





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

# Portuguese Plan for Promoting Efficiency of Electricity end-use

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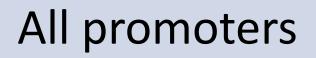
# PPEC – Plan for Promoting Efficiency of Electricity end-use

Promoters'

| Measures   | <ul> <li>Promoters decides measures, the consegment and the</li> </ul> | onsumer  | <ul> <li>Electric utilities</li> <li>Consumers' rights<br/>associations</li> </ul> |   |  |
|--|--|--|--|---|--|
|  | Evaluation   | <ul> <li>Measures (with p<br/>are evaluated acc<br/>set of criteria</li> </ul> | •  | <ul> <li>Energy Agencies</li> <li>Municipal Associations</li> <li>Business associations</li> <li>Research centres and<br/>educational institutions</li> </ul> |  |
| Consumption  |  | Ordered<br>list  | <ul> <li>Measures a ranked by merit</li> </ul>                                     | ire   |  |
| <ul> <li><u>Consumer segments</u>:</li> <li>Households</li> <li>Industry and Agri</li> <li>Services and Com</li> </ul> | culture  |  | Selection  | • Starting from the most valued measure, the selection is made until the whole budget is allocated  |  |

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# Competitions with own budget



Tangible - Industry

Tangible - Services

Tangible - Households

### Intangible

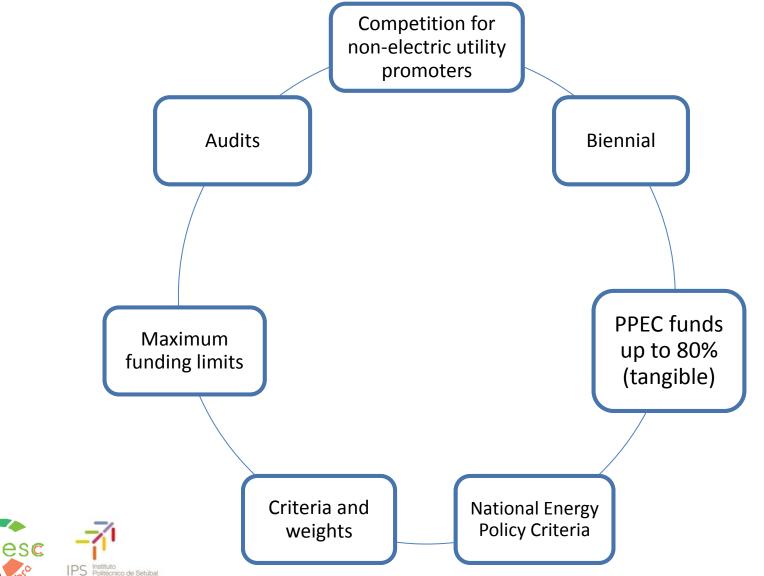
Non-electric utility promoters

Tangible (Industry / Services / Households)

Intangible



# Some challenges and learnings



# 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, ...)



### Deeper savings

Participation of beneficiaries in costs

Mandatory Measurement &Verification Plan

Audits

High number of promoters, partners and consumers Only technologies with efficiency above the market standard are financed 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.



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# Portugal Energy Efficiency Promotion Plan

José Luís Sousa António G. Martins





# Some results from PPEC Editions

|                            | 2007   | 2008   | 2009-<br>2010 | 2011-<br>2012 | 2013-<br>2014 | 2017-<br>2018 |
|----------------------------|--------|--------|---------------|---------------|---------------|---------------|
| N. of Promoters            | 8      | 21     | 29            | 48            | 65            | 87            |
| N. of Measures *           | 62     | 131    | 125           | 159           | 207           | 223           |
| Tangible                   | 25     | 70     | 61            | 75            | 86            | 103           |
| Intangible                 | 37     | 61     | 64            | 84            | 121           | 120           |
| Cost of the measures (k€)* | 26 631 | 46 272 | 58 116        | 57 081        | 58 840        | 61 586        |
| Tangible                   | 19 315 | 37 534 | 39 844        | 38 822        | 30 640        | 36 973        |
| Intangible                 | 7 317  | 8 737  | 18 272        | 18 259        | 28 200        | 24 614        |

\* Considering only eligible measures

In PPEC 2017-2018 evaluation under the economic regulation perspective (in Portuguese)

### PPEC costs of the measures

|                                      |                                     | PPEC average<br>costs (€/MWh) |  |
|--------------------------------------|-------------------------------------|-------------------------------|--|
| All promoters                        | Tangible – Households               | 12,02                         |  |
|                                      | Tangible - Commerce and Services    | 16,08                         |  |
|                                      | Tangible - Industry and Agriculture | 12,88                         |  |
|                                      | Total                               | 13,49                         |  |
| Non- electric<br>sector<br>promoters | Total                               | 17,27                         |  |
|                                      | Total                               | 14,12                         |  |