

Development of LEDs
for energy efficient
lighting in households



Slim met energie **oxxio**

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November 2006:
Oxxio introduced
the Pharox LED lamp

Development of LEDs for energy efficient lighting in households

Content

- Introduction of Oxxio
- Advantages of LEDs
- Why is Oxxio offering LEDs?
- Oxxio's sustainable offer to households
- Government policy; what would help

Who is Oxxio?

- New energy company in the Netherlands
 - Founded in March 2000
 - 4th largest energy supplier
 - Solely green electricity to consumers and SME
- Currently 800.000 electricity & gas customers
 - market share of 7%
 - 50% of migrating customers switch to Oxxio
- Mission statement

Oxxio is the supplier of sustainable energy providing competitive offerings to its customers through continuous innovation and cost leadership

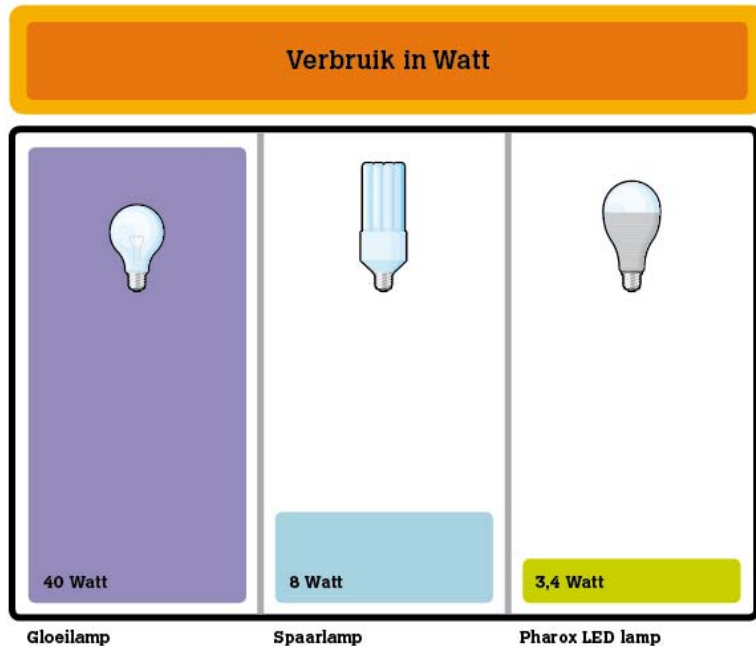
LEDs

- Since 70's LEDs used as signalling light
- Since 2000 LEDs for household (10W output)
- Since 2006 PharoX LED lamp (40W output)

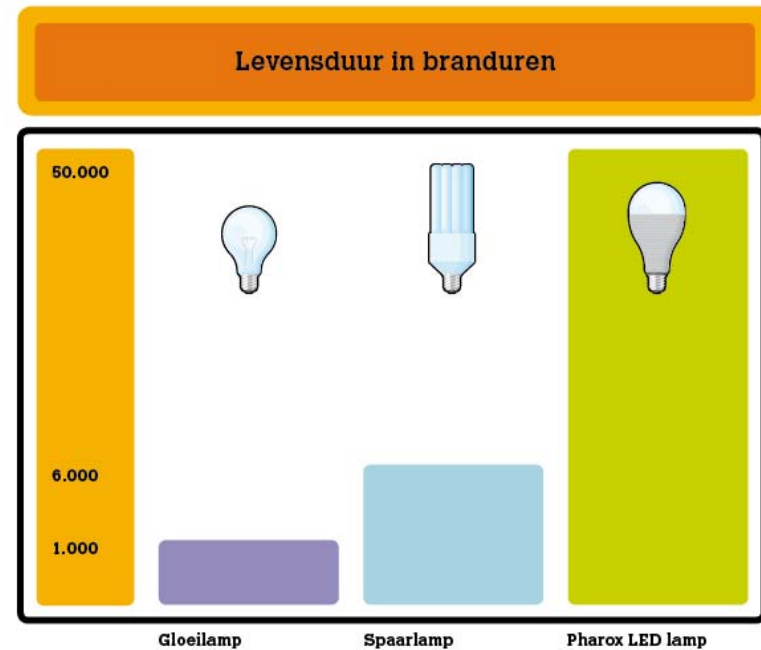


- 40W light output
- Energy use 3,4W
- Environmentally friendly
 - no phosphor
 - long life span of 50.000 hrs
- Warm light
- E27 fitting

Advantages of LEDs



LED is at least **10** times more efficient than traditional bulb



LED last **50** times longer than traditional bulb

Lighting facts

- 19% of electrical energy worldwide is used for lighting
- 16% of electrical energy of households is used for lighting
- Lighting types used in European households (% of lamps)
 - Traditional bulb 65%
 - CFL / Saving bulb 15%
 - Halogen 10%
 - Fluorescent tubes 10%

➔ Considerable electricity savings can be made by more efficient lighting

Why is Oxxio offering LEDs?

- Challenger has to differentiate from incumbents
- Extra customers outweigh energy reduction of existing customers
- Increased loyalty of existing customers

Innovation is key to reach energy reduction

Innovation is made possible by liberalisation of the energy sector

- ⇒ Liberalisation leads to new entry's
- ⇒ leads to increased competition
- ⇒ leads to the need to differentiate
- ⇒ leads to the need for innovation

Oxxio offer

Barriers

- New technology (build trust)
- High initial investment for households

Oxxio offer

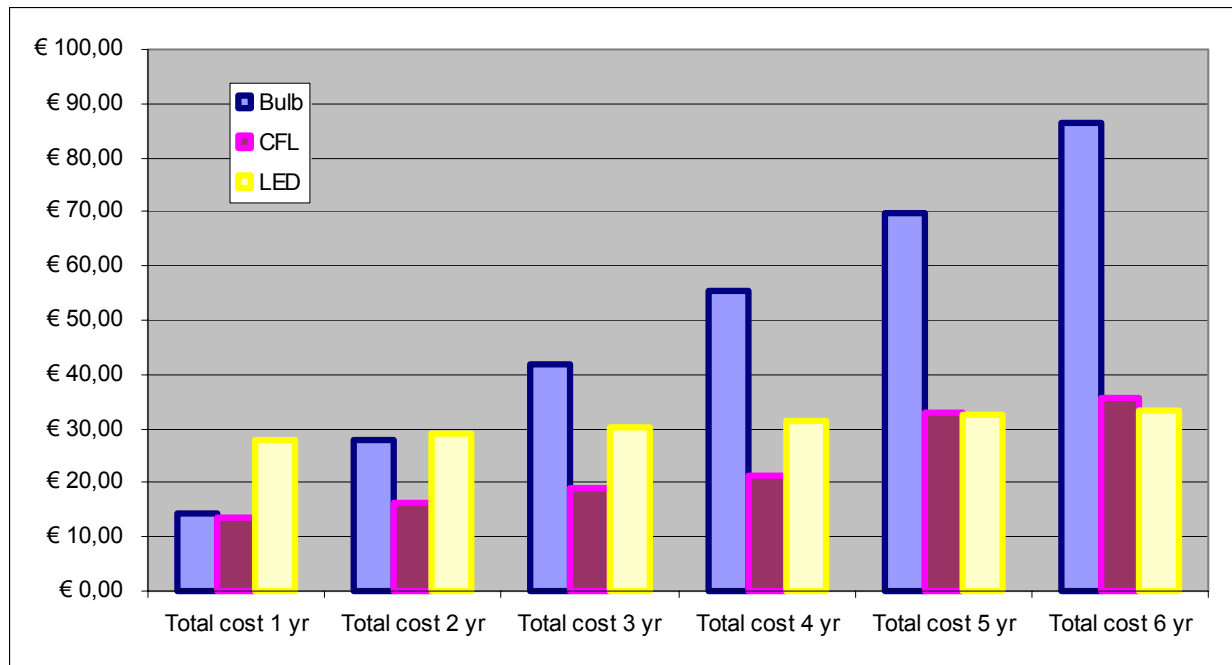
- 4 lamps in a box
- Payment in 4 yearly terms (at the end of each year)
- Customer starts saving, before paying
- Financed by Oxxio
- Push before pull

This is the way to roll out new technologies like LED faster

Payback periode

- €26,95 per lamp for Oxxio customers
- Mass production will lead to price drop in 2-3 years to ± €15

Payback period



Average usage of 4 hrs a day

Governments policy

What would help:

- Consequent long term policy
- Subsidy for Oxxio or buyers
- Make energy inefficient technology less attractive (f.e. tax increase of traditional bulb)
- Policy should not focus on technology but on goals to reach