

# Life Cycle Costing (LCC) – a modern procurement tool

Annie Ståhlberg

Swedish Environmental Management Council



THE SWEDISH  
ENVIRONMENTAL  
MANAGEMENT  
COUNCIL



# Agenda

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- 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

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- 32% uses LCC when considered relevant
- 50% don't use it although it could be relevant!





## SEMCo:s work to initiate LCC

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- Integrate LCC when developing procurement criteria
  - LCC-criteria
  - Calculation tool
  - Guidelines
- Information
- Good examples
- Lectures / Training



## Our concrete work in 3 steps

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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

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- Our existing tools: Cars, Vending machines, Outdoor lighting
- Coming product areas: Construction, Medical equipment, professional kitchen equipment, Indoor lighting
- Statistics
- Good examples



## 2. LCC in the procurement process

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LCC can be used in different ways

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



## Needs analysis

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- 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

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

- Equal treatment
- Non-discrimination
- Transparency



## Important to stress in order to get comparable numbers

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- 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

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- 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

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- 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



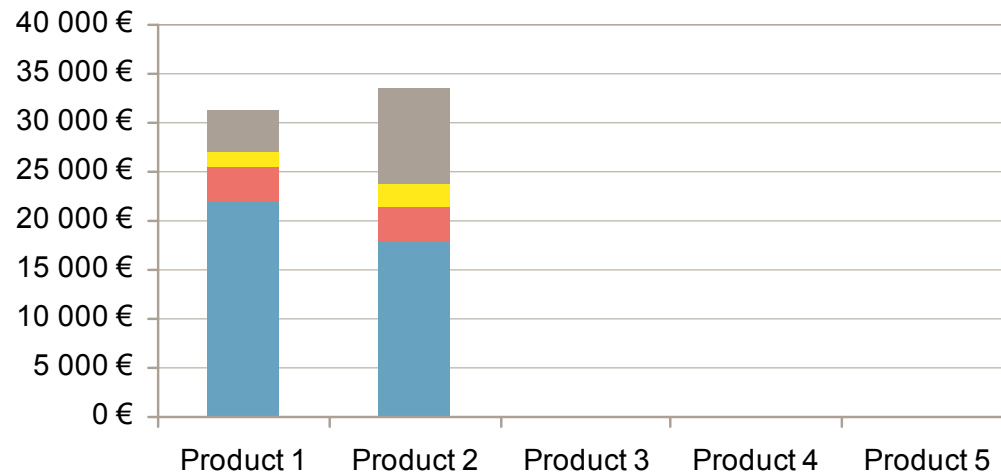
# LIFE CYCLE COSTING OF PASSENGER CARS

| <b>GENERAL INFORMATION</b>                   |               |                    |                   |
|--|---------------|--------------------|-------------------|
| Quantity*                                    | unit          | 90                 |                   |
| Number of years of usage*                    | years         | 5                  |                   |
| Discount rate                                | %             | 4                  |                   |
| <b>PRODUCT, fill in the intended product</b> |               | <b>Hybride car</b> | <b>Petrol car</b> |
| <b>INVESTMENTS</b>                           |               |                    |                   |
| Initial investment per unit                  | EUR/unit      | 22 000             | 18 000            |
| <b>COSTS OF ACQUISITION PER UNIT</b>         |               | 22 000 €           | 18 000 €          |
| <b>Costs for fuel</b>                        |               |                    |                   |
| Fuel consumption per vehicle                 | litre/km      | 0,04               | 0,09              |
| Annual use per vehicle                       | km            | 20 000             | 20 000            |
| Fuel price                                   | EUR/litre     | 1,2                | 1,2               |
| <b>OPERATING COSTS PER UNIT NPV</b>          |               | 4 274 €            | 9 616 €           |
| <b>MAINTENANCE</b>                           |               |                    |                   |
| Service                                      | EUR/unit,year | 800                | 800               |
| <b>MAINTENANCE PER UNIT NPV</b>              |               | 3 561 €            | 3 561 €           |
| <b>Taxes and other costs</b>                 |               |                    |                   |
| Tax  | EUR/unit,year | 0                  | 200               |
| Insurance premium                            | EUR/unit,year | 300                | 300               |
| <b>TOTAL OTHER COSTS PER UNIT NPV</b>        |               | 1 336 €            | 2 226 €           |
| Remnant value / resale value                 | EUR/unit      | 11 000             | 8 000             |
| <b>TOTAL LCC PER UNIT</b>                    |               | 22 130 €           | 26 828 €          |
| <b>TOTAL LCC</b>                             |               | 1 991 660 €        | 2 414 510 €       |



# Diagrams

### Costs during the life cycle



Costs of acquisition



Operating costs NPV



Maintenance costs NPV



Other costs



# Tools

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Existing tools on our webpage:

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

Coming soon:

- Indoor lighting
- Construction (new buildings)



## Coming work

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- 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

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- 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

Thank you for listening!

[www.msr.se](http://www.msr.se) / [annie@msr.se](mailto:annie@msr.se)

+46 8-700 66 97 / +46 707-44 22 18



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