The initial steps towards monitoring GPP – Workclothes

Procura+ Seminar 14 October 2016 in Rome, Italy
Work clothes - Facts about the tender

- The tender involves: Enchanted visibility clothes and other products such as T-shirts, pants, overalls, socks, etc.
- Expected turnover in a 4-year period: 4.00000 euros
- Estimated pieces of clothes in the tender: 112.000 pieces of clothes

Environmental criteria and requirements:

- Minimum requirements in according with Ecolabel textile criterias and Oeko-tex 100
- Minimum requirements on organic cotton for 7 selected product groups
Case: Organic cotton

- Of the 112,000 pieces of clothes, we added a minimum criteria for around 25,000 pieces of clothes from 7 selected product groups:
  
  T-shirts, T-shirts with sleeves, tanktops, shirts, pants, overalls and socks

- The minimum criteria was, that the products should contain a minimum of 70% of organic cotton.

Why procure organic cotton?

Let's compare conventional cotton with organic cotton!
## Organic cotton – Selected products

How much organic cotton is produced to supply these 7 product groups?

<table>
<thead>
<tr>
<th>Product group</th>
<th>Weight pr. unit</th>
<th>Quantity of order</th>
<th>Weight pr. product group</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-shirts</td>
<td>Approx.195 grams</td>
<td>10.000</td>
<td>1950 kg</td>
</tr>
<tr>
<td>T-shirts w. sleeves</td>
<td>Approx. 210 grams</td>
<td>2000</td>
<td>420 kg</td>
</tr>
<tr>
<td>Tanktop</td>
<td>Approx. 84 grams</td>
<td>2000</td>
<td>168 kg</td>
</tr>
<tr>
<td>Shirts</td>
<td>Approx.250 grams</td>
<td>200</td>
<td>50 kg</td>
</tr>
<tr>
<td>Pants</td>
<td>Approx. 320 grams</td>
<td>200</td>
<td>64 kg</td>
</tr>
<tr>
<td>Overalls</td>
<td>Approx. 350 grams</td>
<td>200</td>
<td>70 kg</td>
</tr>
<tr>
<td>Socks</td>
<td>Approx. 70 grams</td>
<td>10.000</td>
<td>700 kg</td>
</tr>
<tr>
<td><strong>Total kg/tons</strong></td>
<td></td>
<td></td>
<td><strong>3400 kg / 3,4 tons.</strong></td>
</tr>
</tbody>
</table>
## Environmental effects if applying a minimum of organic cotton on 7 product groups

<table>
<thead>
<tr>
<th></th>
<th>CO2-emission reduction</th>
<th>Water Conservation</th>
<th>Energy savings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- From cultivation and processing.</td>
<td>- From cultivation and processing.</td>
<td>- From energy coming from non-renewable energy sources. (Diesel, coal, natural gas, petroleum, mineral fertilizers)</td>
</tr>
<tr>
<td><strong>Conventional cotton</strong></td>
<td>3,4 tons conventional cotton x 1808 kg CO2 = 6147 kg CO2.</td>
<td>3,4 tons conventional cotton x 2120 m3 = 7108 m3 groundwater used.</td>
<td>3,4 tons conventional cotton x 4155 kWh from non-renewable energy sources = 14127 kWh used from non-renewable energy sources.</td>
</tr>
<tr>
<td><strong>Organic cotton</strong></td>
<td>3,4 tons organic cotton x 978 kg CO2 = 3325 kg CO2.</td>
<td>3,4 tons organic cotton x 182 m3 = 618 m3 groundwater used.</td>
<td>3,4 tons conventional cotton x 1611 kWh from non-renewable energy sources = 5477 kWh used from non-renewable energy sources.</td>
</tr>
<tr>
<td><strong>Environmental effects</strong></td>
<td>Reduction of CO2: Approximately 3 tons reduced CO2.</td>
<td>Conserved groundwater: Approximately 6500 m3 groundwater conserved.</td>
<td>Reduction of energy consumption: Approximately 9000 kWh energy conserved from non-renewable energy sources (fossil fuel).</td>
</tr>
</tbody>
</table>
Environmental effects

By applying a demand of organic cotton instead of conventional cotton in 7 product groups including 25000 pieces of clothes

The results:

- Approx. 3 tonnes of reduced CO2
- Approx. 6500 m3 groundwater conserved
- Approx. 9000 kWh energy conserved from non-renewable energy sources (fossil fuels)
Perspective

- Procurers can demand organic cotton in many other procurement areas (towels, linen, healthcare sector etc.)
- We can use the comparative methods to quickly estimate the environmental effect of some of the most important indicators
The initial steps towards monitoring – Utensils for houskeeping

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Facts about the tender

- Noncommittal contract for public procurers in Denmark
- Produced by: “Common procurementservice for the state and the municipalities”
- Consumables include: paper towels, toilet paper, disposables, cleaning supplies etc.
- Order contains more than 1700 products.
- Contract was obtained by 1 september 2016
- Expected annual revenue at 34 mio Euros
- City of Copenhagen expects to spend more than 5 mio Euros annually
Objectives for the business case

- Enlighting whether there is any additional costs for green consumables
- Make other public procurers purchasing more green products with a “Green Product Catalog”
- Higher compliance
Preliminary methods used for the business case

1. We selected the 5 most used products from 2015 (extracted from 2015-accountings)

2. We estimated the additional costs by procuring a green product instead of a conventional product for each of the 5 product groups

3. We estimated the environmental effects of those 5 products

4. The total socioeconomic cost is the net cost from which externalities like CO2, clean drinking water, sewage is put into account
### Consumables: Case 60 tons Nordic Swan Eco Label (2015 numbers)

<table>
<thead>
<tr>
<th>Environmental effect</th>
<th>Energy/ CO2 Conservation in paper production</th>
<th>Less Water consumption in paper production</th>
<th>Conservation of chemicals in cleaning facilities of waste water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X tons CO2</td>
<td>X m3 drinking water</td>
<td>X m3 chemicals</td>
</tr>
<tr>
<td>Socioeconomic cost per unit</td>
<td>Euros per ton CO2</td>
<td>Euros per m3 drinking water</td>
<td>Euros per m3 collected chemicals from wastewater</td>
</tr>
<tr>
<td>Socioeconomic cost</td>
<td>X tons CO2 * price CO2 = y euros</td>
<td>X m3 drinking water * price</td>
<td>X m3 collected chemicals from wastewater * price m3 = y euros.</td>
</tr>
<tr>
<td>The total socioeconomic cost</td>
<td>$y \text{ euros for CO2} + y \text{ euros for m3 drinking water} + y \text{ euros collecting chemicals from waste water} = z \text{ euros in total}$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Nordic Ecolabel**

![Nordic Ecolabel Logo](image)
We will estimate the environmental effects and the total socioeconomic costs for all 16 partnership municipalities, who are committed to select “The Green Product Catalog”
Challenges and recommendations

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Challenges!

- How do we estimate socioeconomic costs?
- What are the prices for water, CO2, chemicals in waste water etc.
- Which sources are trustworthy in terms of estimating environmental effects?
- How gets a conventional product selected?
- How much time is needed to make environmental assessments and estimate socioeconomic costs?
1. Consider the purpose of the estimates. Who is the target group? (Colleagues, management, politicians, media?).
2. Select some representative productgroup as illustrators of your green procurements.
3. Calculate environmental assessment and economics.
4. Make your decisions explicit.
5. Make accounts for your sources and methods.
6. Be aware of your sources that may be reflecting a certain agenda.
7. Involve any external partners to help with calculations or send them to consultation at the public administration and interest groups.

Recommendations
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