Power Labelling is a Fiction

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TU Berlin

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**What is power labelling?**

(Electricity information disclosure)

Voluntary, partial

Compulsory, general

EU Directive 2003

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**ELECTRICITY LABEL**

<table>
<thead>
<tr>
<th>Product:</th>
<th>Product name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier:</td>
<td>Supplier’s name</td>
</tr>
<tr>
<td>Phone:</td>
<td>0800 - xxxx xxxx</td>
</tr>
<tr>
<td>Website:</td>
<td><a href="http://www.supplier-website.com">www.supplier-website.com</a></td>
</tr>
</tbody>
</table>

**Monthly electricity cost**

<table>
<thead>
<tr>
<th>For an annual consumption of</th>
<th>1,600 kWh e.g. single-household</th>
<th>2,500 kWh e.g. two-person-household</th>
<th>4,000 kWh e.g. four-person-household</th>
</tr>
</thead>
<tbody>
<tr>
<td>your monthly electricity bill is</td>
<td>23,20 €</td>
<td>33,30 €</td>
<td>50,30 €</td>
</tr>
</tbody>
</table>

*Prices as of: 01.01.02* final prices incl. VAT

Minimum contract period: 3 months

**Fuel mix**

Your electricity is generated from the following fuel sources (percent):

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>61,0%</td>
</tr>
<tr>
<td>Nuclear</td>
<td>25,0%</td>
</tr>
<tr>
<td>Natural gas</td>
<td>4,5%</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>8,5%</td>
</tr>
<tr>
<td>of which</td>
<td></td>
</tr>
<tr>
<td>Hydroelectric</td>
<td>4,5%</td>
</tr>
<tr>
<td>Wind</td>
<td>3,2%</td>
</tr>
<tr>
<td>Biomass</td>
<td>0,8%</td>
</tr>
<tr>
<td>Solar</td>
<td>&lt;0,1%</td>
</tr>
<tr>
<td>Other renewable</td>
<td>&lt;0,1%</td>
</tr>
<tr>
<td>Other energy sources</td>
<td>1,0%</td>
</tr>
</tbody>
</table>

**Environmental impact**

- Greenhouse gas emissions
- Radioactive waste

- **Product name**
  - 112
  - 81
  - 100= Germany average

**Source:** Timpe, C.: Öko-Institut e.V.
Why power labelling?

- “Consumer protection”
- “Stimulate sustainable generation”
- “Competition”
Outline

• What is power labelling

• Appendix: Check justification
Conventional product labelling

Source: www.themovechannel.com
Product labelling

Back side

Front side
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Berlin University of Technology
Energy Research Division

Electricity

Heterogeneous good  →  Homogeneous good
**Differentiation strategies in power**

<table>
<thead>
<tr>
<th>Good itself</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production type</strong></td>
<td></td>
</tr>
<tr>
<td>Contract</td>
<td></td>
</tr>
<tr>
<td>Customer service</td>
<td></td>
</tr>
<tr>
<td>Bundle sales</td>
<td></td>
</tr>
<tr>
<td>Seller</td>
<td></td>
</tr>
</tbody>
</table>
# Power labelling compared

<table>
<thead>
<tr>
<th></th>
<th>Information exclusively about external effect</th>
<th>Common</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Information exclusively about external effect</td>
<td>Common</td>
</tr>
<tr>
<td>B</td>
<td>Negative information</td>
<td>Common</td>
</tr>
<tr>
<td>C</td>
<td>Obligation</td>
<td>Common</td>
</tr>
<tr>
<td>A+B+C</td>
<td>Not common</td>
<td>Not common</td>
</tr>
</tbody>
</table>
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Heterogeneous good → Homogeneous good
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Energy Research Division

Electricity

Heterogeneous good → Heterogeneous good

Fiction!
Methods of linking withdrawals to injections (Tracking methods)

- Geographical
- Vertically integrated
- Estimates / UCTE mix
- Selling company’s policy
- % revenue, % benefit
- Investment schedules

- Same quantities

Contract based
Tradable certificates
Conclusion

- Stronger than conventional labelling
- Market design affected
Appendix: Check justification
Why power labelling?

- “Consumer protection” Only subjective
- “Stimulate sustainable generation” Requirement
- “Market competitiveness” ?
Markets for power and *green power*
(hypothetically separate)

\[ p_{\text{green power}} = p_{\text{power}} \] (min)

\[ p_{\text{green power}} \] (hypothetical)
Market for additional property „green“

Scarcity premium $\Delta p^*$

$p^*$

$D^*_{\text{green power}}$

$p^*_{\text{green power}} = 0$

$D^{*,\text{higher green power}}$

$x_{\text{max, anyway green power}}$

$x_{\text{max cap. green power}}$
De-mixing

Renewables

Nuclear

Fossil
<table>
<thead>
<tr>
<th>Standardisation</th>
<th>Classification</th>
<th>Obligation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required for comparability</td>
<td>Required to reduce complex information</td>
<td>Required, even if negative information is to be shown</td>
</tr>
</tbody>
</table>

Labelling $\Rightarrow$ Transparency $\Rightarrow$ Competition $\uparrow$
### Conventional product labelling

![Energy Label](image)

**Source:** www.themovechannel.com
State setting quality criteria

- Who can show good figures?
- Who needs to improve?
- Who is better on something else?
Result
Linking method: equal quantities

Risk:

• Impact: none
• Consumer protection: none
• Benefitting: incumbents
Claims

• Own class for dedicated renewable extension projects

• Prevent de-mixing through entire commercial chain, except for that class

• Reserve expression “green” to that class

• Consider impact of quality setting on newcomers vs. incumbents
Comment

• Seeming democratic legitimation

• Overcoming a particularity
Contact

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