"CAPACITY BUILDING ON ENERGY PERFORMANCE CONTRACTING IN EUROPEAN MARKETS IN TRANSITION" (ENPC-INTRANS)

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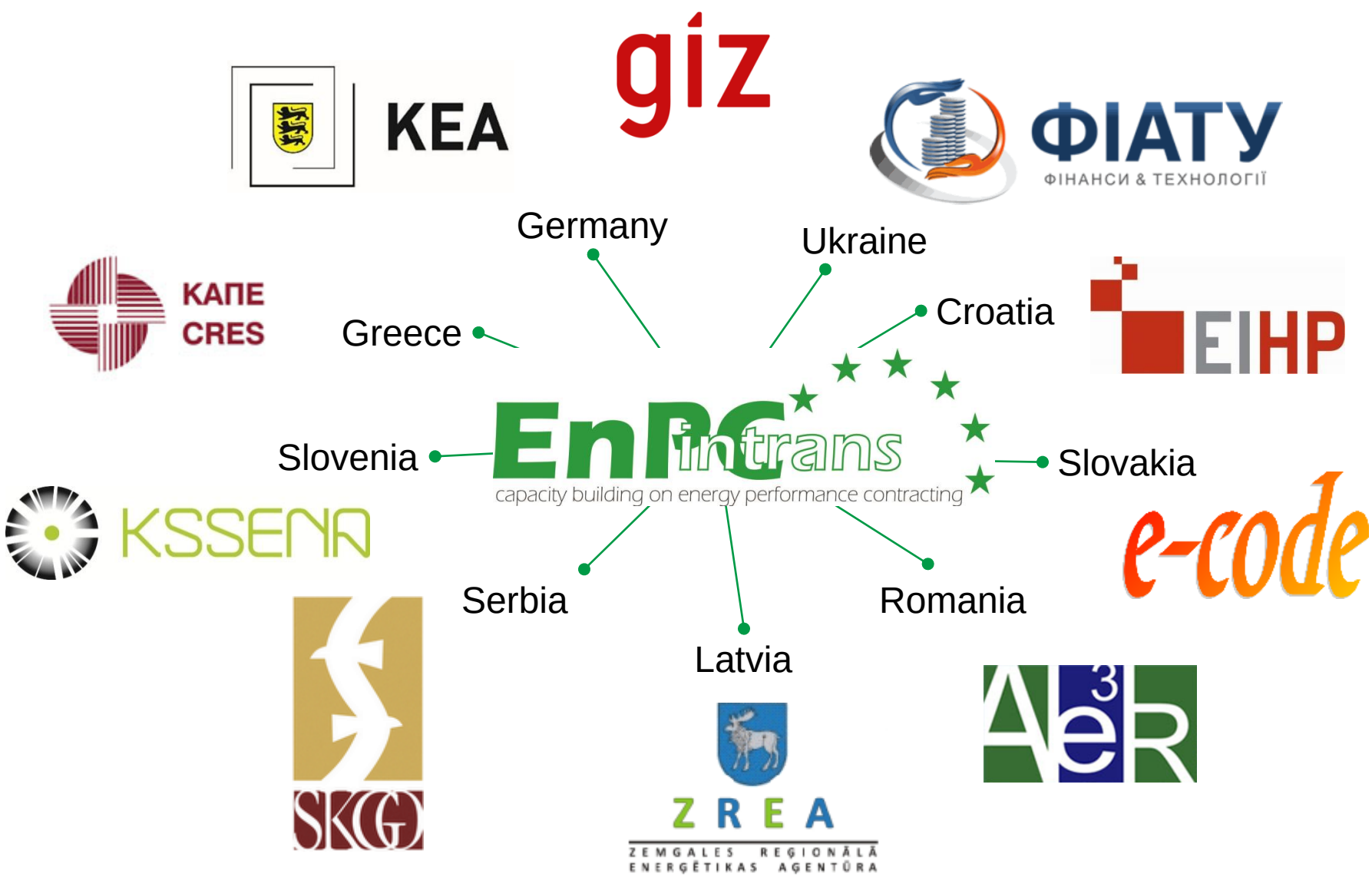
10 Partners from 9 Countries



Objective of the Project

Develop local capacities of municipalities to set-up and use Energy Performance Contracting (EPC) for the financing of investments in energy efficiency improvements in public buildings and services.

Actions:

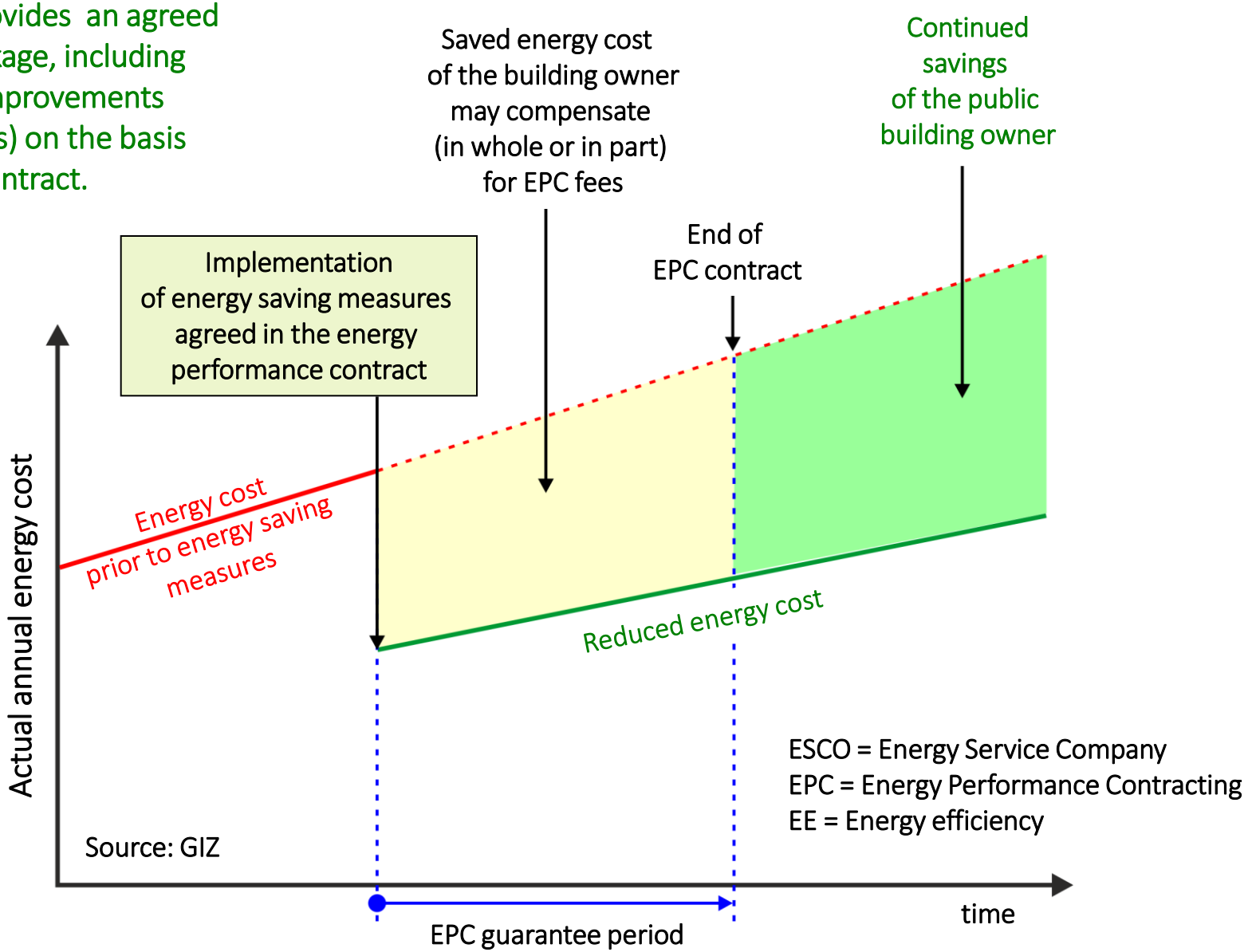
- Evaluation and adaptation of best practices,
- Stakeholder consultations,
- Road shows,
- Training of trainers,
- Webinars,
- E-learning,
- Seminars.

Project profile

- Project duration: March 2015 - February 2017
- Project budget: 1.983 Million Euro
- Major milestones:
  - Baseline study completed and website operational,
  - Adaptation of business models,
  - Training concepts and programme,
- Expected results:
  - 2,000 experts trained on the demand side of EPC for public buildings and services,
  - 500 new buildings covered by EPC projects triggered by trained experts.
- Expected impacts:
  - 60-90 GWh energy saved per year,
  - 60-90 million new investments triggered.

Energy Performance Contracting (EPC)

An ESCO provides an agreed service-package, including technical improvements (investments) on the basis of an EPC contract.



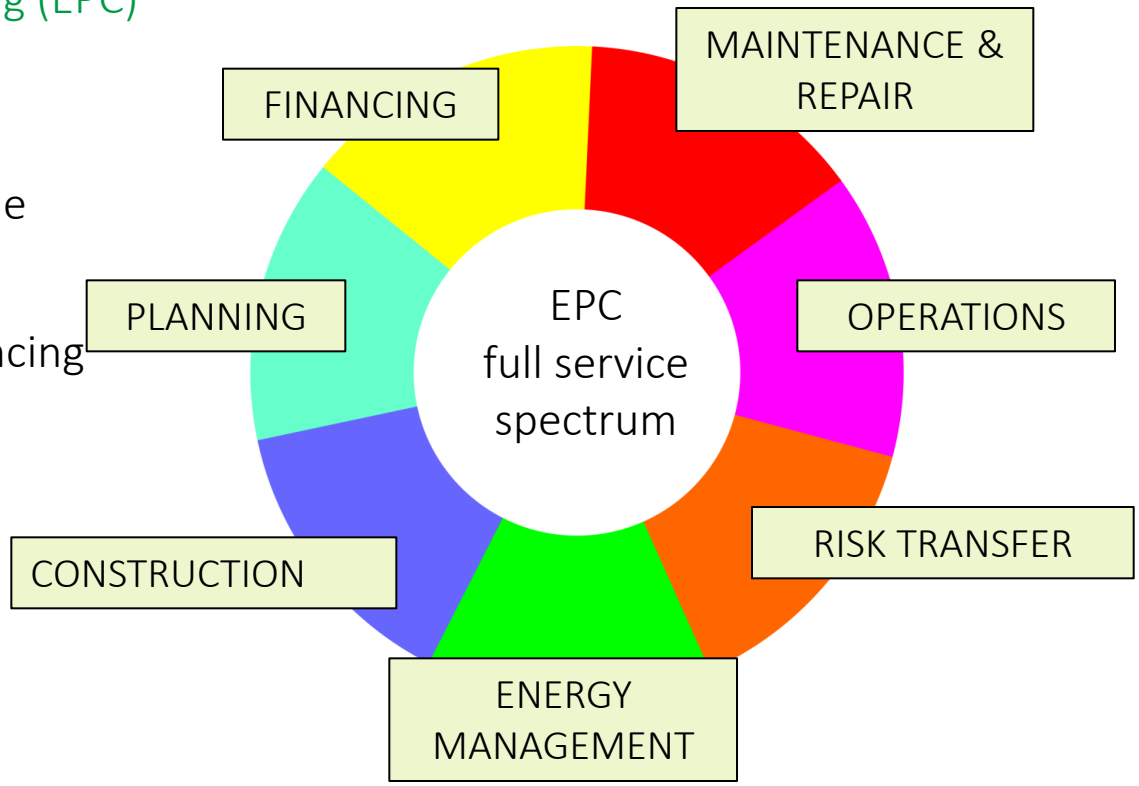
Energy Performance Contracting (EPC)

Public building owners can finance energy efficiency measures in general by means of:

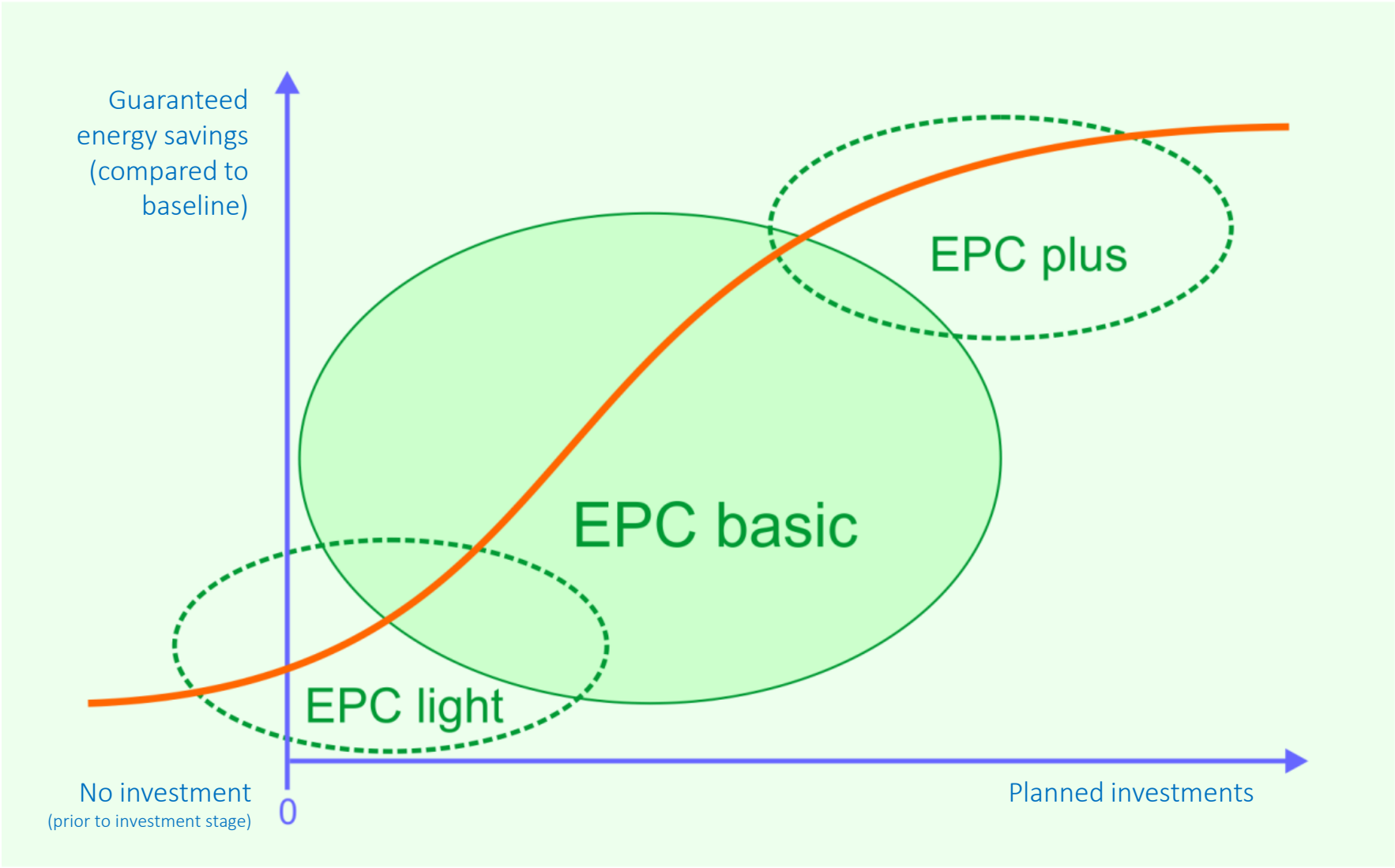
- Commercial and bank credit (loans)
- National or international subsidy programs and schemes, if available
- Own financing (budget-financed)
- Energy Performance contracting (EPC)

Financing is an important part of the services covered in an EPC.

For many potential customers financing is the most attractive part of EPC services for public buildings.



EPC business models



EPC business models

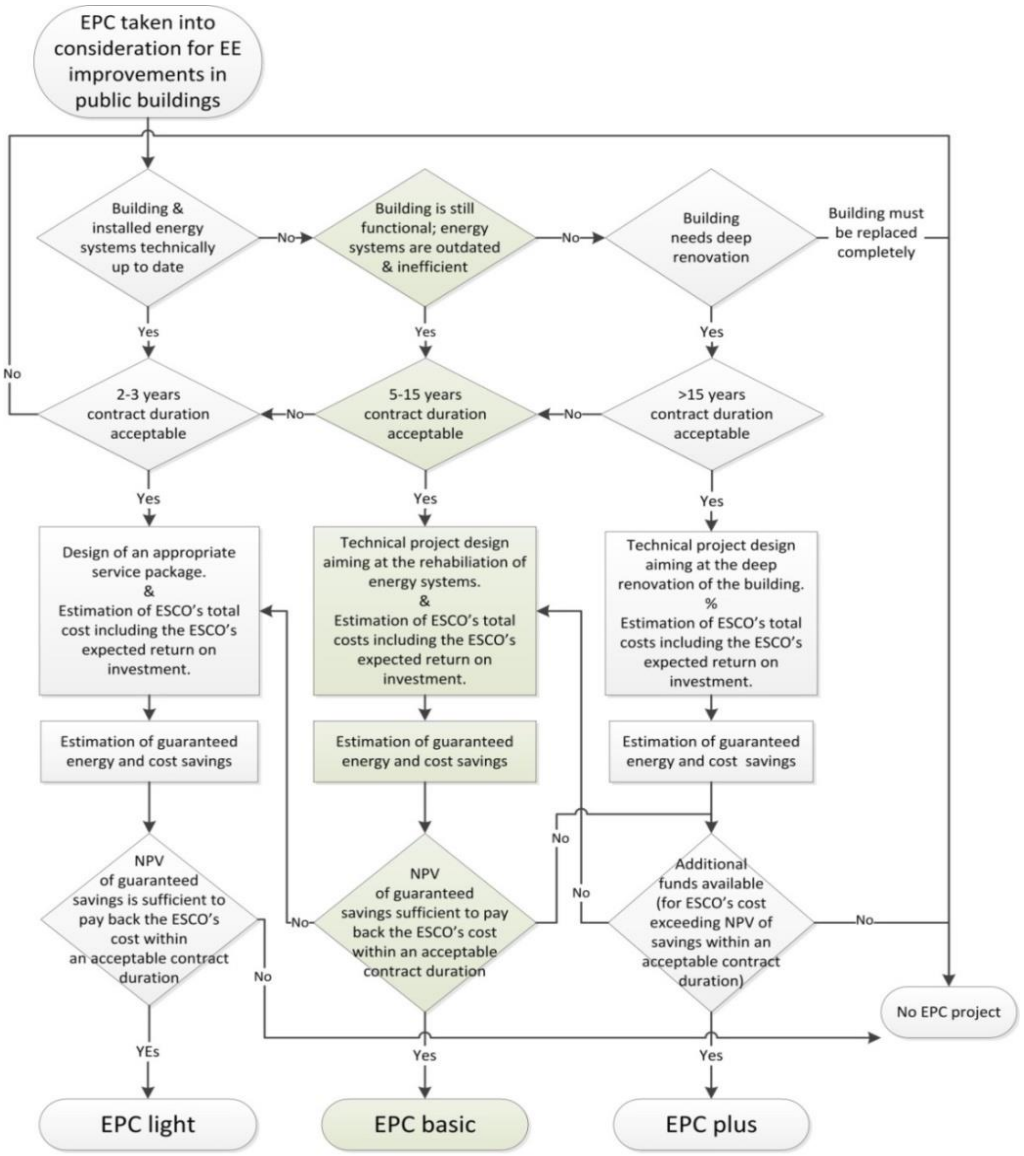
	EPC Light	EPC Basic	EPC Plus
Scope of investment	Only equipment and operating costs.	Investments only in fast-paying energy saving measures.	Deep renovation
Energy savings achieved	Typically 10-20 %	Typically 20-60%	Ideally >70%
Contract duration	In most cases 2-3 years	In most cases 5-15 years	Often >15 years
State of building and planned investment	All public buildings with energy saving potentials.	The building still serves its purposed, but energy systems installed and used in the building are outdated and inefficient.	Building does no longer serve its (current or future) purpose. Building and installed energy systems are outdated and/or dysfunctional, deep renovation is planned.
Installation and operation of equipment and facilities	ESCO	ESCO	ESCO

Selection criteria for EPC business model

- Current energy cost are high (e.g. > 50,000 €/y)
- Energy facilities are obsolete, or non-functioning, or new standards are to be achieved.
- Future use of the building for the planned purposed is expected (for at least 15 years, or more).

Sources of data for the selection of buildings:

- ✓ Energy audit or Energy Performance Certificate (if any).
- ✓ Data on energy consumption (invoices etc.).
- ✓ Documents and contracts on energy delivery, energy management etc.
- ✓ Results of on-site inspections.



Potential risks and risk mitigation strategies

Potential risks from public building owner's point of view	Risk mitigation options
➢ Bankruptcy of the ESCO prior to finalization and hand-over of equipment, facilities, and devices due for delivery according to the contract.	✓ Request for a bank guarantee covering the cost of the building owner that might occur in this case.
➢ Bankruptcy of the ESCO after the acceptance of due delivery of equipment, facilities, and devices, in particular in the case of claims sold by the ESCO to a bank/factoring agent.	✓ Request for a bank guarantee covering the cost of services to be provided by a substitute for the ESCO in order to ensure achievement of guaranteed savings.
➢ ESCO failing to deliver agreed measures and/or guaranteed savings.	✓ Establish strong penalties in the contract. ✓ Reduction of monthly payment.
➢ ESCO failing to provide any evidence of achieved savings within a certain period of time following the end of the agreed reporting period.	✓ Establish in the contract the right to cease or reduce payments until the ESCO provides proper evidence of achieved savings. ✓ Involve a certified third party by contract agreement
➢ Dispute between the ESCO and the building owner concerning proper delivery of agreed measures and/or the achievement of guaranteed savings.	✓ Involve a certified third party by contract agreement. ✓ Establish in the contract the right to cease or reduce payments during the duration of the dispute, if this exceeds a certain limit.

Risk mitigation measures taken by the public building owner may create additional barriers for ESCOs to enter the EPC market and/or to submit an offer for a specific project.

EPC business models / practical examples:

EPC fees + donor funding + building owner's own contribution

Municipality of Kranj (Slovenia)

- EE improvements in schools, sports halls, public swimming pool, and administrative buildings in one EPC.
- Bundling different renovation measures, covering almost all premises of the municipality.
- Financing model: EPC service fees + Grants (SwissFin.Mech.) + Municipal funds.
  - ✓ ESCO investment: ~ 1 Million Euro
  - ✓ Grants: ~ 0.15 Million Euro
  - ✓ Municipal funds: ~ 0.25 Million Euro
- Contracting period: 15 years
- Energy savings: 52% in 2013.

Source of information: Eltec Petrol

EPC business models / practical examples:

Energy cost savings guarantee

EE improvements of seven municipal buildings in Oberndorf (Germany)

- Establishment of a building management system.
- Different renovation measures per building, including e.g.:
  - Replacement/renovation of HVAC units (central heating / cogeneration / biomass).
  - Rehabilitation of lighting systems in a sports hall.
  - Replacement of thermostats in a conference building.
  - Insulation of the upper ceiling in a school.
  - Etc.
- ESCO investment: 2.521 Million Euro.
- Contracting period: 11 years and 8 months.
- Energy savings: 64% (0.216 Million Euro less energy cost per year).

Source of information: KEA

EPC business models / practical examples:

EPC fees + donor funding + building owner's own contribution

Municipality of Pfinztal (Germany)

- Replacement of 5 decentralized heating units and refurbishment of heat distribution and control systems in 5 buildings.
- Construction of a biomass-fired (wood chips) heating central & distribution pipes.
- Roof and inner wall insulation.
- Rehabilitation of a basin in the public swimming hall.
- Total investment: 2.986 Million Euro
  - ✓ ESCO investment: ~ 2.465 Million Euro
  - ✓ Grants: ~ 0.083 Million Euro
  - ✓ Municipal funds: ~ 0.420 Million Euro

- Contracting period: 9 years.
- Energy savings: 65% (140.070 Euro less energy cost per year)
  (already achieved during the first 2 years of operation)

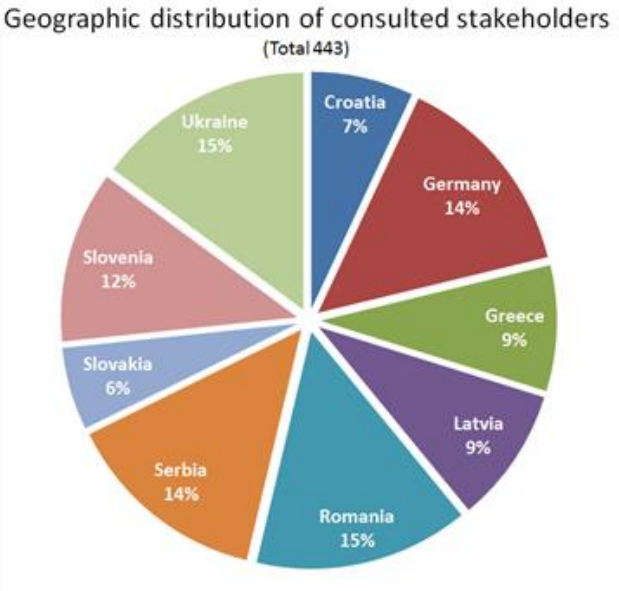
Source of information: KEA

Current results of the project

- Stakeholder consultations – 443 stakeholders provided their feedback.
- Baseline study – used as baseline for the monitoring of impacts achieved by the project in terms of new EPC projects triggered in public buildings.
- Trainings of trainers – 51 trainers in Bratislava, Slovakia.
- Training programme:
  - Webinars (A, B, C),
  - on-site trainings (local languages),
  - e-learning courses.
- Road show events – scheduled in the 2nd reporting period.
- Final conference – 15th November, 2016 in Stuttgart-Esslingen/ Germany.

Stakeholder Consultation (9 countries)

Aim: Illustrate stakeholders' knowledge, experience and issues of interest towards Energy Performance Contracts in order to identify further requirements and activities for a successful capacity building for EPC implementation in the 9 partner countries.



Cover all major target groups which may be involved in energy performance contracting (EPC):

- ✓ ***National decision makers / authorities***
- ✓ ***Local decision makers / authorities***
- ✓ ***Facilitators / advisers of local public authorities***
- ✓ ***ESCO companies***
- ✓ ***SMEs who would like joining the ESCO market***
- ✓ ***Other (e.g. engineers, lawyers, banks***)

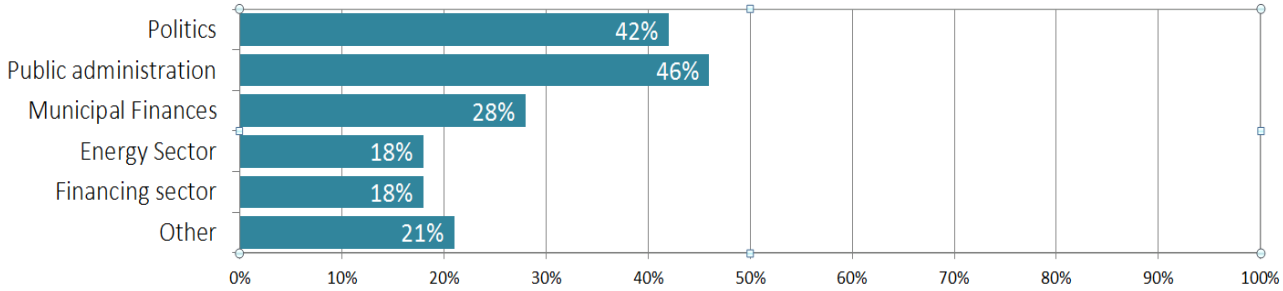
Stakeholder Consultation (9 countries)

Stakeholder assumptions regarding advantages of EPC concepts for public buildings	Stakeholder assumptions regarding disadvantages of EPC concepts for public buildings
➢ Energy savings and resulting cost savings during the guarantee period. ➢ Energy savings beyond the guarantee period. ➢ Improved building characteristics through deep refurbishment (higher quality standards, better indoor climate, longer lifespan of buildings, etc.). ➢ Increased energy efficiency. ➢ Minimal own investment necessary. ➢ Reduction of CO_2 emissions and environmental pollution. ➢ Usage of new technologies (renewable energy, innovative technology, etc.). ➢ Lower maintenance costs. ➢ Risk transfer (technical, financial).	➢ Complexity of the entire process (tendering process, procurement procedure, development of the contract etc.) and lack of knowledge on how to implement an EPC. ➢ Costs for application of EPC. ➢ Legislation (depending on national frameworks). ➢ Duration of contract period (no flexibility). ➢ Lack of knowledge and lack of trained staff. ➢ Duration of payback.
Major incentives for the market uptake of EPC in public buildings	**Major barriers for the market uptake of EPC in public buildings**
➢ Increased energy efficiency of the buildings. ➢ Minimal financial resources necessary- ➢ Increasing energy prices. ➢ Climate protection targets. ➢ Energy and cost savings. ➢ Economic feasibility (European/national funding). ➢ High potential in public properties.	➢ Lack of information and knowledge. ➢ Complexity of the EPC process. ➢ Mostly short term thinking ➢ Lack of best practice examples and too little experience. ➢ Lack of awareness. ➢ Corruption. ➢ Bureaucracy.

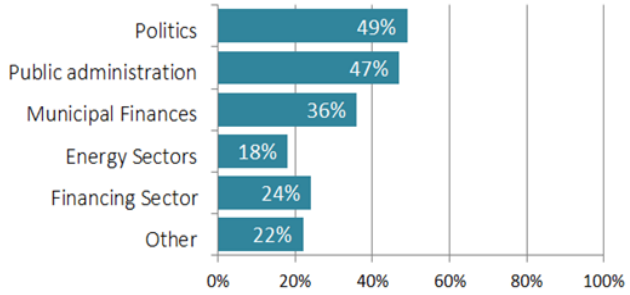
Action fields identified for the further promotion of EPC in Buildings

Action fields (needs of action)
identified for the further promotion of EPC in public buildings
(in % of the representatives of stakeholder groups providing their feed-back during consultations)

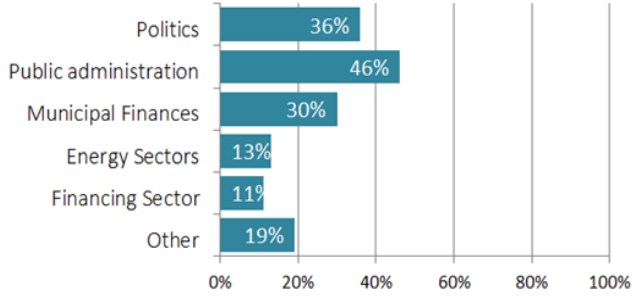
All stakeholder groups (Total 443)



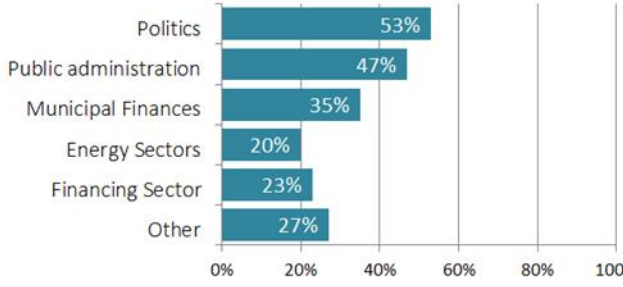
National decision makers/authorities (Total 45)



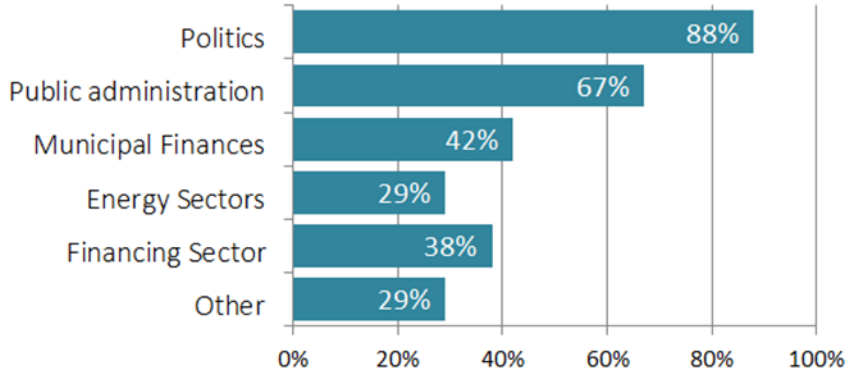
Local decision makers/authorities (Total 169)



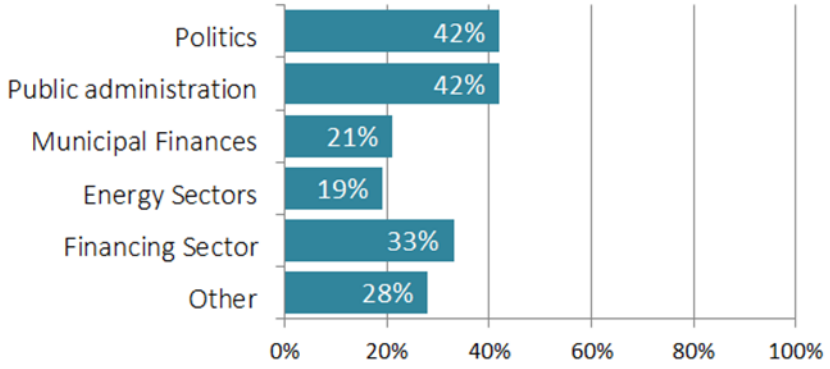
Facilitators / advisers of local public authorities (Total 66



ESCO companies (Total 24)

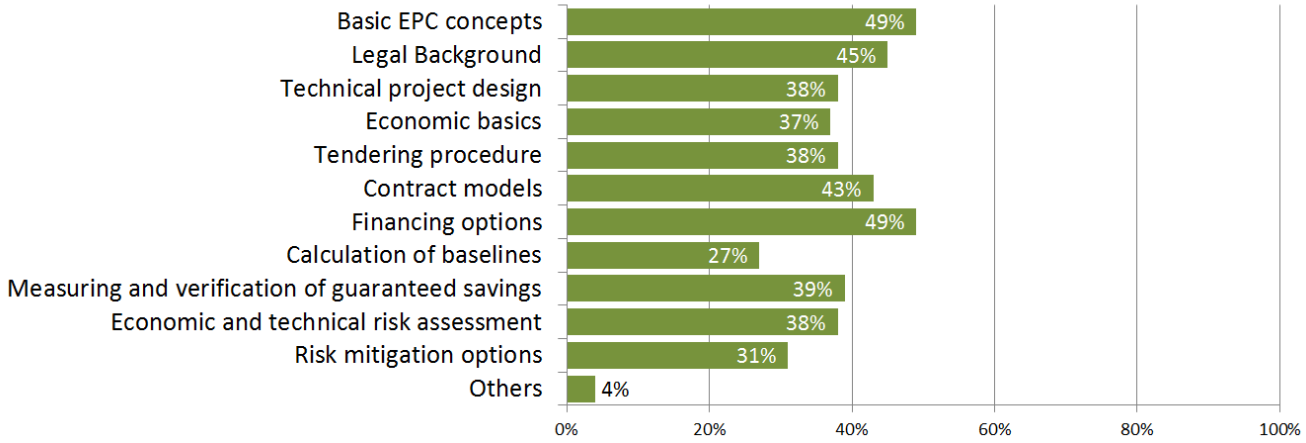


SMEs who would like joining the ESCO market (Total 57)

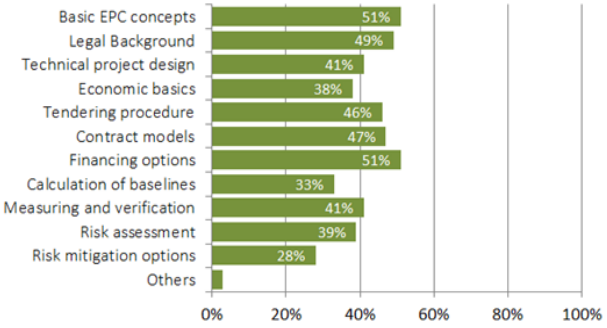


Priorities for further capacity building on EPC for public buildings

All stakeholder groups (Total 443)



National decision makers/authorities (Total 169)



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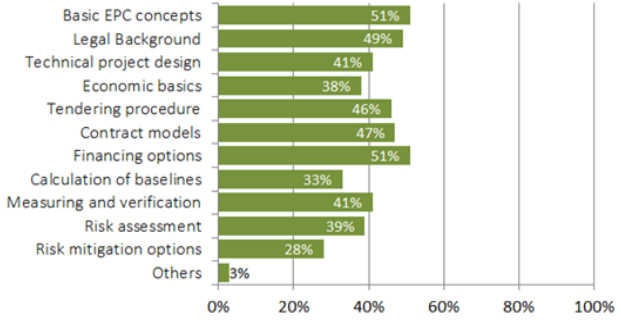
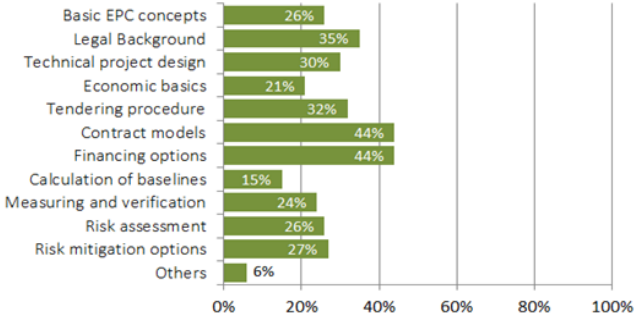


Facilitators / advisers of local public utilities (Total 66)



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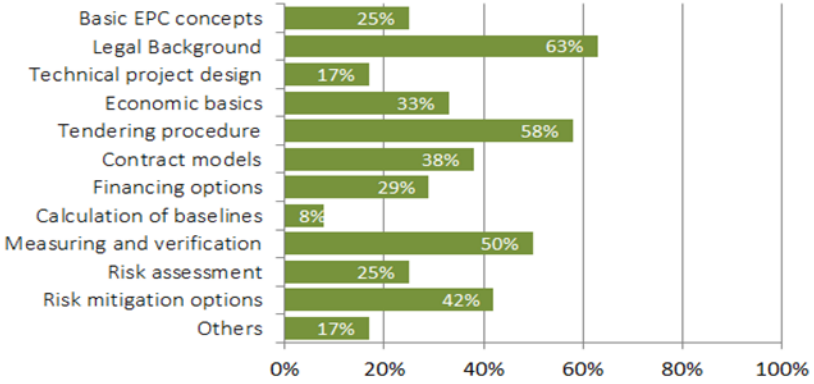
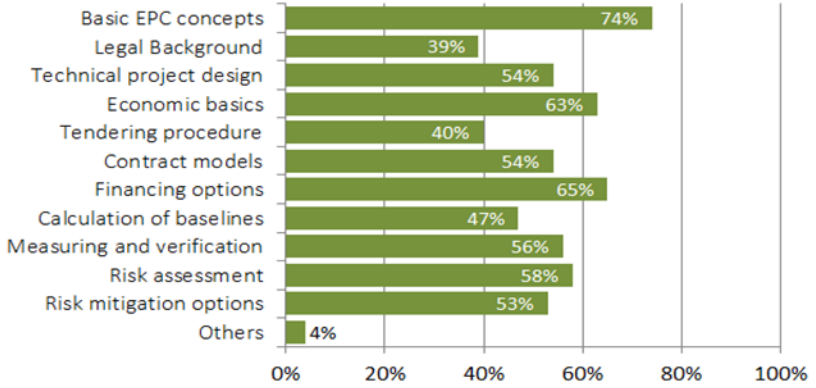


SME who are intereste to join the ESCO market (Total 57)



Final conference

Excellent event for meeting EPC experts from municipalities and experienced facilitators.

Thank You for Your Attention!!!!

More about EnPC INTRANS project:
www.enpc-intrans.eu

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КАПЕ
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