ELA Workshop

EPBD 2010/31/EU
Energy Transition Law & White Certificate French model
28/04/15

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EPB Regulation environment in France
« Grenelle Laws I & II » 2009 Program
& 2010 Application

✓ Goal in 2020: 20% improvement in energy efficiency
✓ Main saving potential: Building sector

✓ New buildings: « Thermal Regulation RT 2012 »
  ✓ From 2013 on: maximum 50 kWh / m² / year of primary energy,

✓ Existing buildings:
  ✓ 38% reduction in energy consumption by 2020.

Lifts are not involved until now!
How to involve in France the lift environment?

Different actions are under way to promote lifts

✓ « Energy Transition Law »
  ✓ Green growth new boost
  ✓ Includes lifts
  ✓ Short-term outcome

✓ Next Thermic Regulation RT 20XX
  ✓ Introduction of the lift in the global consumption model
  ✓ Mid-term outcome

✓ Introduction of the lifts in the White Certificates process.
  ✓ The Energy Efficiency Certificates objective is to achieve energy savings
How works the White Certificates process?

✓ Paradoxal behaviour for the large energy suppliers
  ✓ Mandatory energy saving targets,
  ✓ Promote energy efficiency initiatives,
  ✓ White Certificates are the proofs of the savings,
  ✓ Target not completed → pay for the rest.

✓ What is the volume of savings at stake?
  ✓ 2011-2013 → 462 TWhcumac
  ✓ 2015-2017 → 700 TWhcumac are targeted.
  ✓ (Annual consumption in France for 2013: 440 TWh)

How works the White Certificates process?

A White Certificate is a standardized operation:

- Labelled,
- Technically accurate,
- Evaluated in savings in the life cycle of the operation: “kWhcumac”

Example of White Certificate:

LED luminaire with control system for common areas

- Scope: in existing residential buildings
- Specifications: different LED specs (efficiency > 70 lumen/W…)
- 1770 kWhcumac per LED for a life cycle of 20 years.
- i.e. 5,3 € per LED
**Energy Performance of Buildings Directive**

**White Certificates facts & figures**

- **How could we involve the lifts in this process?**

- **Current action of the FAS:**
  - EEC with options:
    - LED with controlled auto power off
    - Gearless + VVVF,
    - Controller with fixtures
    - and, potentially, lift ventilation, etc…

- **Remark:** it is quite logical to find here many energy efficient devices that were analysed in the E4 project of the University of Coimbra

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<table>
<thead>
<tr>
<th>Éclairage de cabine d'ascenseur à LED avec dispositif de mise en veille automatique</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Secteur d'application</strong></td>
</tr>
<tr>
<td>Éléments résidentiels existants</td>
</tr>
<tr>
<td><strong>2. Dénomination</strong></td>
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<tr>
<td>Mise en place dans la cabine d'ascenseur d'un éclairage à module LED avec dispositif de mise en veille automatique</td>
</tr>
<tr>
<td><strong>3. Conditions pour la délivrance de certificats</strong></td>
</tr>
<tr>
<td>Les éclairages à module LED mis en place respectent les critères suivants :</td>
</tr>
<tr>
<td>- Durée de vie &gt; 50 000 heures avec une chute de flux lumineux ≤ 30%</td>
</tr>
<tr>
<td>- Éfficacité lumineuse (flux lumineux total sortant de l'éclairage cabine divisé par sa puissance totale, auxiliaire d'alimentation compris) : ≤ 40 lumen / watt</td>
</tr>
<tr>
<td>- Dispositif de mise en veille automatique déclenché par le système de contrôle de l'ascenseur :</td>
</tr>
<tr>
<td>- cabine à l'arrêt,</td>
</tr>
<tr>
<td>- portes fermées,</td>
</tr>
<tr>
<td>- sans ordre de cabine à appel d'éloigner</td>
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<tr>
<td>La mise en place est réalisée par un professionnel. La preuve de réalisation de l'opération mentionnée la mise en place d'un éclairage de cabine d'ascenseur à module LED avec un dispositif de mise en veille automatique, la durée de vie avec chute de flux lumineux ≤ 30 % et l'éclairement lumineux de l'éclairage installé, auxiliaire d'alimentation compris.</td>
</tr>
<tr>
<td><strong>4. Durée de vie conventionnelle</strong></td>
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<td>La durée de vie avec le dispositif de mise en veille automatique est de 22 ans</td>
</tr>
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<table>
<thead>
<tr>
<th>Éclairage cabine ascenseur par LED + mise en veille automatique</th>
<th>Nombre de passagers en cabine</th>
</tr>
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<tbody>
<tr>
<td>1080</td>
<td>X</td>
</tr>
</tbody>
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What is our portfolio?

French portfolio: 530 000 lifts

- Residential: 64%
- Offices: 23%
- Industrie & transport: 13%

Energy consumption: 2 TWh / an
Potential savings in the existing portfolio

Annual consumption for a representative lift

Existing portfolio

- 1000 kWh
- 1300 kWh
- 1100 kWh

Total: 3400 kWh

Usual mods

- 600 kWh
- 820 kWh
- 750 kWh

Total: 2170 kWh

After EEC boost

- 500 kWh
- 35 kWh
- 660 kWh

Total: 1200 kWh

- Lights
- Drive
- Controller
Potential savings boosted by the EEC process

<table>
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<tr>
<th>Type of modernisation</th>
<th>Amount of kWh cumac per lift</th>
<th>Amount of TWh cumac for the concerned portfolio</th>
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</thead>
<tbody>
<tr>
<td>Drive (gearless)</td>
<td>1850</td>
<td>0.69</td>
</tr>
<tr>
<td>Controller (VF + fixtures)</td>
<td>850</td>
<td>0.27</td>
</tr>
<tr>
<td>Lights + control (LED)</td>
<td>8850</td>
<td>4.14</td>
</tr>
</tbody>
</table>

✓ The value for the portfolio shows a large potential compared to a 2 TWh annual consumption
Conclusion of this presentation

The FAS goes fast and forwards,

Signals are green now,

Elevators deserve to be part of the global common effort in the building area,

We strive to be part of the EEC economical model!
Thank you for your attention