

Communicating life cycle costs in the retail sector

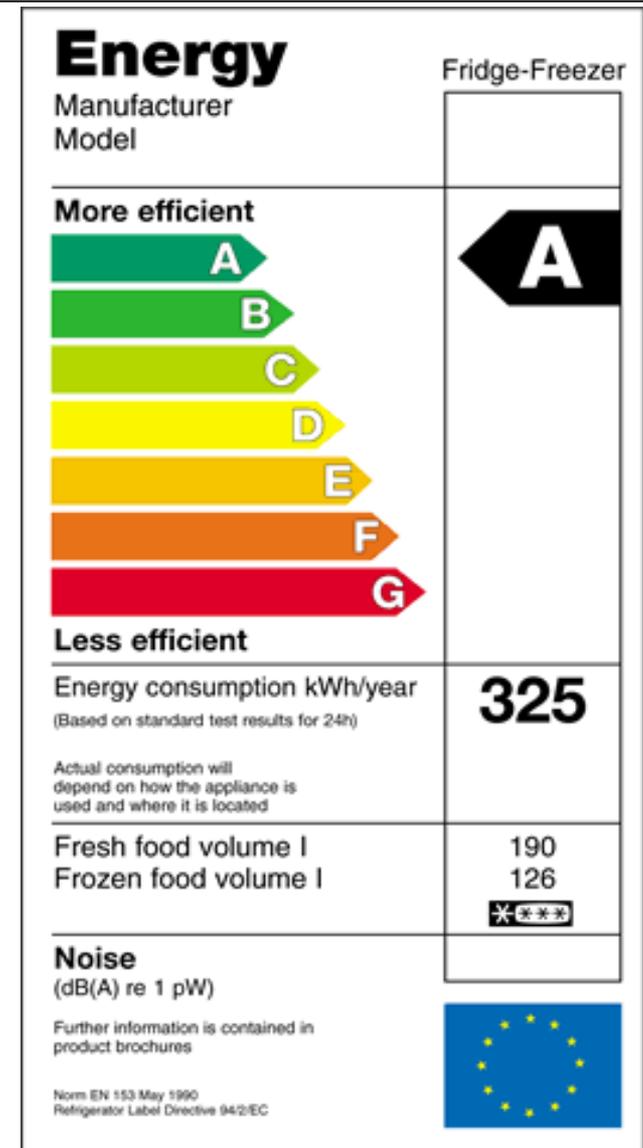


Master's thesis: Ina Rüdener
Siddharth Prakash
LCC Workshop, Kuala Lumpur
9th October 2013

Is Energy label sufficient?

No, as

- The individual benefit (lower operating costs) is not visible
- An individual calculation on the basis of the labelling information is feasible, but (too) complicated
- Low explanatory power of the new label as compared to the original one → differences between efficiency classes A+++, A++, A+ und A are perceived to be less pronounced than those between the efficiency classes A, B, ..., G



Source: DIGITALEUROPE 2011

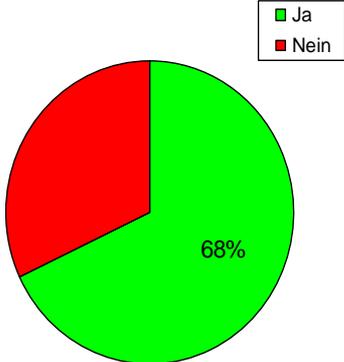
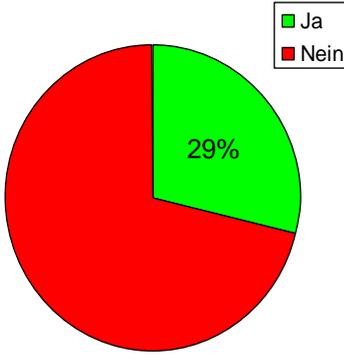
Central Issue

How should the overall, i.e. the operating costs be communicated in order to help ensure that the market penetration of highly efficient appliances is increased?

Example

Picture the situation that you want to buy a calculator at a price of [15 €/125 €] in a department store. The shop assistant tells you that the calculator is currently offered for [10 €/120 €] by another shop of the chain store. This other shop is 10 minutes away. What would you do?

* Simplified depiction „Calculator / Jacket Problem“ (Tversky and Kahnemann, 1981)

	Group A (Calculator: 15 € → 10 €)	Group B (Calculator: 125 € → 120 €)
Literature	 <p> ■ Ja ■ Nein </p>	 <p> ■ Ja ■ Nein </p>

Summary

- **Relative, but also absolute level of savings** are essential elements of the customer's assessment → important for the selection of suitable products
- **Savings should be relatively high**: relatively small contributions are considered irrelevant → annual consequential costs/savings relatively small in comparison to the purchase price
- **Unclear or ambiguous information** is disregarded in decision-making situations
- **Subjective discounting**: future savings are perceived as being lower than current investment costs

Conclusions (1/3)

✓ Communicating total or operating costs in the retail sector makes sense (even if only a certain section of consumers responds to this information)

✓ **Which products?** Prerequisites:

- A standard measuring procedure has to be applied.
- Relevant* financial savings potential of highly efficient appliances as compared to conventional appliances (*in relation to the purchase price or in absolute terms)

✓ Harmonisation of calculation methods and input parameters of different “providers” would be reasonable (such as campaign EcoTopTen administered by the Oeko-Institut; www.ecotopten.de)

EcoTopTen - Standgeräte mit Energieeffizienzklasse A+++								
Hersteller / Marke	Modell	Abmessungen in cm (Höhe x Breite x Tiefe)	Nutzhalt (Liter) Kühl-/ Gefrierteil	Energieverbrauch (kWh pro Jahr)	Kaufpreis (UVP) ¹ In Euro	Jährliche Gesamtkosten ² (Euro/Jahr)	CO ₂ -Ausstoss ³ (kg CO ₂ -Äq./Jahr)	Sonstige Funktionen; Qualitätsurteil Stiftung Warentest
EcoTopTen-Kühlschränke (Standgeräte A+++ 85 cm Höhe)								
Blomberg	TSM 1541 A+++	85x55x60	101/13	93 kWh	459 €	57 €	56	--
Typisches Produkt am Markt zum Vergleich (Energieeffizienzklasse A+)								
AEG	S51540TSWO	85x55x61	118/18	191 kWh	379 €	77 €	114	--

Recent Examples – Energy Guide (USA), mandatory

U.S. Government Federal law prohibits removal of this label before consumer purchase.

ENERGYGUIDE

Refrigerator-Freezer
 • Automatic Defrost
 • Side-Mounted Freezer
 • Through-the-Door Ice

XYZ Corporation
 Model ABC-L
 Capacity: 23 Cubic Feet

Estimated Yearly Operating Cost

\$67

Cost Range of Similar Models: \$57 to \$74

630 kWh
 Estimated Yearly Electricity Use

Your cost will depend on your utility rates and use.

- Cost range based only on models of similar capacity with automatic defrost, side-mounted freezer, and through-the-door ice.
- Estimated operating cost based on a 2007 national average electricity cost of 10.65 cents per kWh.
- For more information, visit www.ftc.gov/appliances.

ENERGY STAR

Callout 1: Lists key features of the appliance you're looking at and the similar models that make up the cost range below.

Callout 2: The maker, model, and size tell you exactly what product this label describes.

Callout 3: The cost range helps you compare the energy use of different models by showing you the range of operating costs for models with similar features.

Callout 4: What you might pay to run the appliance for a year, based on its electricity use and the national average cost of energy. The cost appears on labels for all models and brands, so you can compare energy use just like you would price or other features.

Callout 5: An estimate of how much electricity the appliance uses in a year based on typical use. Multiply this by your local electricity rate on your utility bill to better judge what your actual operating cost might be.

Callout 6: If you see the ENERGY STAR logo, it means the product is better for the environment because it uses less energy than standard models.

Recent Examples – Energy Saving Labelling (Japan), mandatory for traders

For non-CFC electric refrigerators, non-CFC sign is displayed.

Fiscal year when criteria of the 5-star multistage rating is set.

2010年度版
この商品の
省エネ性能は？

省エネ5段階評価
100%未満 100%以上

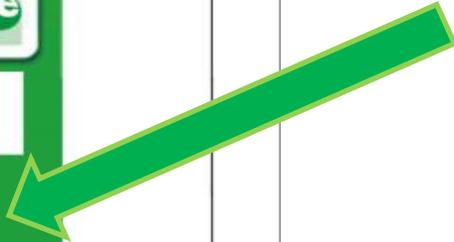
省エネ基準達成率 154% 年間消費電力量 330kWh/年
目標年度 2010年度

メーカー名 | 機種名
この製品を1年間使用した場合の目安電気料金
7,260円
使用期間中の環境負荷に配慮し、省エネ性能の高い製品を選びましょう。

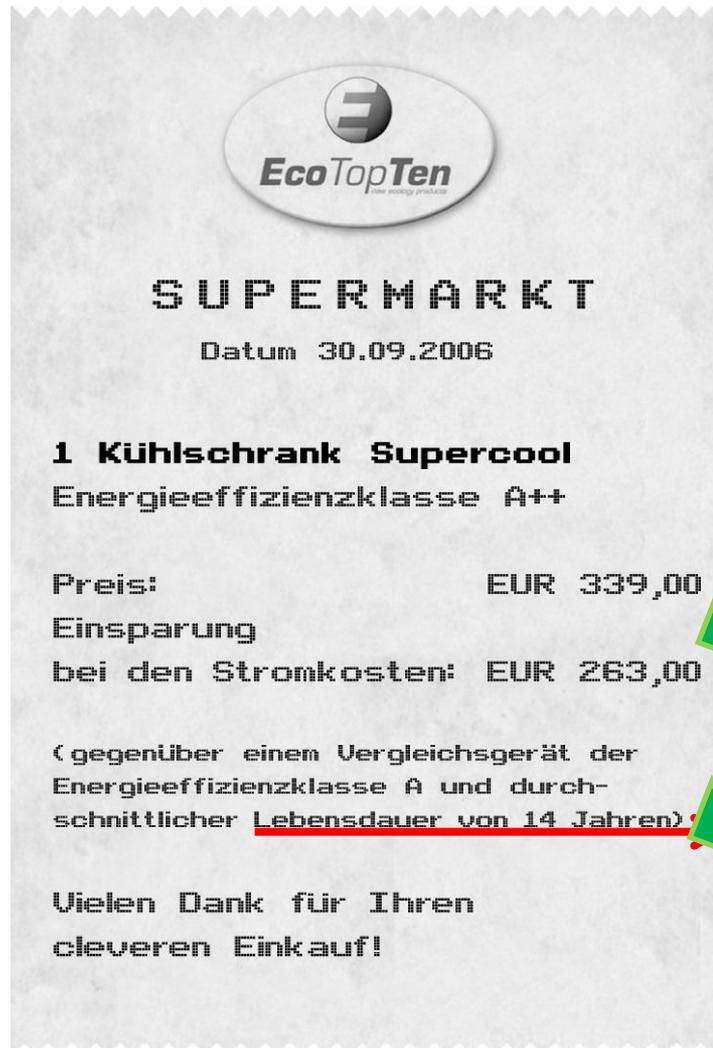
Manufacturer's name and model name

[Expected annual electricity bill]
This information is provided so as to make energy consumption efficiency (e.g. annual energy consumption) comprehensible. Expected annual fuel usage for gas/oil appliances (simplified label).

[Multistage rating system]
Air conditioners, TV sets, electric refrigerators, electric toilet seats and lighting equipment are rated at five levels, symbolized by the number of stars; the superior the energy saving performance of a marketed product, the greater the number of stars.
In order to clarify the number of stars given to products meeting the Top Runner Program, a border line of 100% target achievement is shown under the stars.



Fictive Example – EcoTopTen (Germany)



Conclusions (2/3)

✓ Keep it simple!

■ Simplified **assumptions** and **calculation methods**

- Provide guidance, even if costs cannot be accurately predicted for each consumer
- Can more easily be conveyed and are easier to understand → transparency
- Thus enhance credibility and increase the likelihood that the information will actually be taken into consideration into the decision making process

✓ Clearly presented, easily accessible key information

- Only information that is clearly presented will be taken into account.
- The amount of time it takes to find the information needed should not be too long
- In addition: interactive website for extensive purchase decisions

Conclusions (3/3)

- ✓ In concrete terms: **What kinds of information should be specified?**
 - Operating costs instead of total costs
 - Cumulative operating costs over expected useful live instead of annual values
 - Comparison with conventional alternative: indication of operating costs saved as compared to a conventional appliance

Thank you very much!

Contact Person
Siddharth Prakash
Oeko-Institut e.V.
Tel: +49 (0)761-45295-244
Email: s.prakash@oeko.de



Study “Concept for communicating life cycle costs in the retail sector”

<http://www.leuphana.de/institute/csm/publikationen/veroeffentlichungen/csm-schriften.html>