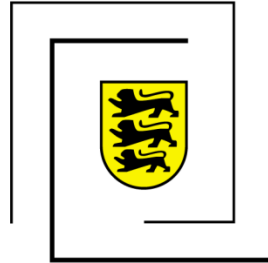


Klimaschutz- und
Energieagentur
Baden-Württemberg
GmbH



KEA

Setting up a regional initiative for Energy Performance Contracting in Public Buildings

Christoph Thomsen

Riga, April 2018



Source: Kurt Michel, pixelio

1. Do we really use the appropriate business models?
2. Regional energy service markets
3. KEA's Mission and Working Fields - How to get our EPC market improved
4. InEECo setup and lessons learned
5. Conclusions



KEA

Conception:

- Climate Protection Concept
- Area Concept
- District Heating
- Consultancy for policy makers government

Implementation:

- Energy Management
- Contracting
- Funding
- Market facilitation for energy services

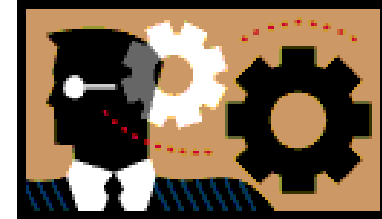
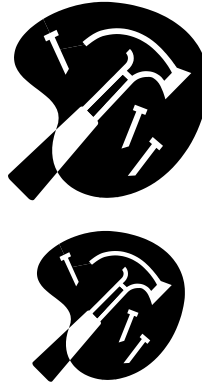
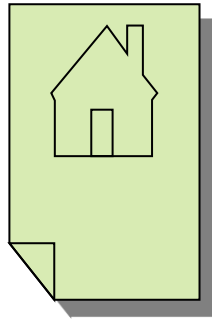


Campaigns:

- Zukunft Altbau (for private housing refurbishment)



1 - Do we really use the appropriate business models?



The “owner- directed”/”inhouse”- approach lacks EE incentive mechanisms:

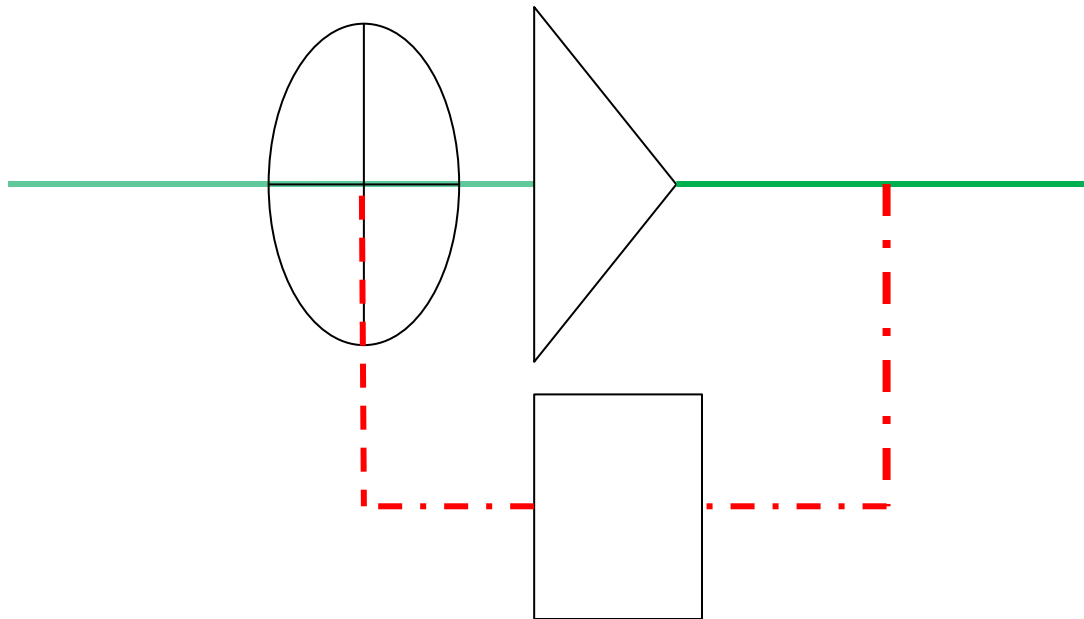
- In EU more than 90 percent of building refurbishments are carried out in “owner-directed or in- house” business models:
 - Architects/planners are responsible for planning, procurement, quality assurance in the construction phase
 - Building owner- provides (mostly non- experts) funding, engages bank loans for funding and is in charge for the building operations after the accomplishment of the construction phase
 - Crafts- /Trades Men: construction, maintenance services

Quelle aller Bilder: microsoft



1 - Do we really use the appropriate business models?

- Experienced malfunctions of “owner- directed/in- house- business models”:
 - Open feed back model with no feed- back and response (PERFORMANCE) integrated
 - Decision making is typically not referring to life- cycle based criteria
 - lacking stimulation to **meet calculated efficiency targets and fixed investment budgets**





KEA

2 - Regional Energy Service Market Baden Württemberg



The state of Baden-Württemberg:

- 1110 municipalities, 35 counties
- Average number of inhabitants: 10.000 / municipality
- Number of municipalities > 30.000 inh.: 45
- 1/3% of stataal area: woods
- Average age of building fabric and infrastructure: 35 yrs
- Average age of HVAC: 25 yrs



Quelle Bild: colourbox.de



- **Regional Framework Conditions** require approaches respecting regional decision making criteria- what works in Berlin will not automatically find acceptance in high developed non- urban regions:
 - High identification with public infrastructure
 - Money inserted into EE, de- carb, RE projects will be tracked over time by administration
 - Reluctance to financing tools – only spend what you have
 - Decision making will always refer to strong SME structures

→urban and rural regions require specific approaches



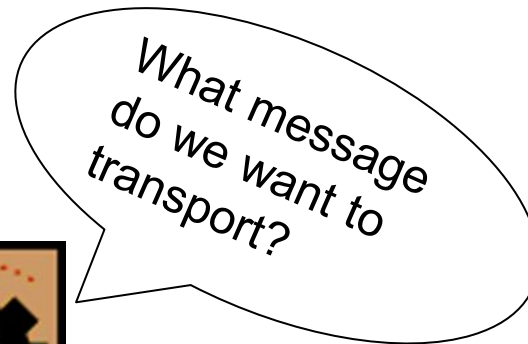
- Available data on which a decision making on public building refurbishment is made (Results of a KEA field-study with the municipal administrations)
 - **< 15% of the public administrations do run an energy management system** with at least monthly controlling of consumption and installations + providing significant data on the energy consumption, -cost, -benchmark
 - **< 5% run strategic instruments like municipal energy concepts, European Energy Award etc.**
 - **> 50% of the EPC projects** are initiated by emergency cases

A simple feasibility study is a basic requisite to generate a “municipal building refurbishment schedule” and to define the scope of action for a valuable contracting project



Objective of the Accelerate SUNSHINE-Project:

- “In the Covenant of Mayors signatories commit to a Sustainable Energy and Climate Action Plan. However, often municipalities lack capacity to turn their plans into actions”
- “Realizing this potential requires designing, financing and implementing complex energy efficiency investments.”



Source: https://cordis.europa.eu/project/rcn/209848_en.html

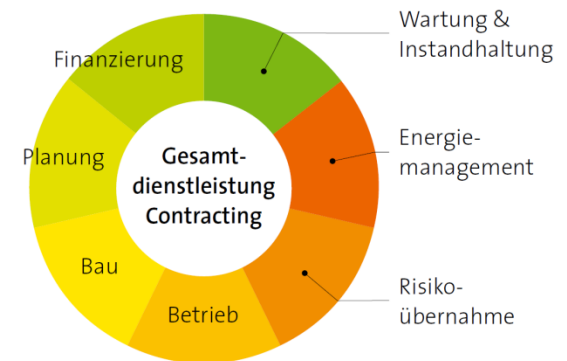


Objective of the Accelerate SUNSHINE-Project:

- “In the Covenant of Mayors signatories commit to a Sustainable Energy and Climate Action Plan. However, often municipalities lack capacity to turn their plans into actions”
- “Realizing this potential requires designing, financing and implementing complex energy efficiency investments.“
- “A major objective is to demonstrate the financial viability of deep renovation via suitable project bundling, municipal partnerships and financial engineering.”
- “Accelerate SUNSHINE supports this solution, further rolling out the Latvian Baltic Energy Efficiency Facility, which is an investment fund with a single purpose: forfeiting receivables from EPC.”

Source:

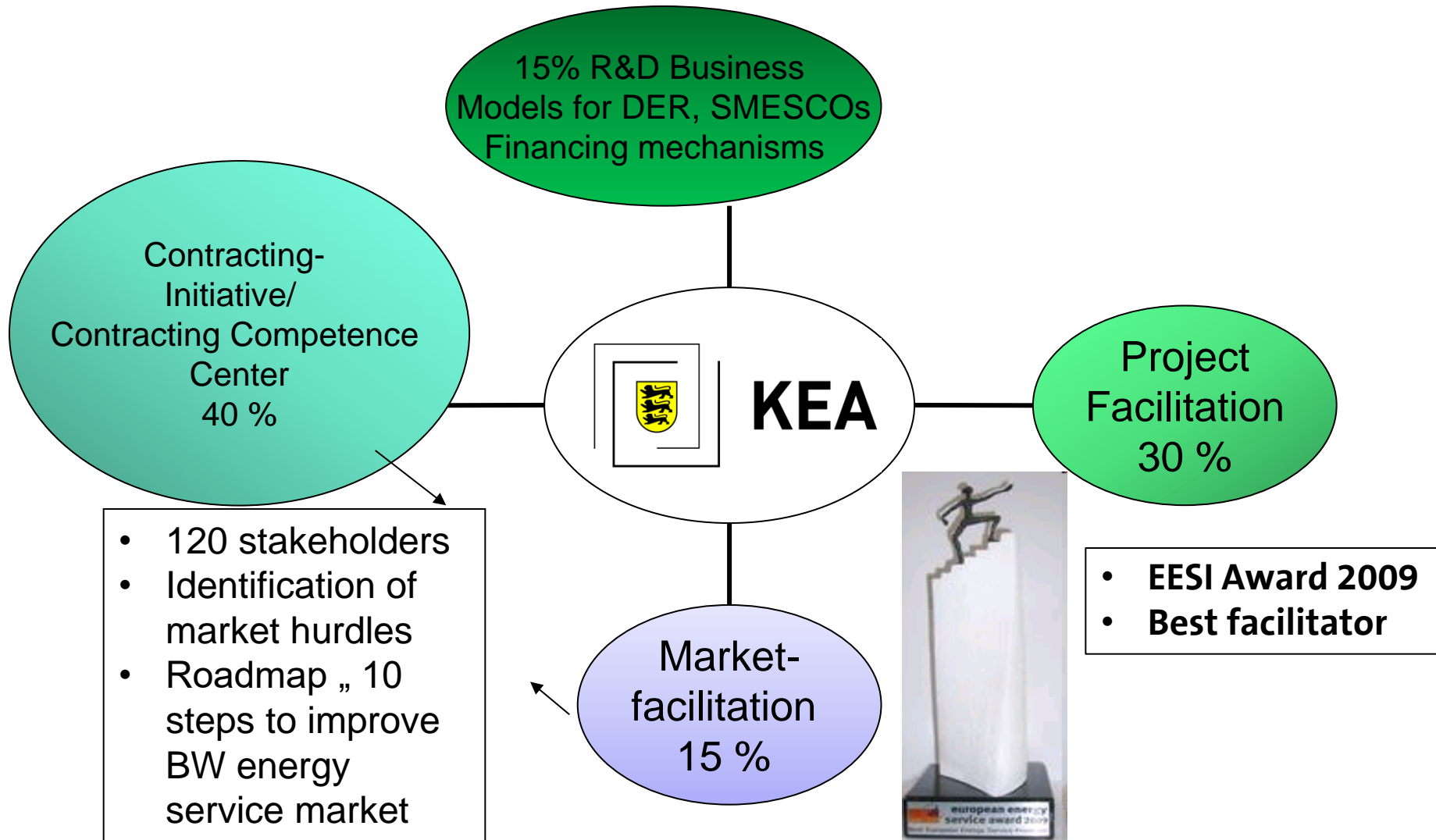
https://cordis.europa.eu/project/rcn/209848_en.html





KEA

3- How to improve our EPC market: overview on KEA's mission fields





If you want that things move in your way: its in your hand

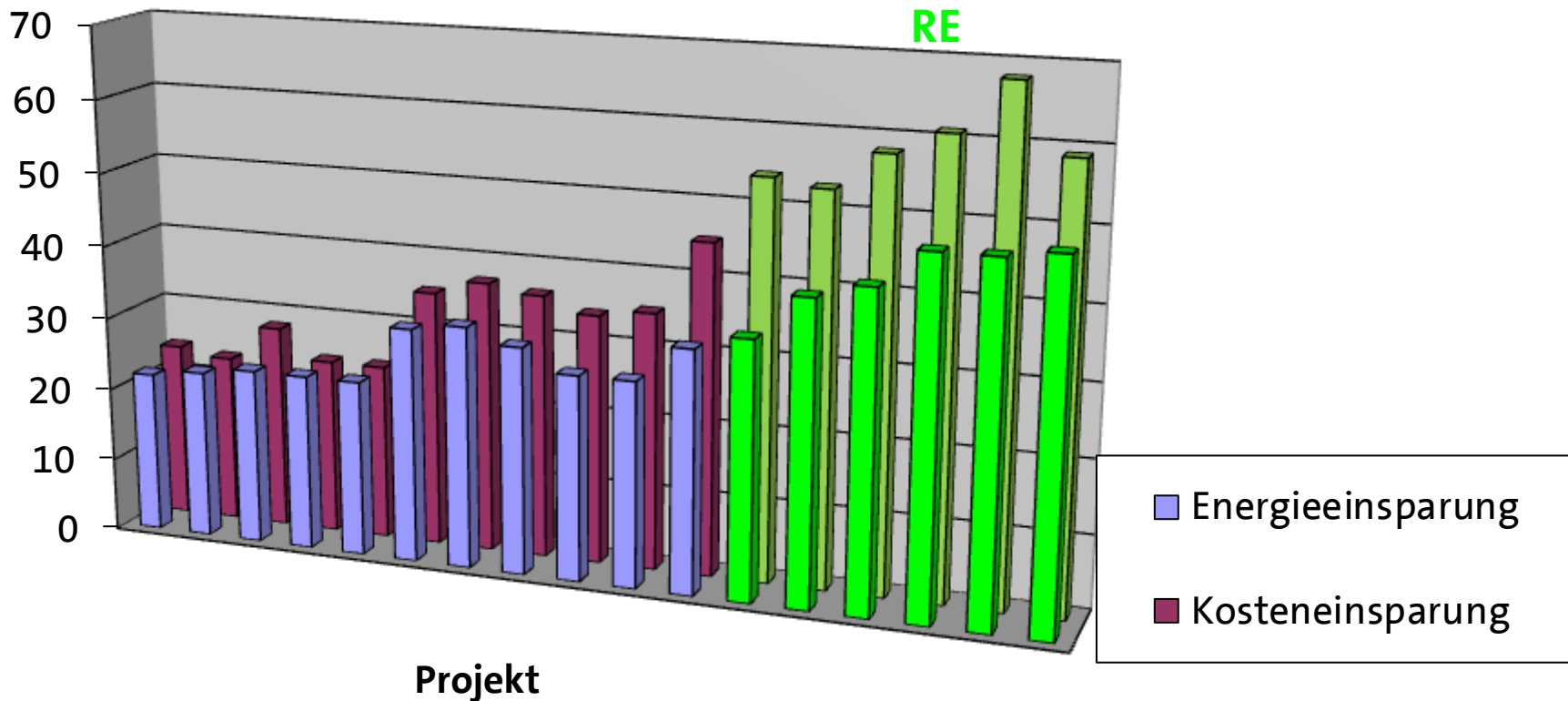
- **Plan of technical measures:** a feasibility study is a necessary prerequisite to identify + set up individual contracting project objectives and to achieve maximum energy conservation
- **Terms of rating:** to get ESCOs engaged to create solutions for individual project targets it is necessary to design **corresponding terms of rating** which do not only account for NPV criteria but **also for measures**
- **Financing sources:** support ESCOs in refinancing

■ In the case **Energy Performance Contracting and Energy Supply Contracting** Solutions this means in comparison to the first generation of EPC projects in Berlin:

- No **low- hanging fruits-** investments
- Include a **mix of energy and non- energy related measures** when you touch the building anyway
- Specific investment costs initiated in Regional EPC: **80- 150 €/m² (compared to 30- 50 €/m² in Berlin)**

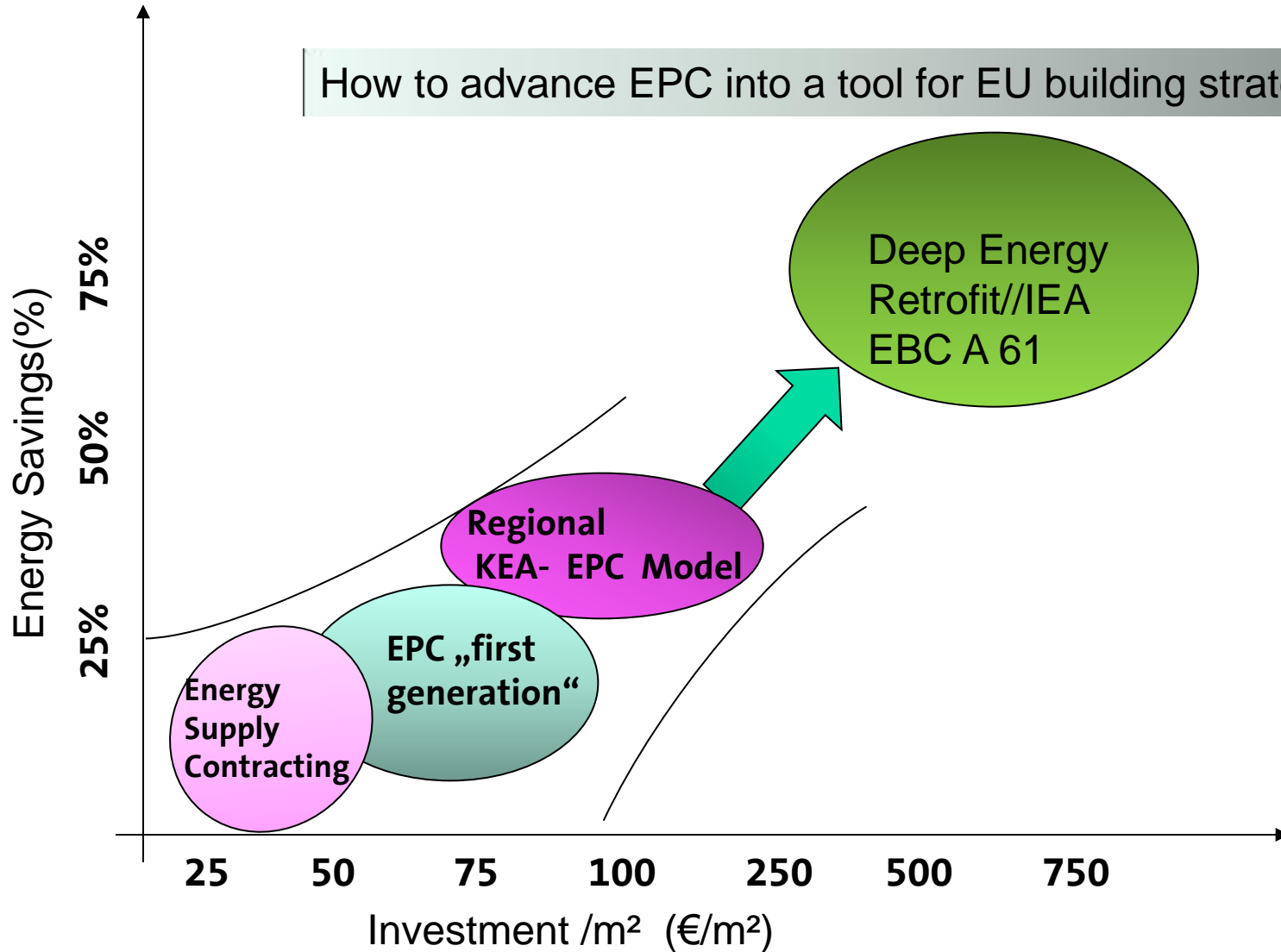


Energy and Cost savings of 18 ESC- Projects from 2002- 2014





How to advance EPC into a tool for EU building strategy

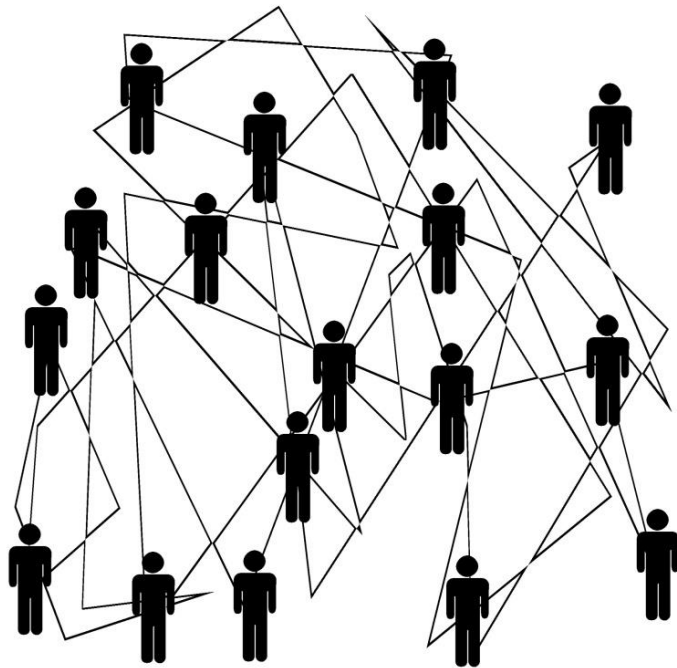




- Contracting Initiative/ Competence Centre
 - Lead Question: How can we increase the demand for EPC?
 - Essential to develop the market in a broad approach
 - Tailored regional EPC market
- How to?
 1. Gather all major stakeholders from industry, ESCOs, building owners (private, commercial, public), banks, funds, cooperatives and policy makers
 2. Identify major hurdles for the market in each sector
 3. Organize several workshops on prioritized topics identified with the stakeholders
 4. Elaborate first approaches to overcome those
 5. Set up a roadmap
 6. Institutionalize the approach in a Contracting Competence Center
- What we are working on in the CCC:
 - Public relations and initiatives, standardization of contracts and procedures, simplification



3 - How to improve our EPC market: Contracting-Initiative: Findings



© Gerd Altmann / PIXELIO

1. Create Awareness through a PR-campaign
2. Qualify Contracting-Facilitators
3. Institutionalize C-Initiative by establishing a Competence Center Contracting
4. Find new ways of funding and De-Risking
5. Stop Discrimination: Open Public Funding for Contracting
6. Evaluate the current Approval Procedures (in municipal Contracting-projects)
7. Think big: Improve funding for area concepts and district heating
8. Think small: Develop new Business-models (and Funding) for smaller projects
9. Make it simple: Develop Guidelines for Project Facilitation
10. Standardize, yet keep it flexible: Develop a tool kit Energy Contracting



- **Improve conditions for EPC project facilitation**
 - **Lowering the door step:** acquisition of international (**EIB ELENA**) and national (**BAFA**) funding for project delivery. Achievement: Up to 90% of project facilitation are available from both grant programs for **PUBLIC BUILDING OWNERS** (confessional and social, healthcare, municipal)
 - Expected effects:
 - Create awareness (building owners, planners)
 - Cant say NO to such an offer....?
 - PUSH for the market
 - Training of Facilitators
 - Simplified contract and tendering papers (standardized risk regulations)
 - Simplified project facilitation approach (standardized structure for audits)

Learn more at www.ineeco.org (available in German and English)

(„Initiative for EPC and ESC“)



Kofinanziert durch das Programm
„Intelligente Energie — Europa“ der
Europäischen Union



Ineeco steering group

- Discussion of terms and conditions between facilitators and building owners
- Discussion and optimization of tendering and stipulation material
- Development of a new re-financing tool for ESCOs
- Development of a information campaign to push the demand
- Assessment of the approval process of EPC in the public sector
- Members: Association of Municipalities, Cities, Counties, public hospitals, public social entities, ESCOs, funding entities

Ineeco working group (=Facilitators)

- 20+ members from regional Energy agencies and engineering companies
- Different Level of experience and extent of involvement in the projects
- Lead of Ineeco, risk carrier, Project coordination, Quality assurance: KEA.
Idea: One-stop-shop



4. Ineeco Milestones

InEECo investment goal: Implement ca. 15-25 EPC/ ESC-projects with **30 Mio. Euro Investments.**

Project time period: 3 yrs, Start: April 2015

Nr	Milestone	Planned Timeline
1	information campaign	March- July 2015
2	investments € 10 Mio	April 2016
3	investments € 20 Mio	April 2017
4	investments € 30 Mio	April 2018





4. Ineeco Milestones

InEECo investment goal: Implement ca. 15-25 EPC/ ESC-projects with **30 Mio. Euro Investments.**

Project time period: 3 yrs, Start: April 2015

Nr	Milestone	Planned Timeline	Actual/ Revised plan
1	information campaign	March- July 2015	„ongoing“
2	investments € 10 Mio	April 2016	December 2017
3	investments € 20 Mio	April 2017	July 2018
4	investments € 30 Mio	April 2018	December 2018





4. Ineeco Milestones

InEECo investment goal: Implement ca. 15-25 EPC/ ESC-projects with **30 Mio. Euro Investments.**

Project time period: 3 yrs, Start: April 2015

Nr	Milestone	Planned Timeline	Actual/ Revised plan	# of Projects Finished Actual/ Revised plan
1	information campaign	March- July 2015	„ongoing“	
2	investments € 10 Mio	April 2016	December 2017	8
3	investments € 20 Mio	April 2017	July 2018	22
4	investments € 30 Mio	April 2018	December 2018	30





KEA

4. InEECo - Identified Problems during Implementation

Gebäude sanieren mit Energie-Contracting

Ein Angebot für Kommunen und Träger öffentlicher Einrichtungen



Unabhängige Contracting-Beratung wird bis zu 90 % gefördert.

- Approval of loan guarantee (delay + 6 months)
- Collapse of municipal demand: Refugee Housing demanded a lot of municipal capacities
- Acquisition Strategy needed
- Free Inspections
- KEA Staff-shortage
- Acquisition mainly through KEA (not Working group)
- Smaller Projects than expected (average Volume about 1 Mio €)
- Misunderstandings with ELENA-team, e.g. about funding and subcontracting



- A regional approach is needed
- Ineeco is to be seen as a consecutive step of Baden- Württembergs Contracting Initiative which identified 10 major hurdles and a roadmap to overcome them
- It takes time...
 - to address the hurdles and improve framework conditions. An institutionalized approach (as with the CCC) is helpful
 - to set up an ELENA project like InEECo
 - to develop a campaign and until that campaign shows effect.
 - To develop projects
- ... and we have experienced setbacks.
- But it's worth it, because
 - EPC/ ESC combined with efficiency measures is the right business modell
 - we contribute to the EPC market development in Baden- Württemberg
 - we create awareness and lots of good examples
 - We qualified project facilitators „on the job“ for quality assurance
 - built up a network (working group, steering group) that lasts beyond InEECo



KEA

EFFICIENCY

JUST AHEAD



KEA

Pateicos!

Thank you for the opportunity of networking!

Christoph Thomsen
E-Mail: christoph.thomsen@kea-bw.de

Quelle Bild: colourbox.de

www.kea-bw.de



Klimaschutz- und
Energieagentur
Baden-Württemberg
GmbH



KEA



- Ineeco- Task force „Public information campaign“
- Target groups
- Municipal decision makers, stataal building management
- ESCOs, handcraft companies, SMEs, municipal utilities
- Facilitators in regional energy agencies and engineering companies
- Funding entities
- Associations of public bodies
- Core Messages:
- Ineeco structure (brief)
- Supported activities
- Example calculations
- Coordination with other grant programs
- Distribution path ways:
- 50% of activities are put in meetings on local level (decision maker level)
- E- mail, Ineeco - homepage





- **Task force group „Financing“**
- **Targets:**
 - Set up refinancing pool for EPC projects with attractive fixed mid-term loan interest rates
 - Include forfaiting model
 - Develop project level technical and economical assessment tool for EPC projects
 - Develop mutual federal and stataal funded re- assurance tools for loan program
 - Collect private money



- **Task force group: Public EPC approval structures**
 - Every public EPC project is considered as a loan related debt and has to be assessed in a complex calculation and approval process
 - Together with legal advisors from statal department of municipal affairs, assocation of ESCOs and department of environment a working group will be set up to analyze 10 Ineeco projects with special regard „how to simplify the process and increase the transparency of the assessment process
 - Development of a simplified approval process for EPC in public buildings

