Facilitating the ESCO market

Results from the Streetlight-EPC project

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The Region of Upper Austria
Oberösterreich

Capital: Linz
Population: 1.4 million
Area: 12,000 km²
Economic activity: 25% of the Austrian industrial exports
The Energy Agency of Upper Austria
OÖ Energiesparverband

- promotes energy efficiency and renewable energy
- provides services to households, businesses & municipalities
- develops & implements policies & manages programmes
Energy production in Upper Austria

- Coal: 24%
- Gas: 19%
- Oil: 25%
- Renewables: 32%
- Biomass: 16%
- Hydro: 11%
- Other renewables: 5%

Gross domestic energy consumption by energy source, Upper Austria, 2014
Source: Energiebericht des Landes OÖ
The EPC facilitation services in Upper Austria

- The regional government of Upper Austria started its first programme to support EPC market development more than 10 years ago

- Two fold approach:
  - financial support for contracting projects
  - facilitation service by the regional energy agency

- more than 200 contracting projects supported
  (about 100 in municipalities, 50 in companies, 50 in institutions, areas: street lighting, EPC in buildings and industry, renewable heat contracting)

- more than 30 ESCOs offer services in the region

- the first years were challenging and the programme started very slowly

- EPC has found its place in the portfolio of sustainable energy solutions in Upper Austria

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A challenge for municipalities - an opportunity for EPC!

In many European regions, EPC (energy performance contracting) markets are not yet well developed.

- due to phasing out of 80% of the street lighting lamps, municipalities are under pressure to act
- new LED technologies offers high savings with comparatively short payback times
- street lighting is a good "learning and testing ground" for EPC (lower technical and economic complexity)

This creates an opportunity:

- to establish EPC markets
- to support the market introduction of efficient lighting technologies

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IEE project
Triggering the market uptake of energy performance contracting through street lighting refurbishment projects in 9 regions

Streetlight-EPC

Project duration: 1 April 2014 – 31 March 2017
Streetlight-EPC

• creates demand and supply for EPC projects in 9 regions by setting up regional EPC facilitation services (providing comprehensive support both to municipalities and SMEs as potential ESCOs)

• performs real-life procurement of EPC (street) lighting projects during the project life, creating knowledge and trust in LED and the EPC model

• The project team: 9 regional agencies/organisations (providing the EPC facilitation services), 9 municipalities (committed to implementing EPC projects) and FEDARENE
Streetlight-EPC - Project Partners

- 19 partners in 9 countries
- coordinator: OÖ Energiesparverband

<table>
<thead>
<tr>
<th>Region</th>
<th>Regional partner</th>
<th>City/county partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Austria</td>
<td>OÖ Energiesparverband</td>
<td>Wels</td>
</tr>
<tr>
<td>North-West Croatia</td>
<td>REGEA</td>
<td>Zagreb County</td>
</tr>
<tr>
<td>South Bohemia/Czech Republic</td>
<td>ECCB</td>
<td>T. Sviny</td>
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<tr>
<td>Pomerania/Poland</td>
<td>BAPE</td>
<td>Gdansk</td>
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<tr>
<td>Carlow &amp; Kilkenny County/Ireland</td>
<td>CKEA</td>
<td>Kilkenny County</td>
</tr>
<tr>
<td>South East Sweden</td>
<td>ESS</td>
<td>Kalmar</td>
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<tr>
<td>Podravje/Slovenia</td>
<td>ENERGAP</td>
<td>Maribor</td>
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<td>Macedonia</td>
<td>MACEF</td>
<td>Skopje</td>
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<tr>
<td>North/Central Spain</td>
<td>ESCAN</td>
<td>Santander</td>
</tr>
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</table>
The EPC facilitation service

- key element in EPC market development
- interests and connects actors
- identifies promising "candidate projects"
- comprehensive support to municipalities and to SMEs (potential EPC clients) and potential ESCOs in project development and implementation:
  - initial assessment of technical and economic viability
  - support in project audits
  - guidance on procurement rules, contractual and technical issues and financing
Developing the EPC facilitation service - our strategic approach

Step 1: Increasing internal know-how and preparing tools
• analysis of the current regional situation
• meetings with financing organisations
• developing tools

Step 2: Identifying and reaching out to potential projects
• information events and bi-lateral meetings
• initial assessment of technical & economic viability of projects
• identifying the most promising projects ("candidate projects")

Step 3: Supporting specific project development and implementation
• advice on technical and financial aspects of EPC
• support in project audits
• guidance on procurement rules and contractual issues
Quick-checks, guides and FAQs

Available at www.streetlight-epc.eu in 10 languages:

- **Quick-checks** for a first initial assessment of the suitability of EPC street/indoor lighting refurbishment
- **Guide** on implementing streetlight-EPC projects
- **FAQs** on streetlight-EPC
- Examples of implemented projects
Activities of the facilitation service

Identifying and reaching out to potential projects in 9 regions:
• 52 regional events held with over 1,500 participants
• 163 "quick-checks" completed
• over 380 enquiries answered and documented
• more than 255 FAQs available
• 51 bi-lateral meetings held with financing bodies

Supporting specific project development and implementation:
• 75 projects supported
  (50 street lighting, 25 indoor lighting projects)
The challenges differ

Banks that do not understand the business model

Ownership issues

No/few (good) ESCOs

Lack of information by municipalities

- the ESCO will make too much money
- I have to fire the maintenance staff (municipal staff/local electrician)
- the ESCO will go bankrupt
- I can build new street lighting with an EPC project
- who pays what to whom and when

Low electricity prices

Public procurement rules (perceived or real barriers)

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Facilitation works: 40 implemented projects!

- 30 projects already implemented using a variety of EPC models
- 10 more projects implemented with other financing or operational models
- more projects in the pipeline!
- 10+ new ESCOs
Examples of projects implemented in Upper Austria

<table>
<thead>
<tr>
<th>Name of project</th>
<th>Street lighting in Bad Schallerbach</th>
<th>Pink, gas station and restaurant</th>
<th>Fischer Brot, bread producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td>Before</td>
</tr>
<tr>
<td>Capacity (kW)</td>
<td>55</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Annual electricity consumption (kWh)</td>
<td>227,300</td>
<td>96,400</td>
<td>231,100</td>
</tr>
<tr>
<td>Annual electricity cost (Euro)</td>
<td>34,000</td>
<td>14,500</td>
<td>30,000</td>
</tr>
<tr>
<td>Investment (Euro)</td>
<td>354,600</td>
<td>62,400</td>
<td>385,000</td>
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55 % financed by EPC
A variety of EPC models (1)

EPC can take many forms (depending on the legal, economic and social contexts of each region and project)

2 core aspects defined in the project:

• Contractually guaranteed savings
• Financial consequences if these are not achieved, e.g.:
  - withholding/reducing payment to the ESCO
  - bank guarantee from ESCO which can be drawn by the client if savings are not achieved
  - retention of a percentage of payment until assessment shows savings have been achieved over time
  - ESCO must adjust/replace the equipment until savings are achieved

Other aspects can vary greatly!
A variety of EPC models (2)

Variable aspects are, for example:

- who finances
- who performs audit
- who designs system
- who does refurbishment work
- who does maintenance
- project size
- project completely or partly financed by EPC
- maintenance cost savings included in the contract or not
- calculation of ESCO fee & billing schedule
- how changes in energy prices are taken into account
- who benefits from "extra" energy savings
- duration of contract
- ownership issues after end of contract
- provisions in case of bankruptcy of ESCO or client
- etc.
Some key findings (1)

- **EPC: high interest, low knowledge**
  "explain, explain, explain", also to overcome prejudices

- **Know-how and trust are key**
  ESCOs need knowledge in technical, contractual and financial aspects, clients need to understand and trust EPC and the ESCOs

- **Developing EPC facilitation services**
  - deep technical, financial & contractual know-how within the organisation
  - work very closely with individual municipalities
  - "quality approach": better fewer, but convincing, projects
Some key findings (2)

- **Good project preparation is key:**
  - Meaningful inventories of existing systems (but not so detailed that costs become prohibitive) and good quality audits
  - LED: offers choice, requires knowing your needs, choosing quality products is key
  - Projects are often prepared by engineers who tend to overestimate the contractual challenges
  - Procurement issues need to be clarified early on with specialists: often there are solutions if there is a will
  - Financing experts tend to underestimate the technical delivery of the saving guarantee ("an ESCO is not a bank")

- **Great potentials in indoor lighting EPC projects**
  Strongly dependent on the country context, also combination of different measures in different buildings

- **Facilitation works!**
Facilitating the ESCO market
now is the time to get active!

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