Market-based Instruments (MBIs): Policy choice and Design of Energy Efficiency Obligations and Auctions

Portuguese Plan for Promoting Efficiency of Electricity end-use

José Luís Sousa

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PPEC – Plan for Promoting Efficiency of Electricity end-use

**Measures**
- Promoters decide the type of measures, the consumer segment and the competition.

**Evaluation**
- Measures (with positive NPV) are evaluated according to a set of criteria

**Ordered list**
- Measures are ranked by merit

**Selection**
- Starting from the most valued measure, the selection is made until the whole budget is allocated

**Promoters:**
- Electric utilities
- Consumers’ rights associations
- Energy Agencies
- Municipal Associations
- Business associations
- Research centres and educational institutions

**Consumer segments:**
- Households
- Industry and Agriculture
- Services and Commerce
Competitions with own budget

All promoters
- Tangible - Industry
- Tangible - Services
- Tangible - Households
- Intangible

Non-electric utility promoters
- Tangible (Industry / Services / Households)
- Intangible
Some challenges and learnings

- Competition for non-electric utility promoters
- Audits
- Biennial
- Maximum funding limits
- PPEC funds up to 80% (tangible)
- Criteria and weights
- National Energy Policy Criteria
Funding

System Global Use Tariff (paid by all customers)
- 11.5 million Euros/Yr → 23 million Euros by PPEC Edition

Competitions own budget
- All promoters – Tangible: 14 M€
- All promoters – Intangible: 2M€
- Non-electric utilities promoters - Tangible: 4M€
- Non-electric utilities promoters – Intangible: 3M€

Criteria
- Economic regulation (Benefit-Cost ratio, Scale risk; Weight of the investment in equipment)
- National Energy Policy (In line with other policy instruments, territorial coverage, ...)

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Deeper savings

- Participation of beneficiaries in costs
- Mandatory Measurement & Verification Plan
- High number of promoters, partners and consumers
- Only technologies with efficiency above the market standard are financed
- Audits

**PPEC 2017-2018**
- 223 candidate measures (61,5 Million Euros); 79 promoters; 107 partners.
- Selected measures
  - 50 tangible
  - 26 intangible.
- 111 million euros in benefits (avoided consumption and emissions)
- 1470 GWh of lifetime savings.
Market-based Instruments (MBIs): Policy choice and Design of Energy Efficiency Obligations and Auctions

Portugal Energy Efficiency Promotion Plan

José Luís Sousa
António G. Martins
## Some results from PPEC Editions

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>N. of Promoters</strong></td>
<td>8</td>
<td>21</td>
<td>29</td>
<td>48</td>
<td>65</td>
<td>87</td>
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<tr>
<td>**N. of Measures ***</td>
<td>62</td>
<td>131</td>
<td>125</td>
<td>159</td>
<td>207</td>
<td>223</td>
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<tr>
<td><strong>Tangible</strong></td>
<td>25</td>
<td>70</td>
<td>61</td>
<td>75</td>
<td>86</td>
<td>103</td>
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<tr>
<td><strong>Intangible</strong></td>
<td>37</td>
<td>61</td>
<td>64</td>
<td>84</td>
<td>121</td>
<td>120</td>
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<tr>
<td><strong>Cost of the measures (k€)</strong>*</td>
<td>26 631</td>
<td>46 272</td>
<td>58 116</td>
<td>57 081</td>
<td>58 840</td>
<td>61 586</td>
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<tr>
<td><strong>Tangible</strong></td>
<td>19 315</td>
<td>37 534</td>
<td>39 844</td>
<td>38 822</td>
<td>30 640</td>
<td>36 973</td>
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<tr>
<td><strong>Intangible</strong></td>
<td>7 317</td>
<td>8 737</td>
<td>18 272</td>
<td>18 259</td>
<td>28 200</td>
<td>24 614</td>
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</tbody>
</table>

* Considering only eligible measures

*In PPEC 2017-2018 evaluation under the economic regulation perspective (in Portuguese)*
### PPEC costs of the measures

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>PPEC average costs (€/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All promoters</td>
<td>Tangible – Households</td>
<td>12,02</td>
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<tr>
<td></td>
<td>Tangible - Commerce and Services</td>
<td>16,08</td>
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<tr>
<td></td>
<td>Tangible - Industry and Agriculture</td>
<td>12,88</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>13,49</td>
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<tr>
<td>Non-electric sector promoters</td>
<td>Total</td>
<td>17,27</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14,12</td>
</tr>
</tbody>
</table>