

Eco-efficiency in 7 steps

- Reduce the **material intensity** of goods and services
- Reduce the **energy intensity** of goods and services
- Reduce **toxic dispersion**
- Enhance **material recyclability**
- Maximise the **sustainable use of renewable resources**
- Extend product **durability**
- Increase the **service intensity** of goods and services

Source: WBCSD (World Business Council for Sustainable Development)

GPP definition

- In 2006 there was an international process on the definition of GPP.
- Uncertain about the exact international result, but Norway ended up with the following:

*“Environmentally conscious public procurement is undertaken when **environmental considerations** are integrated in the **procurement process** and by so doing **solutions that have a low negative impact on the environment** are **identified and selected.**”*

Definition - comments

- **Public procurement:** Procurement that is **spending public money** according to the EU procurement directives.
- **Environmental considerations:** This term includes demands and criteria used in tender documents. Examples are:
 - Use of resources, including energy and water
 - Use of recycled materials and design for dismantling and recycling
 - Content of hazardous chemicals and the generation of hazardous waste
 - Environmental impact in the production process and emission levels in use

Definition - comments II

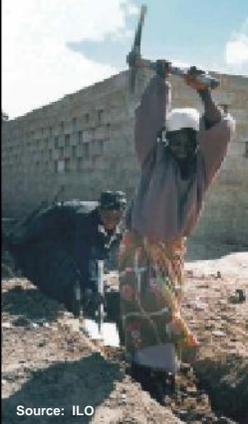
- **Procurement process:** The procurement process consists of in total **10 phases:**

Source: Interpro AS

Definition - comments III

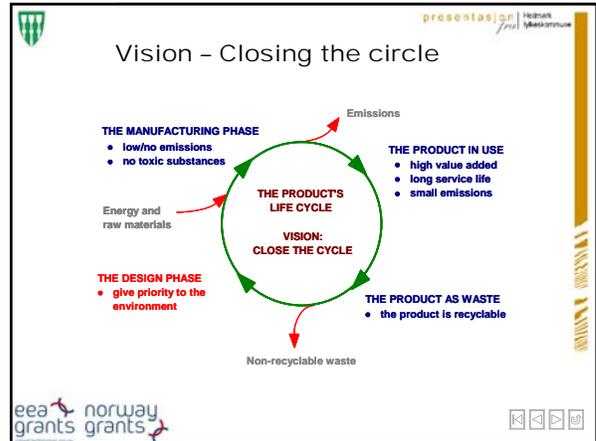
- **Low negative impact on the environment:** “Low” is a subjective expression, but it is **ambitious, pragmatic and probably obtainable.**
- **Identify solutions:** In the need verification stage it is important not to be predetermined on specific goods or services, but focus on which **performances** are needed.
- **Select:** The evaluation stage starts when the technical specifications and award criteria are determined. The evaluation stage turns good intentions into **practical action.**

Sustainable procurement



- Focus on social aspects in the production phase
- Based on ILOs core conventions:
 - Freedom of association and collective bargaining
 - Elimination of forced and compulsory labour
 - Elimination of discrimination in respect of employment and occupation
 - Abolition of child labour

Source: ILO



The concept of eco-efficiency

$$\text{Eco-efficiency} = \frac{\text{Value-added (over time)}}{\text{Environmental impact (over time)}}$$

Environmental impact:

- Consumption of raw materials and energy
- Pollution
- Waste

Corporate + external costs

Implementing the concept of sustainable development

- Can be measured

Env. friendly cars in Oslo municipality

- A definition of "env. friendly car" was made
 - Petrol: 140 g CO₂ per km
 - Diesel: 122 g CO₂ per km
- A market research was done
- 12 cars fulfilled the def – definition was included in technical specification
- Tender process gave a good economical and environmental result
- Cars selected: El-car Kewet, Skoda Fabia, Toyota Yaris, Toyota Yaris Verso and Toyota Prius

Why GPP?

- External pressure: According to EU environmental consideration shall be integrated in the implementation of policy and actions
- Internal pressure I: Because environmental consideration is the policy of local government/county/municipality
- Internal pressure II: Because it is a clever thing to do...?

Many advantages...



Parameter	Advantages
Does the job – long durability	Increased value added/lower costs
Env. friendly production	Reputation/profile
Recycled materials, sustainable resources	Costs and profile
Low content of dangerous chemicals	Health, safety, costs
Low energy consumption	Costs
Low water consumption	Costs
Low emissions/low noise level	Health, safety, costs
Minimized packaging	Costs
Design for recycling	Costs
No hazardous waste	Costs

How to implement GPP locally

- Adopt a GPP-policy
- Train 2 people (or more)
- Choose which procurement processes to start with
- Focus on verification of need, specifications and evaluation
- Select the greener offer
- Report to policymakers once a year

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Green Procurement needs management involvement

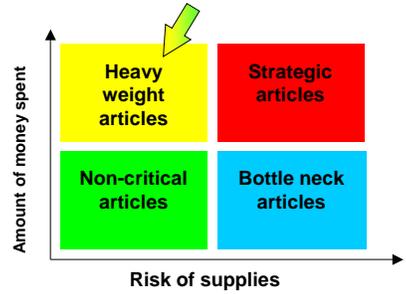
Green procurement → Organisation development

- Management involvement is a prerequisite
- Should be formalised in a purchasing policy
- An Env. Management System in place will often help process




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Which product groups to choose?
Where to start?



Source: Kraljik

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Verifying needs

Questions to be asked:

- Who are the actual users?
- What is the real need?
- Which performance is required?
- Can the need be satisfied without purchasing?
- Can methods and routines be changed?
- Can a completely new solution be found?
- For how long will the need last?
- Is the need constant? Or will it change over time?
- In this phase the biggest gains can be achieved!

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Example - transport

- The best buy can be the one that is *not* done:
- Example from the Municipality of Oslo: The water and sewer department felt the need for a truck to be used to deliver goods. After a need verification process they concluded that that it would be good enough to hire a truck from the municipality's transport central.



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Video conference



- A new way of communicating
- Saves time, money and environment
- A good alternative in many cases
- "Skype" is the low cost alternative to traditional video conferencing

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Tender document: Subject matter of the contract

- Subject matter of the contract: Tell the supplier what you want:
 - *E.g Car leasing, Municipality of Asker: Car keeping is not the core business of Asker Municipality. The aim of the tender is to obtain a frame agreement with a supplier of car administration.*
 - *Cars and car keeping are activities that have a negative impact on the environment. The environmental profile of both the recommended cars and the supplier of the service will be evaluated.*

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Specification – an art!

- The specification shall express **verified needs as objective, measurable demands**
- Many variables to have in mind
- Two main categories of specifications:
 - **Technical specifications**
 - **Award criteria**
- 1-4 green demands/award criteria is usually enough



Discussed in...

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Technical specifications

- Technical specifications: Defines what the product must perform as a minimum, e.g: energy consumption, water carrying capacity of a fire truck, chemical content etc
- Technical specifications are easy to evaluate (Yes/No)
- The demands can not be too tough – must be sure the market can deliver
- Therefore this stage eliminates the worst products
- BUT market research is important: A proper job here and one can go for the best:
 - *E.g: Municipality of Sandnes wanted low sulphur heating oil: The offered heating oil shall not have a sulphur content above 20 ppm.*



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Award criteria

- Award criteria are good when you do not know the market response – **and have wishes that go beyond what anyone presently can deliver...**
- Award criteria can drive innovation
- Award criteria are recommended if you are skilled in evaluation
- Ex: What are the CO₂ emissions pr km?
- Ex: Does the product fulfill the EU-flower criteria?
- Ex: How much mercury does the product contain?

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Contract clauses

- One can as part of the contract demand that the supplier do so and so during the contract period, e.g:
 - fulfill the eco label criteria
 - have an EMS implemented
 - reduce the number of chemicals being used performing the service etc

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Early warning

- A good routine for big buyers is to warn the market well in advance what they are going to buy and which criteria that will be used.

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Life Cycle Cost

- Focus on life cycle costs is win-win – both for procurer and environment – because many environmental parameters have a cost side
- Consist of three elements: Procurement cost, running costs, disposal costs
 - Example running cost: Energy consumption
- The net present value method is made for this purpose

Described in GRIP Purchasing



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Example – energy saving bulb

The choice is between:

- the lowest price
- the economically most advantageous offer

	Normal bulb	Low energy bulb
Unit price:	0,5 €	8 €
Service life:	2500 hours	10000 hours
Energy consumpti:	60 W	11 W
Replacement costs	2 €	2,5 €
Price per kWh:	0,05 €	0,05 €

Over a period of 10000 hours (more than one year's continuous operation) gives roughly the following result:

TOTAL annual cos	40 €	16 €
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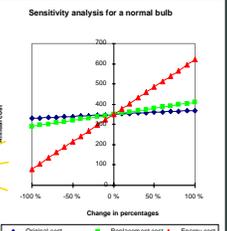


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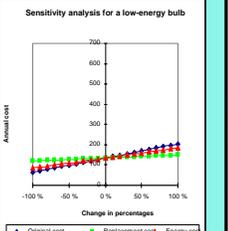
Sensitivity analyse shows the risks



Sensitivity analysis for a normal bulb



Sensitivity analysis for a low-energy bulb



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Example: New signboards for Storebrand

Contract between Storebrand and ElektroVakuum Ltd:

- Signboards approved by local authorities
- Obtained half the electricity consumption for lightning
- Triple durability on light bulbs
- Seven year guarantee on surface treatment
- Approved treatment and destruction of waste

➔ **Life cycle costs reduced by half**

Source: ElektroVakuum Ltd



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Example: Telenor Kokstad

Focus on:

- Env. friendly materials
- Low energy consumption
- Pollution during building life
- Low total costs
- Efficient use of floor space

Results:

- Energy consumption: 80 kWh pr m² pr year (normal >160 kWh/m²)
- Investment costs: 30 % lower than normal
- Annual running costs: Lower than normal



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Design for recycling	Costs
Low hazardous waste	Costs

Does it save or cost money?

- In which phases do the env. impact occur?
- If in use or as waste, corporate costs can be saved
- If in production, external costs can be saved
- But long durability will save both...
- And use of recycled materials can give cheaper products and save env. too...
- The answer will differ from product to product...
- And, unfortunately, sometimes the green goods are more expensive:

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Green electricity

- Hedmark County Council 2008: 4 year frame agreement for electricity
- Option: Asked for price on electricity guaranteed from renewable sources
- Cost slightly more than the alternative
- The alternatives were presented to the politicians
- The green alternative was chosen
- The politicians were willing to pay for a green profile



Thank you!