Life Cycle Costing (LCC) – a modern procurement tool
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Swedish Environmental Management Council
Agenda

• What does The Swedish Environmental Management Council do within the area of LCC

• Coming work

• What is important in order to initiate LCC in the public sector? Our experiences
Swedish statistics

- 32% uses LCC when considered relevant
- 50% don’t use it although it could be relevant!
SEMCo:s work to initiate LCC

- Integrate LCC when developing procurement criteria
  - LCC-criteria
  - Calculation tool
  - Guidelines

- Information
- Good examples
- Lectures / Training
Our concrete work in 3 steps

1. Products suitable for the calculation
2. LCC in the procurement process
   - Needs analysis / tender assessment
3. Calculation tools
1. Products suitable for the calculation

- Our existing tools: Cars, Vending machines, Outdoor lighting
- Coming product areas: Construction, Medical equipment, professional kitchen equipment, Indoor lighting
- Statistics
- Good examples
LCC can be used in different ways

- Needs analysis – estimation of total costs
- Tender process – evaluation of the most economic advantageous offer
Needs analysis

- General tool to estimate the Life cycle costs
- What will be the economic outcome if you choose an environmental good?
- If the calculation shows economic benefits, 2 options:
  - Buy the environmental alternative
  - Use the calculation in the award phase
Award phase

Important: Same principles are valid as in “normal” procurement!

• Equal treatment
• Non-discrimination
• Transparency
Important to stress in order to get comparable numbers

• Clearly define the preconditions for the supplier
  — Quantity, Number of years of usage, Discount rate, Energy, consumption, Energy price, Annual use etc.

• Clearly define what information the tender should submit

• Clearly define the standards that should be used
  — Standards for measuring energy consumption and measuring maintenance costs
Concrete information

- While developing criteria we always make an investigation whether LCC is relevant
- Actual criteria concerning LCC
- Including what information is needed (preconditions, standards etc.)
- Contract clause to help the following up
- Link the criteria to a tool
3. Calculation tools

- MSR has developed tools with assisting guidelines, [www.msr.se](http://www.msr.se)
- Net present value - calculation
- Tools are developed with experts within the specific area, often while developing the criteria sets – to adjust it to the target group, the procurer.
- Other more specified tools can be downloaded from different organizations /authorities
## Life Cycle Costing of Passenger Cars

### General Information

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th></th>
<th>Number of Years of Usage</th>
<th></th>
<th>Discount Rate</th>
<th></th>
<th>Product, Fill in the Intended Product</th>
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</thead>
<tbody>
<tr>
<td>Quantity</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Hybride Car</td>
<td>Petrol Car</td>
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### Investments

<table>
<thead>
<tr>
<th></th>
<th>EUR/unit</th>
<th></th>
<th>EUR/unit</th>
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</thead>
<tbody>
<tr>
<td>Initial Investment per Unit</td>
<td></td>
<td>22 000</td>
<td>18 000</td>
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</table>

### Costs of Acquisition Per Unit

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<tr>
<th></th>
<th></th>
<th>22 000 €</th>
<th>18 000 €</th>
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</thead>
<tbody>
<tr>
<td>Costs for Fuel</td>
<td></td>
<td>22 000 €</td>
<td>18 000 €</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Consumption per Vehicle</td>
<td>litre/km</td>
<td>0,04</td>
<td>0,09</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Annual Use per Vehicle</td>
<td>km</td>
<td>20 000</td>
<td>20 000</td>
<td></td>
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<tr>
<td>Fuel Price</td>
<td>EUR/litre</td>
<td>1,2</td>
<td>1,2</td>
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</table>

### Operating Costs Per Unit NPV

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<tr>
<th></th>
<th></th>
<th>4 274 €</th>
<th>9 616 €</th>
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</thead>
<tbody>
<tr>
<td>Service</td>
<td>EUR/unit/year</td>
<td>800</td>
<td>800</td>
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</table>

### Maintenance Per Unit NPV

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<tr>
<th></th>
<th></th>
<th>3 561 €</th>
<th>3 561 €</th>
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<tbody>
<tr>
<td>Tax</td>
<td>EUR/unit/year</td>
<td>0</td>
<td>200</td>
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<tr>
<td>Insurance Premium</td>
<td>EUR/unit/year</td>
<td>300</td>
<td>300</td>
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</table>

### Total Other Costs Per Unit NPV

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<thead>
<tr>
<th></th>
<th></th>
<th>1 336 €</th>
<th>2 226 €</th>
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<tbody>
<tr>
<td>Remnant Value / Resale Value</td>
<td>EUR/unit</td>
<td>11 000</td>
<td>8 000</td>
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### Total LCC Per Unit

<table>
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<tr>
<th></th>
<th></th>
<th>22 130 €</th>
<th>26 828 €</th>
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</table>

### Total LCC

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<tr>
<th></th>
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<th>1 991 660 €</th>
<th>2 414 510 €</th>
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Diagrams

Costs during the life cycle

<table>
<thead>
<tr>
<th>Product</th>
<th>Costs of acquisition</th>
<th>Operating costs NPV</th>
<th>Maintenance costs NPV</th>
<th>Other costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product 1</td>
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<td>Product 2</td>
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<td>Product 3</td>
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<tr>
<td>Product 4</td>
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<tr>
<td>Product 5</td>
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Tools

Existing tools on our webpage:

• General
• Passenger cars
• Public outdoor lighting
• Vending machines

Coming soon:

• Indoor lighting
• Construction (new buildings)
Coming work

- Reconstruction (new windows, isolation)
- Medical equipment
- Refrigerators / freezers for professional use
- Tool for vehicles will be updated according to the new EU-directive

Other projects:
- Follow the municipality of Uppsala in their work with LCC
Important factors – our experience

- Integrate LCC when developing criteria
- It is important to give concrete information!
- Stress the importance of transparency!
- Simple tools are demanded
- Develop the tool and criteria with potential users
- Guide on how to use the tool/criteria