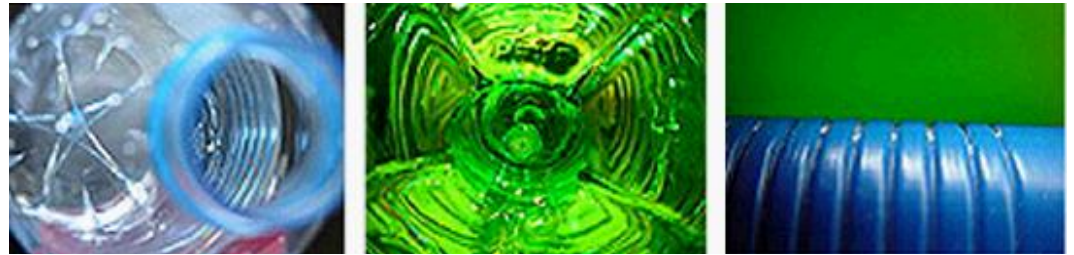


Life Cycle Costing (LCC) – Methodological concept, applications and experiences in Europe



Siddharth Prakash (Oeko-Institut e.V.)

Tobias Schleicher (Oeko-Institut e.V.)

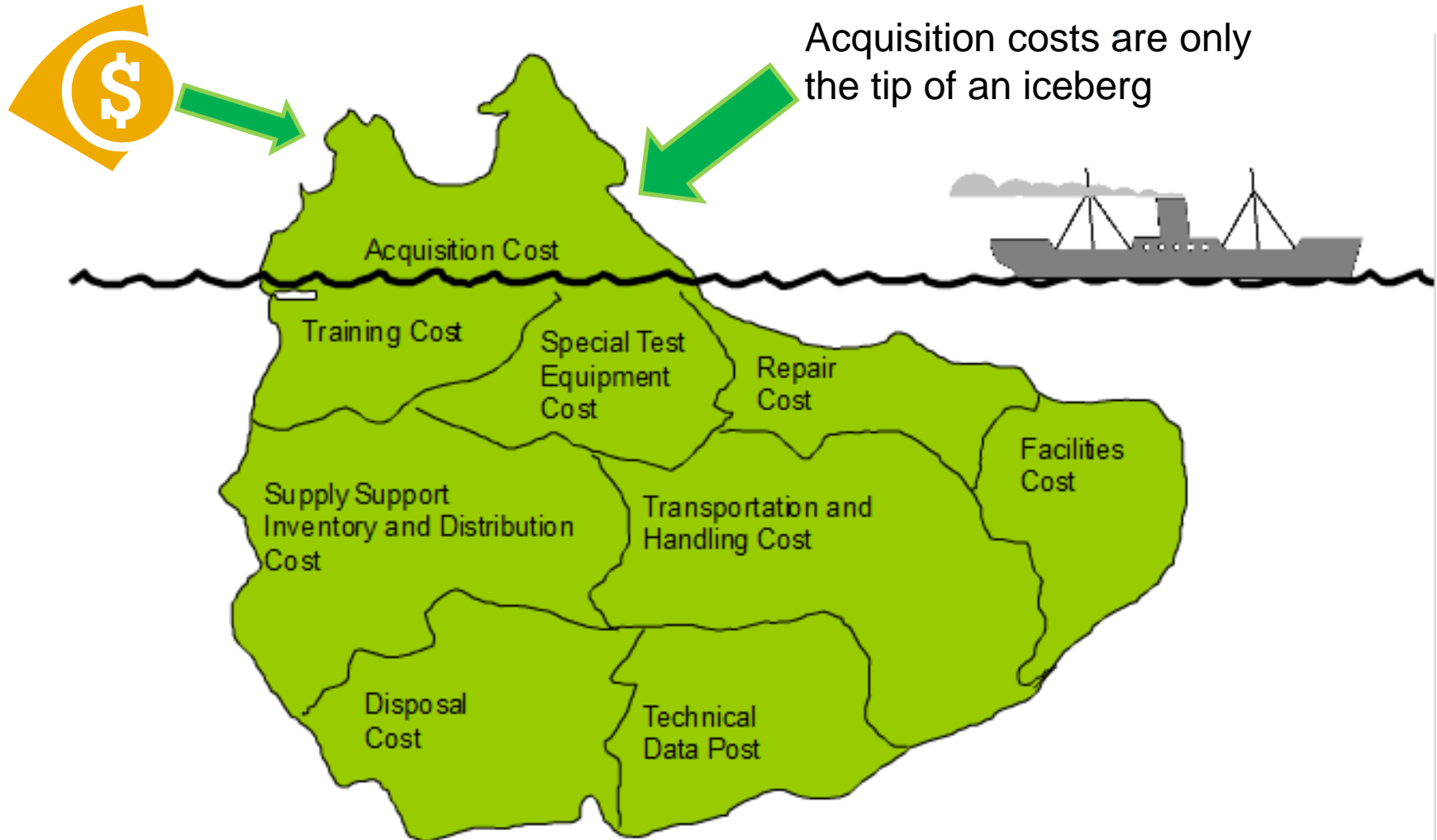
Definitions LCC

- Life cycle costs: Costs associated with a particular product over the entire life cycle of a product, borne by one stakeholder involved at a certain life cycle stage → **overall costs (from the consumer's point of view)**
- Operating costs: costs for electricity, water and, if necessary, other consumables which are necessary for the function of the product during the use phase and that are used up in the process → **Operating costs (from the consumer's point of view)**
- Acquisition costs → **Purchase costs**



Source: [NAPA National Asphalt Pavement Association](#) 2012

Perspective of public procurement departments



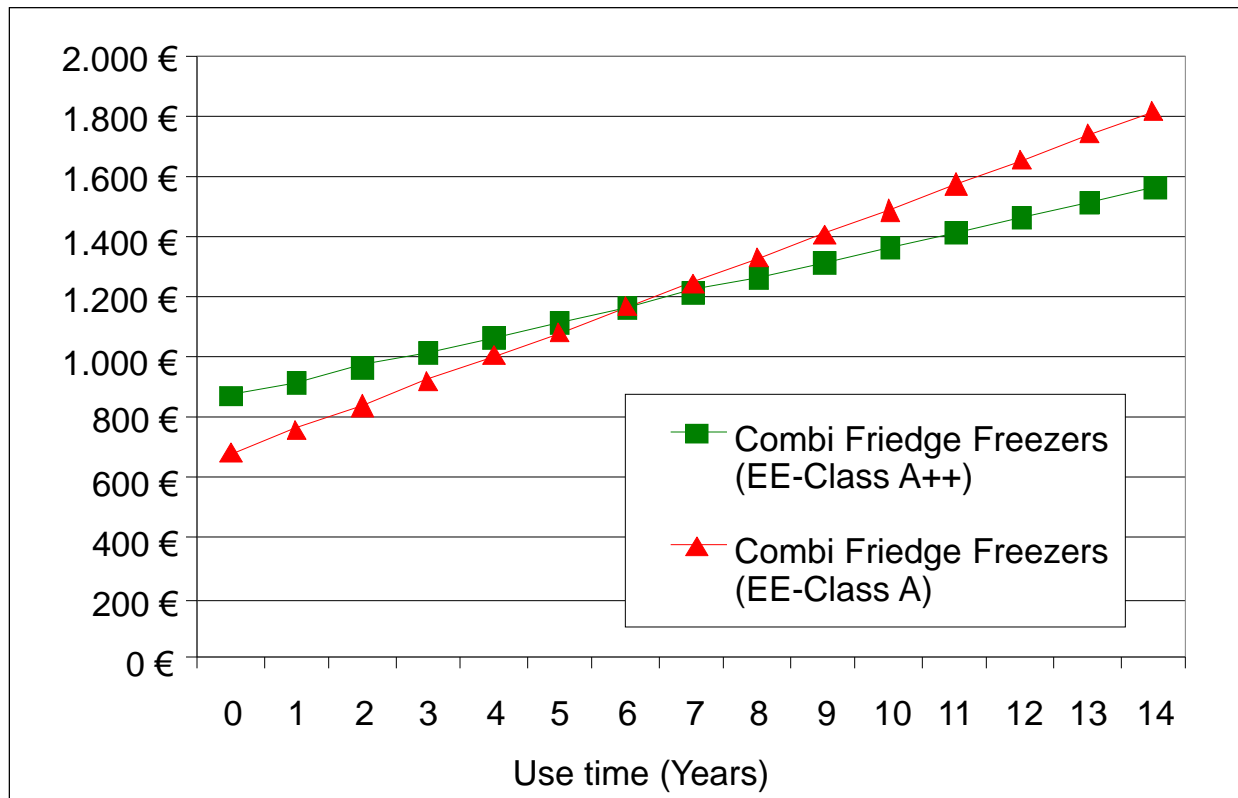
Source: University of Nottingham

Background

- Highly efficient appliances are usually more expensive than similar conventional appliances.
- Operating costs, however, are comparable to or even lower than that of the conventional appliances.
- Operating costs, however, are generally not known to the consumer, and therefore are not considered when a purchase decision is taken → purchase price is the only cost argument in cost/benefit considerations
- Higher purchase prices with a simultaneous absence of transparency, and the lower willingness to pay more for environment-friendly products lead to relatively low market success of highly efficient appliances.

Energy Efficiency Gap

- Low market success of energy efficient appliances despite their economic benefits



LCC for public procurement departments

Life Cycle Costs

Acquisition

- Purchase price
- Delivery and installation, if required

Use

- Operating costs
- Electricity
 - Water
 -
 - Maintenance
 - Repair
 - Etc.

Disposal

- Collection
- Recycling
- Disposal

Example - Comparison of two product alternatives

Laserprinter



Canon i-SENSYS LBP
5360

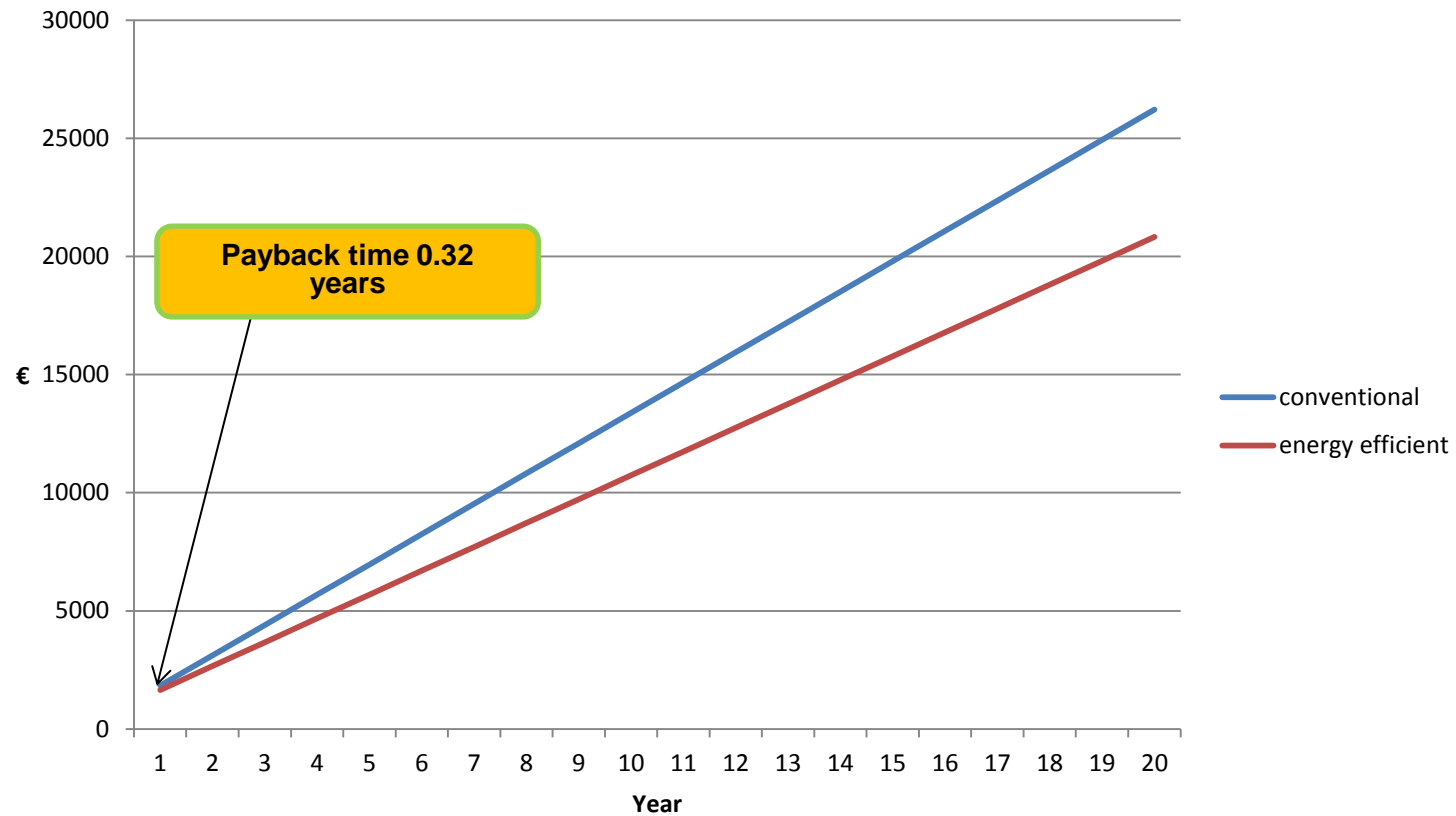


Dell 3130cn

Example - Relevant (cost) data

	unit	Canon i-SENSYS LBP 5360	Dell 3130cn
Life time	years	5	5
Purchase			
Purchase costs	Euro	549	641

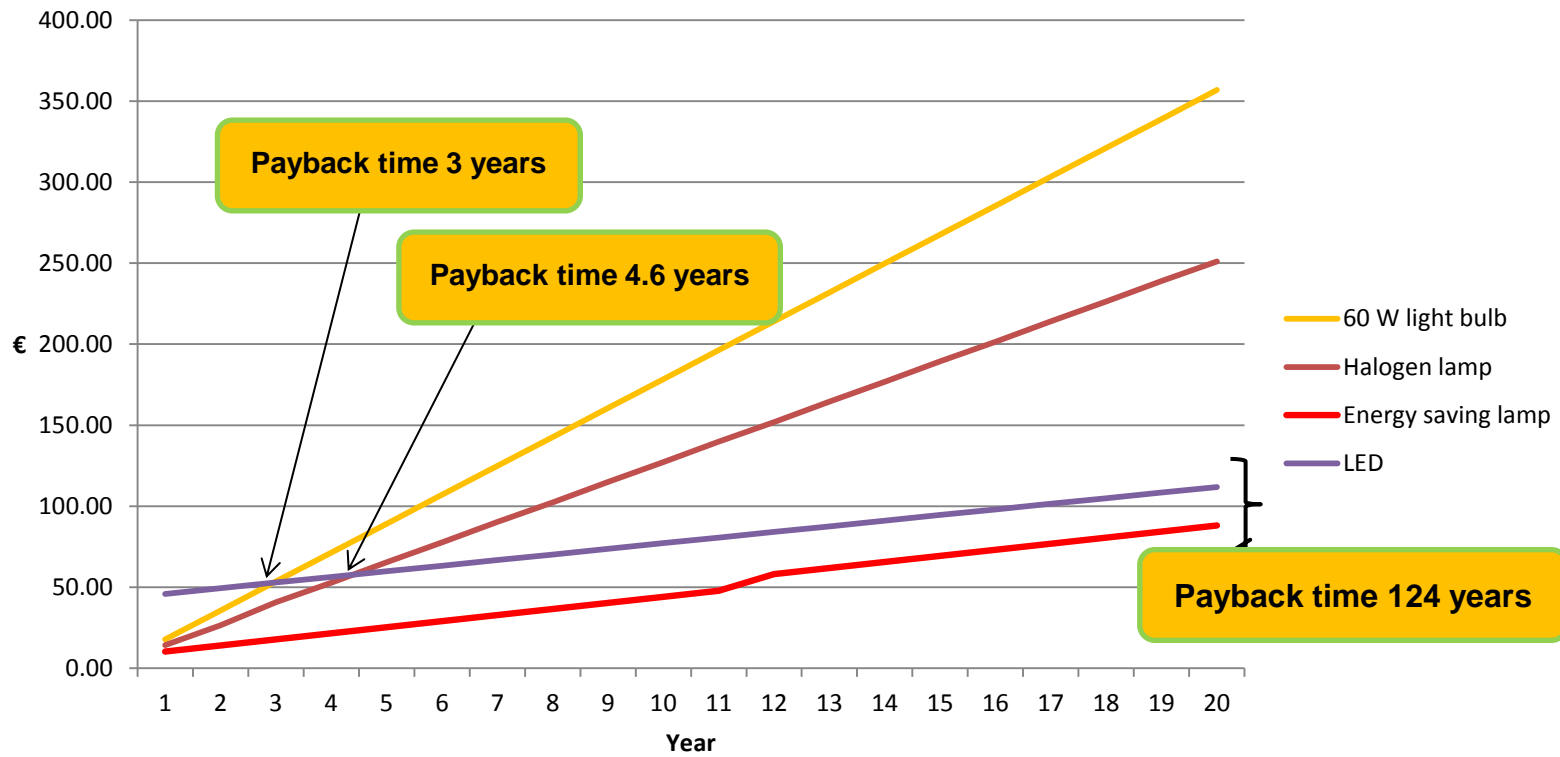
Calculation of Payback times – Laser Printer



Lighting

	Lumen	Watt	Price	Life time (hours)	Energy costs/ year
60 W light bulb	700	60	0,50 €	1.000	17,34 €
Halogen lamp	620	42	2,16 €	2.000	12,14 €
Energy saving lamp	760	13	6,50 €	11.000	3,76 €
LED	728	12	42,50 €	25.000	3,47 €

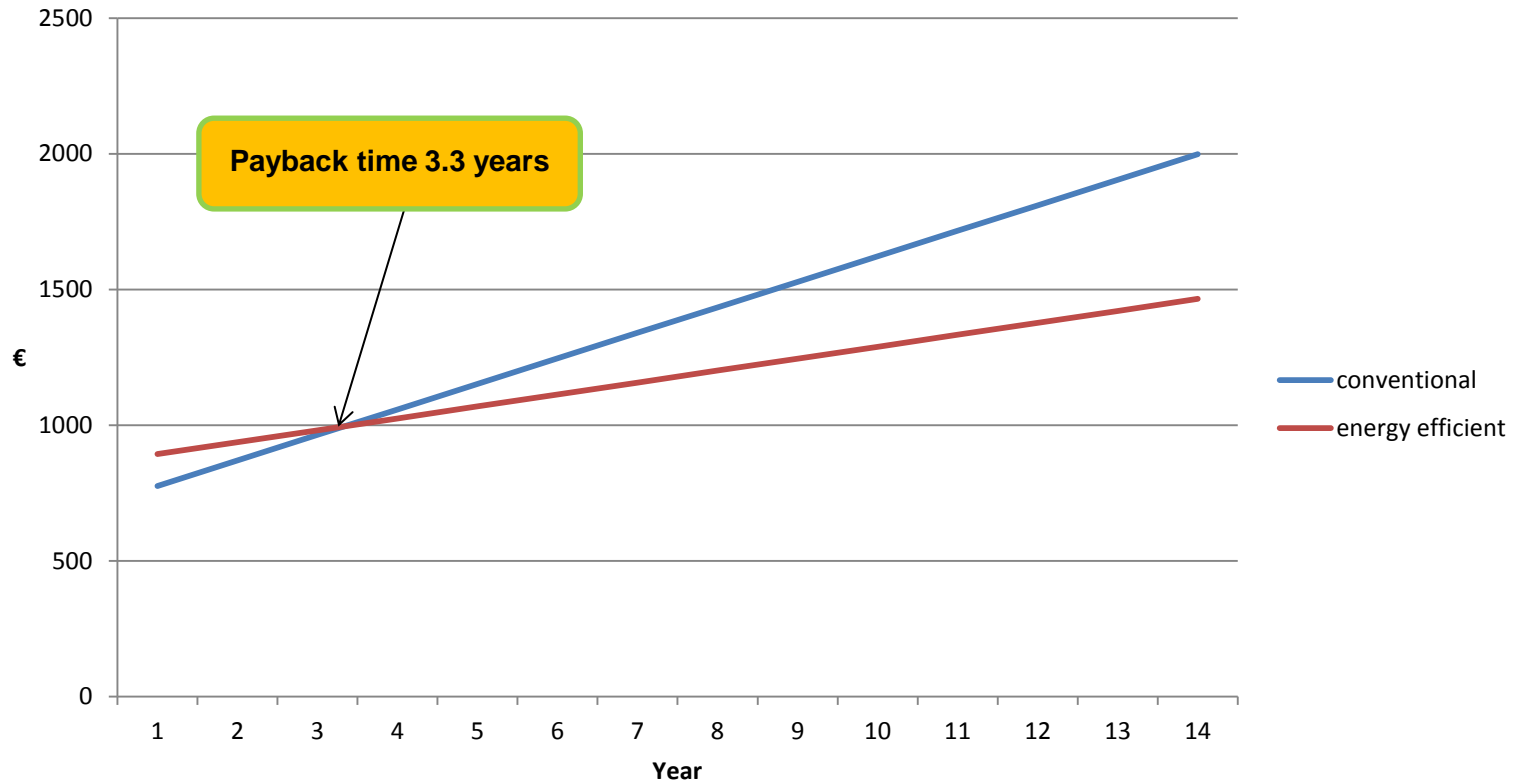
Calculation of Payback times – Lighting



Refrigerator

Product	Energy efficiency class	Capacity (fridge/freezer) l	Price	Life time (years)	Energy costs per year
Siemens KG39NVL20 (conventional)	A+	221/94	682 €	14	94 €
Bosch KGE36AW41 (energy efficient)	A+++	211/92	849 €	14	44 €

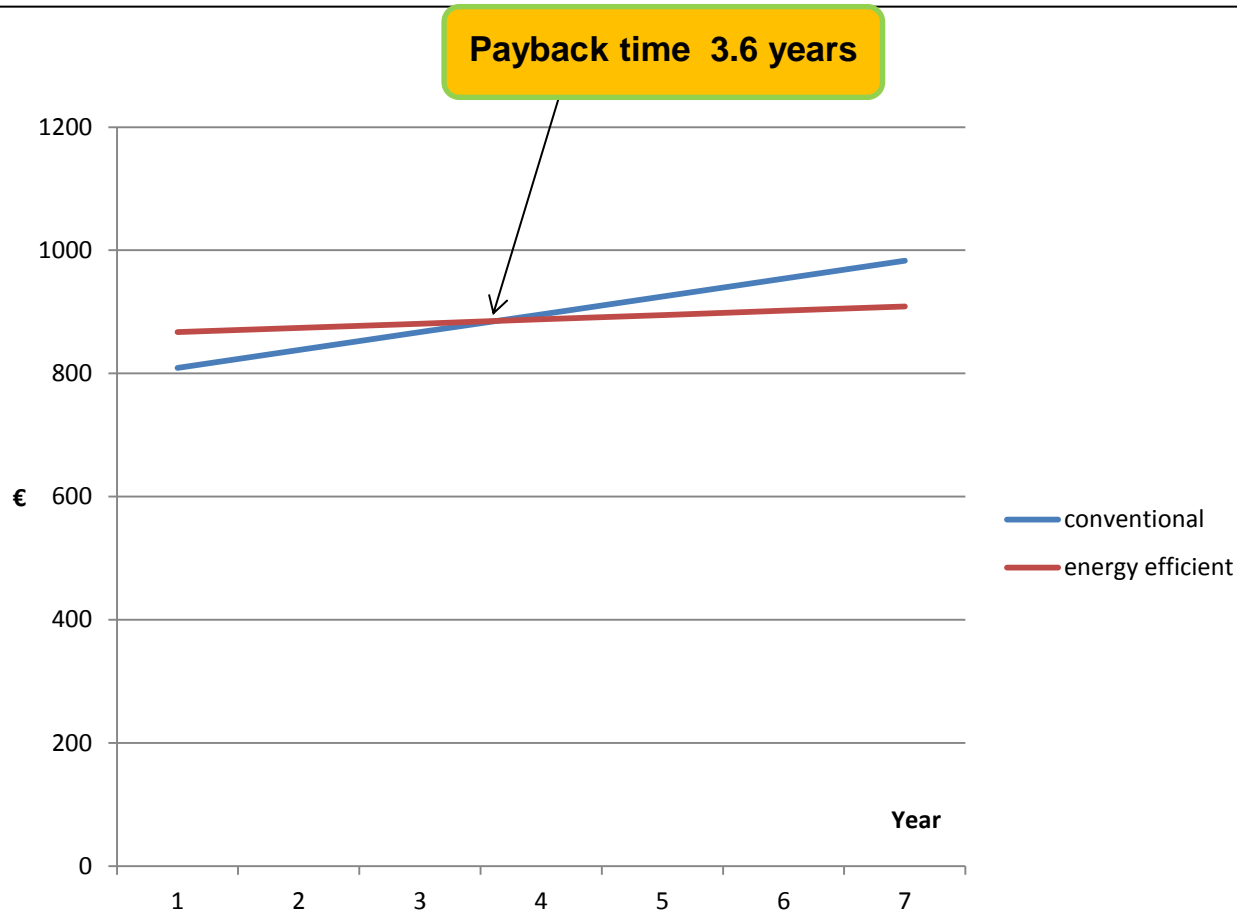
Calculation of Payback times – Refrigerator



Computer

Product	Price	Life time (years)	Energy costs per year	Maintenance costs
Average Desktop Computer	750 €	6,6	29 €	30 €
Energy efficient Desktop Computer	830 €	6,6	7 €	30 €

Calculation of Payback times – Computer



Conclusions

- Energy efficient appliances are usually more expensive in comparison to equivalent conventional appliances
- But: their operating costs are often lower
- Operating costs are usually not known to consumers and they are not included in the purchase decision

Why is LCC useful?

- ➡ **LCC can be used to put higher purchasing prices into a realistic perspective.**
- ➡ **Energy efficient products often show monetary benefits (higher purchasing prices - lower operating costs).**
- ➡ **This could be used to convince consumers/ public authorities and to promote efficient appliances on the market.**
- ➡ **LCC at consumer level could be helpful for achieving a faster market penetration for energy saving products**

**Thank you very much
for your attention!**

Contact:

Mr Siddharth Prakash

Email: s.prakash@oeko.de

Phone + 49 (0)761 45295244

Mr Tobias Schleicher

Email: t.schleicher@oeko.de

Phone: +49 (0)761 45295277