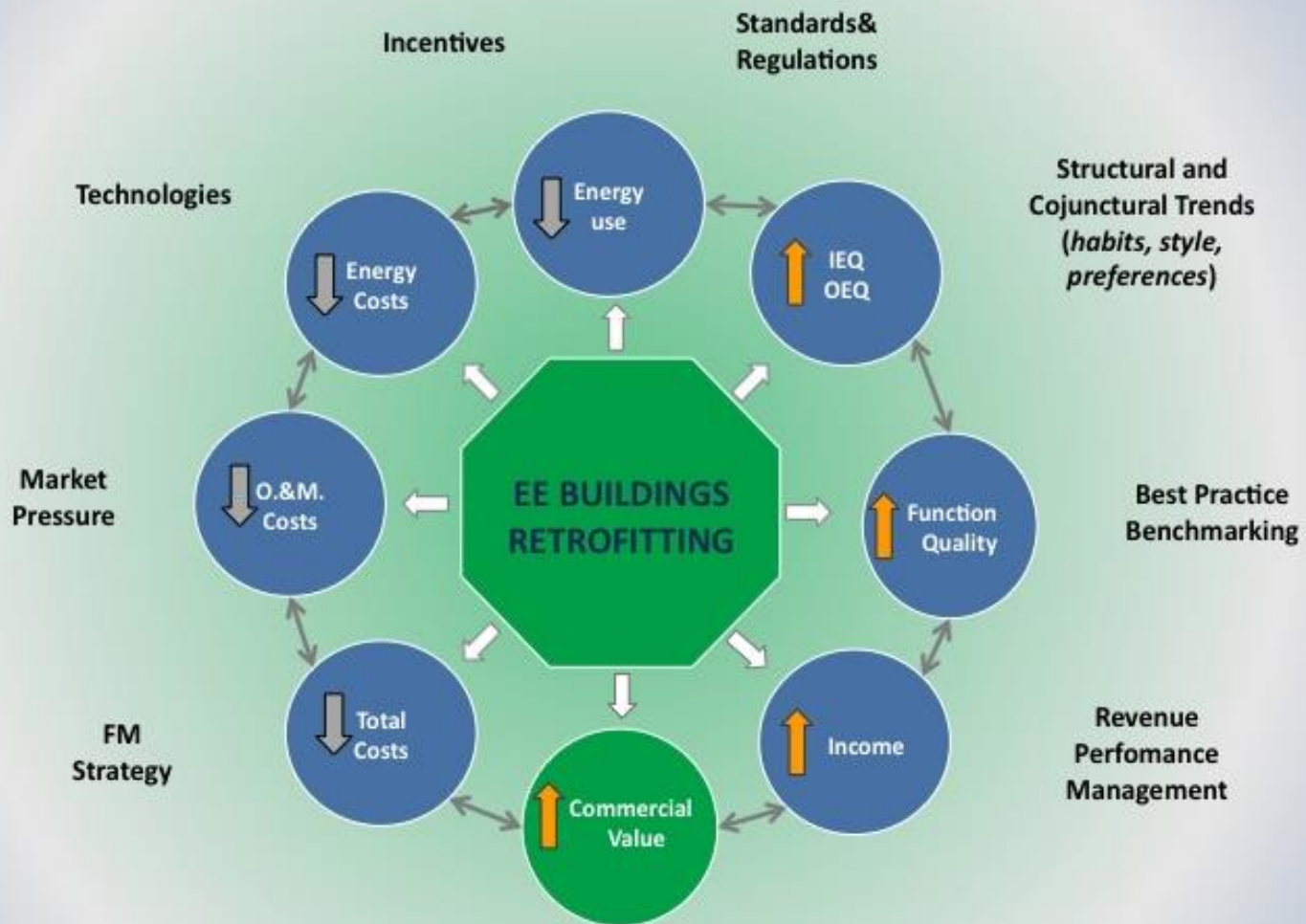


# Vision

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- Community steered Energy-efficient Retrofitting Processes
- Long term District approach and comprehensive technological and functional measures
- Community ESCO concept
- Technology platforms / Networking / online presence  
[www.cso.house](http://www.cso.house)
- Development of new tools
- Professional associations





New focus

# Sustainability, human comfort and urban development

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Source: PASS – SUSTAINABLE AND SOCIAL HOUSING  
PROGRAM Roma, Italy, 2010  
IPOSTUDIO ARCHITETTI | FLORENCE, ITALY





FINANCIALLY STABLE  
COMPANY ACCORDING TO  
THE EVALUATION OF BISNODE



Thank you for your attention!



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