



**LISBOA e-nova**

AGÊNCIA DE ENERGIA E AMBIENTE DE LISBOA

# **me<sup>2</sup> - Integrated smart city, mobility and energy platform**

**ALCUE NET**

**“Sustainable urbanization, Smart Cities and Nature Based Solutions”**

**Rui Mendes**

**Lisbon, 30 June 2017**

## LISBOA E-NOVA

### LISBON'S ENERGY AND ENVIRONMENTAL AGENCY

Non-profit organization operating under private Law, which seeks the sustainable development of the city of Lisbon

#### MISSION

- Energy demand management
- Energy efficiency
- Endogenous energy resources management
- Environmental management
- Sustainable mobility
- Education for sustainable development





Smart Cities  
Member States Initiative



## LISBOA E-NOVA – ASSOCIATED



## LISBOA E-NOVA: INTERVENTION AREAS

Energy  
Environmental  
Strategy

Energy  
Efficiency and  
Renewable  
Energies

Water

Sustainable  
Mobility

Smart Cities

Urban  
Planning

Biodiversity

Education  
Sustainable  
Development

Communication and information



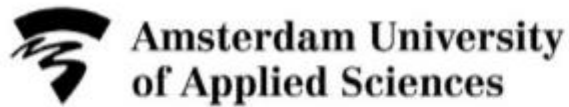




Smart Cities  
Member States Initiative

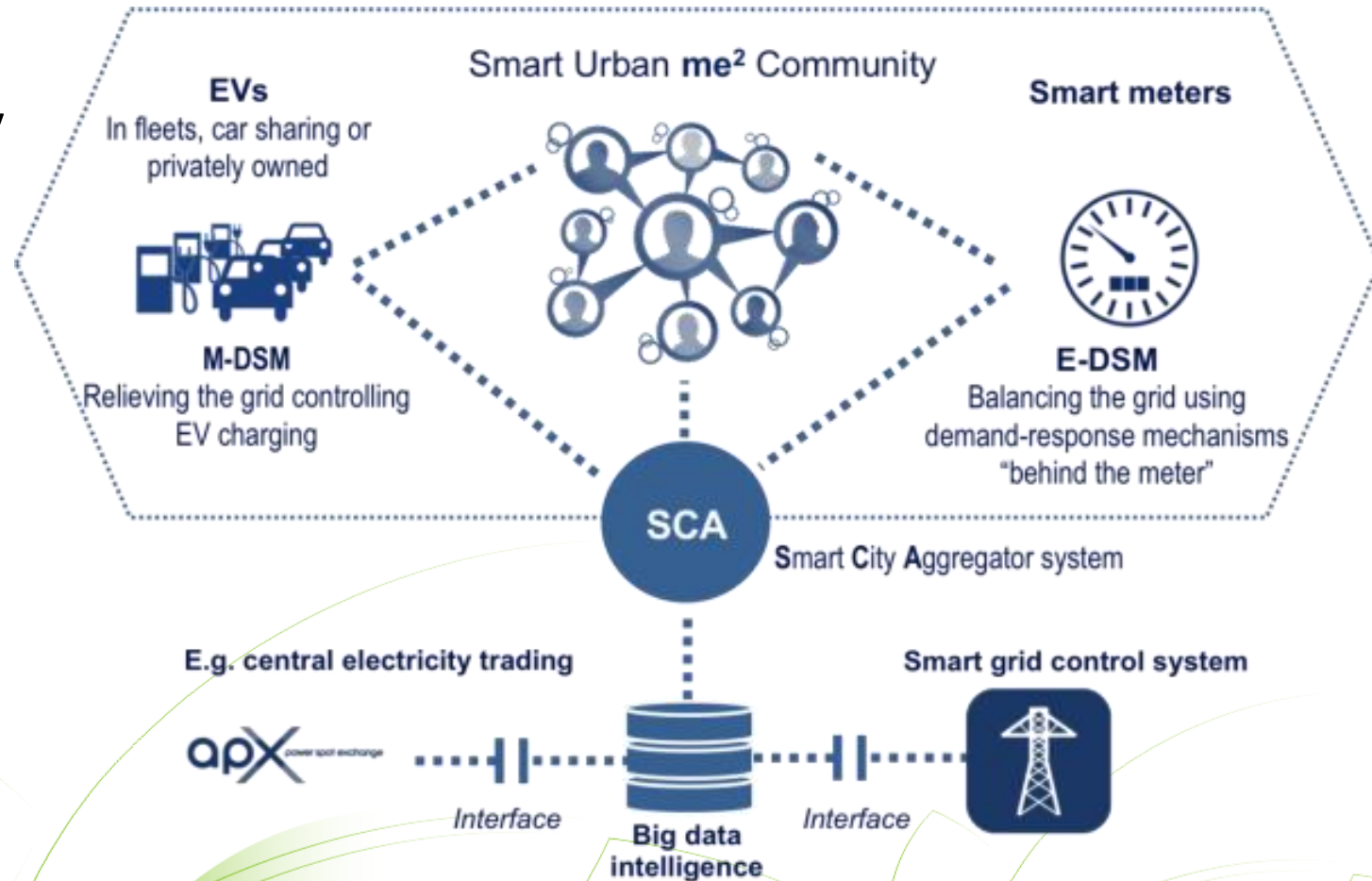


## me<sup>2</sup> PROJECT PARTNERS



# me<sup>2</sup> - Integrated smart city mobility and energy platform

- **Smart city aggregator platform** linking mobility and electricity needs
- **Linking the grid with consumer preferences** via mechanisms for behavior change
- **Engaging user-centered, gamified community platform**



## PILOTS

### Lisbon Pilot

- Call for volunteers
- Development of me<sup>2</sup> platform
- Development of me<sup>2</sup> APP
- Delivery and installation of smart meters
- Monitoring of electricity consumption
- Engagement and Communication



### Amsterdam Pilot + Lessons learned



## LISBON PILOT

### Call for volunteers

- Started in December / community of 55 people (13 EV users)

The screenshot shows the top navigation bar of the LISBOA e-nova website. On the left is the LISBOA e-nova logo with the tagline 'AGÊNCIA DE ENERGIA E AMBIENTE DE LISBOA' and flags for Portugal and the UK. On the right is a blue 'Iniciar Sessão' button and social media icons for Facebook, YouTube, and LinkedIn. Below the logo is a horizontal menu with the following items: HOME, LISBOA E-NOVA, NOTÍCIAS, PROJETOS, NEWSLETTER, EVENTOS, PODCASTS, and CONTACTOS.

The screenshot shows the main content area of the LISBOA e-nova website. On the left, there is a large promotional banner for the 'me²' project. The banner features the me² logo and the text: 'Sabe quanta eletricidade gasta em casa e quanto pode poupar?' followed by 'Temos um desafio para si! Junte-se a nós no projeto piloto me².' and 'Ao aderir ao me², terá uma excelente oportunidade de utilizar gratuitamente tecnologia de ponta em contadores inteligentes, poderá monitorizar os seus consumos de eletricidade e receber conselhos de poupança personalizados.' The contact information 'contacto: [me2@lisboaenova.org](mailto:me2@lisboaenova.org)' is provided. Below the banner are logos for partner organizations: Amsterdam University of Applied Sciences, CATOLICA LISBOA, MEDIAPRIMER, MOOSMOAR ENERGIES OG, and VPS Virtual Power Solutions. At the bottom of the banner area, it says 'INSCRIÇÕES ABERTAS E GRATUITAS' with a progress indicator showing 1 out of 5 steps completed. On the right side, there is a 'NOTÍCIAS' section with three news items: 'Pela Cidade fora - Educaçã...É uma iniciativa conjunta da EMEL e da CML, através do Departamento de Educação,...', 'Lisboa mais inclusiva com ...A Siemens Portugal instalou botoneiras especiais em semáforos de três cruzame...', and 'Deco sensibiliza através d...Assembleia da República'.



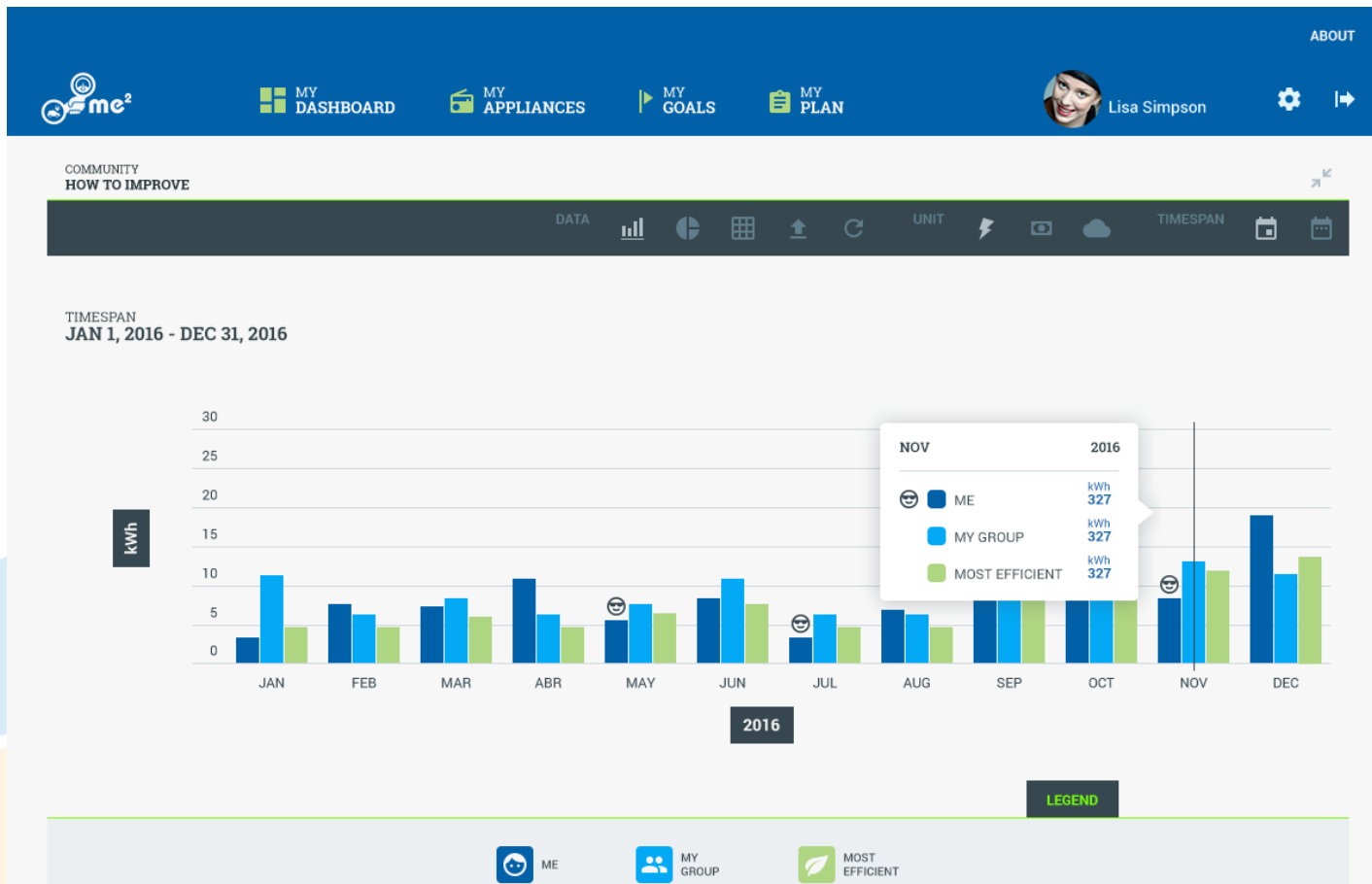
# LISBON PILOT

## Development of me² platform

- Launched in the end of December
- Platform registration



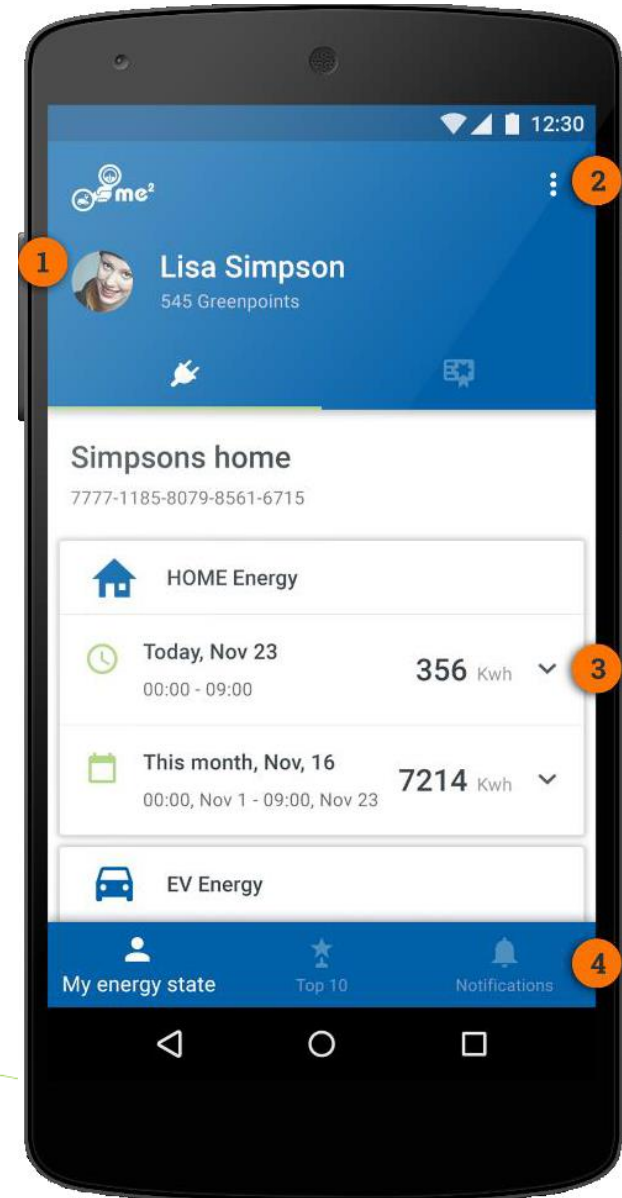
Registration form with fields for 'ENDEREÇO DE E-MAIL' and 'PALAVRA-PASSE', and buttons for 'ENTRAR', 'REGISTRAR', and 'REPOR PALAVRA-PASSE'.



## LISBON PILOT

### Development of me<sup>2</sup> APP

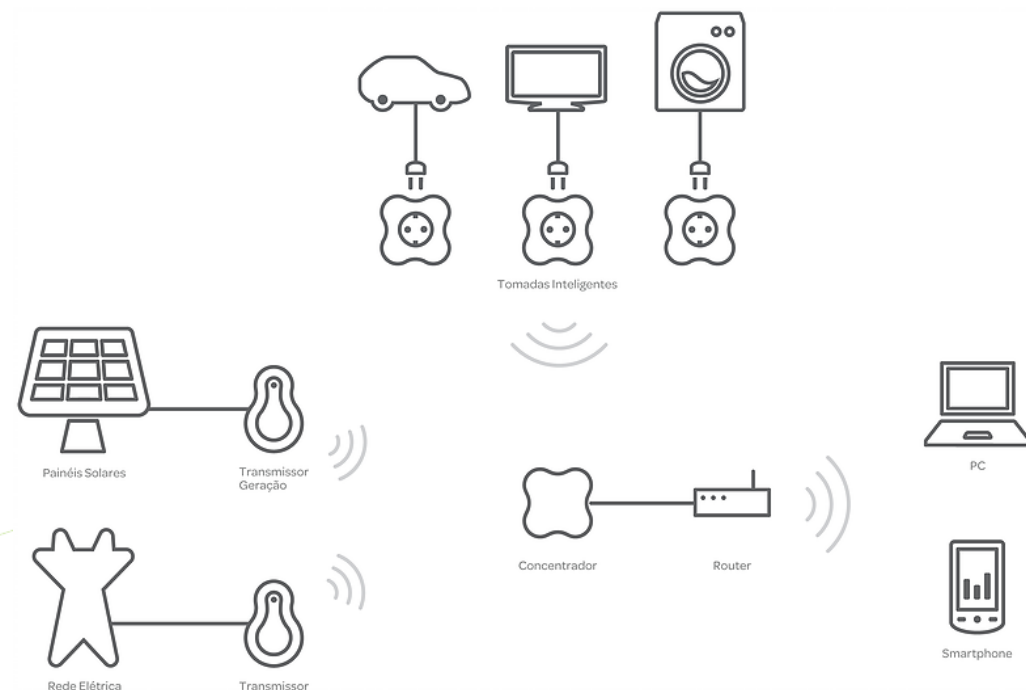
- The APP helped the users to integrate the me<sup>2</sup> in their daily life
- Increases the ease of access to their electricity consumptions
- Compliant with Android and soon an updated version for other software



## LISBON PILOT

### Delivery and installation of smart meters

- Participants had to install the smart meter in their electrical board
- Technical flyer for Cloogy installation and me<sup>2</sup> platform registry + demo videos
- Communication problems between the devices, due to distance



# LISBON PILOT

## Monitoring of electricity consumption

### Methodology

- Baseline – last 12 month electricity bills
- Blind consumption monitoring - 1st month
- Smart consumption monitoring - 2nd to 6th month)

edp

C801030003034476  
 |||||  
 NOME DO CLIENTE  
 MORADA  
 LOCALIDADE  
 1234-567 CÓDIGO POSTAL

Período de faturação: 31 de julho a 30 de setembro 2016

ELETRICIDADE 41,37 €	GÁS NATURAL 28,35 €	SERVIÇOS 12,84 €	TAXAS E IMPOSTOS 29,58 €

Quanto tenho a pagar?  
**112,14 €**  
 Até quando posso pagar?  
**21 SET 2016**

**AS MINHAS MENSAGENS**  
 Recordamos que deve pagar as suas faturas dentro do prazo. O pagamento depois da data limite indicada na fatura resulta na cobrança de juros de mora à taxa legal.

**COMO POSSO POUPAR**  
 Decido descontos na minha fatura de energia por fazer compras nos parceiros da Comunidade EDP.  
 mais em comunidade.edp.pt

**O QUE MARCA O MEU CONTADOR**

	Simple 11111 kWh Nr 10301286308	Leitura estimada a 30 de setembro 2016
	Smart 11111 m³ Nr 11002015053158	Leitura estimada a 30 de setembro 2016

Dê as leituras entre 2016-09-27 e 2016-09-29 através do edp@novo.edp.pt ou do 800 10 53 53 (24h chamada grátis). Se enviar fora destas datas, parte do consumo será estimado.

**NOVA FATURA EDP**  
 Está tão simples que lhe dá mais tempo para si.

**OS MEUS DADOS**

Nome do titular CLIENTE	CPE (Código Plano Entregal) PT 0032 00* *57 *58 **8 YC
Morada de fornecimento MORADA	Potência 3,45 kVA (simplex)
NIF	CU (Código Universal de Instalação) PT 360* 00* *03 *60 **3 LP
Produto (s) Gás e Electricidade + Funciona	ESCALÃO 2

**ÁREA DE CLIENTES E CONTACTOS**

energia.edp.pt

A minha área de cliente  
 edp@novo.edp.pt ou app EDP Online

Aterramento a clientes 808 53 53 53  
 Chamada com custo de rede fixa nacional. Dias úteis (9h - 12h)

Leituras e dados pagamento 800 10 53 53  
 Atendimento em português (24h - chamada grátis)

Avarias Electricidade 800 506 506 Avarias Gás 800 201 772  
 (24h - chamada grátis)

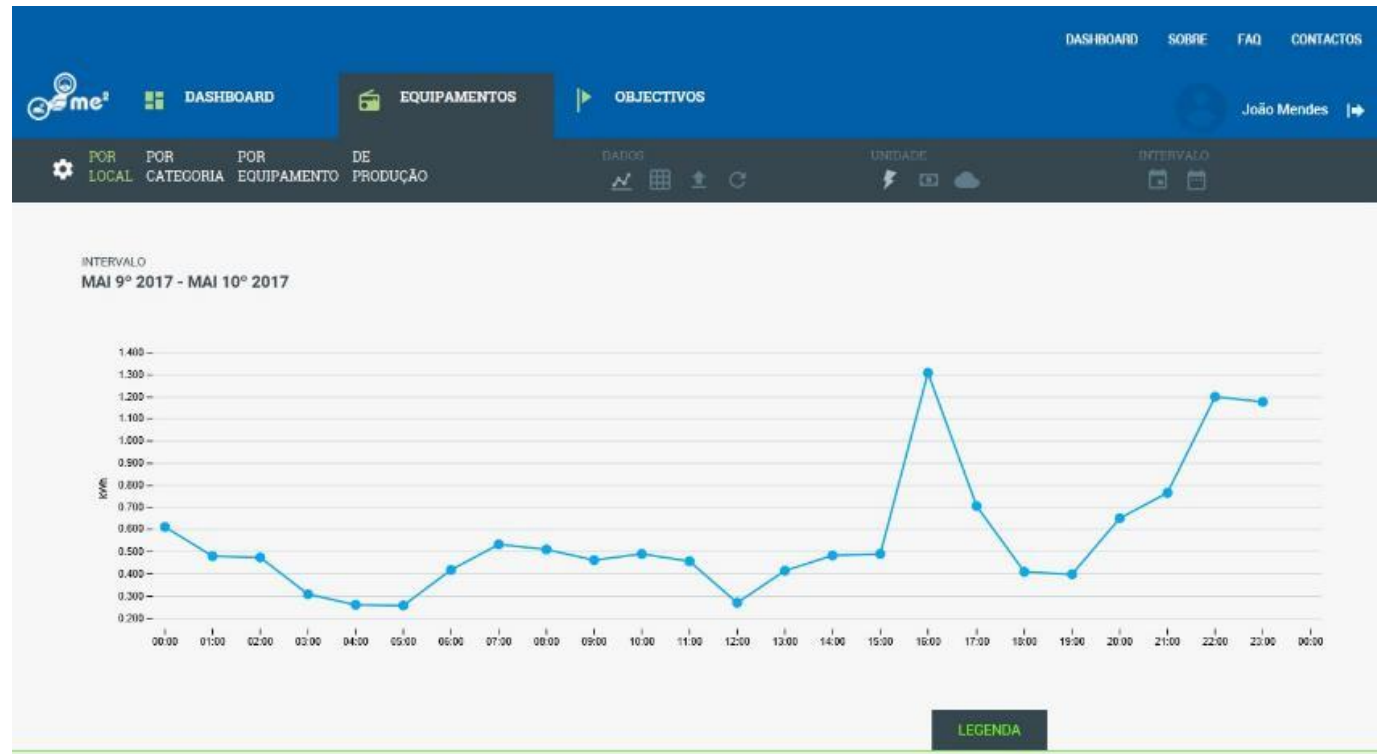


## LISBON PILOT

### Monitoring of electricity consumption

#### Home monitoring

- Cloogy Hub
- Transmitter
- Socket 1: EV
- Socket 2: fridge
- Socket 3: freezer
- EV monitoring
  - At home with Cloogy socket
  - At CG25 at -2 level
  - At MOBI.E



## LISBON PILOT

### Engagement and Communication

- Monthly semi-structured diaries
- Problem centred interviews
- Workshop / Focus Groups
- Gamification





## LISBON PILOT

### Engagement and Communication

- Problem centred interviews

14 questions organized into four main topics:

- Value Proposition
- Design Thinking
- Business Model
- Segmentation scale

The goal was to do questions focused on a specific problem





## LISBON PILOT

### Engagement and Communication

- Workshop / Focus Groups

2 round tables focus groups, 40 min each, 2 topics per table:

- me<sup>2</sup> platform improvements
- me<sup>2</sup> feedback
- me<sup>2</sup> consumption influence
- Behavior change

The goal was for the community to meet, to announce the following work and to do focus groups



# LISBON PILOT

## Engagement and Communication

- Gamification

É muito importante usar torneiras e chuveiros eficientes e reduzir o tempo no duche.

★	1	Rua Lopes n.º 108 R/c Esquerdo	156	🏆
★	2	Rua Amélia Rey Colaço n.º 13, 6.º esq.	114	🏆
★	3	Casa	87	🏆
★	4	TESTE	83	🏆
★	5	Casa	74	🏆
★	6	Rua Carlos Conde, 7	69	🏆
★	7	Av. Marechal Francisco da Costa Gomes	66	🏆
★	8	Rua Comandante Assis camilo n.º 10 R/C esq.º	57	🏆
★	9	casa	57	🏆
★	10	Casa HP	56	🏆
	28	JT - casa	19	🏆
👍	29	Casa	17	🏆
	30	Residencia	15	🏆

**REFRIGERAÇÃO E CONGELAÇÃO** 100.000%

kWh 52.431 | Eur 0.000 | Kg 52.431

**ELETRÓNICA** 0.000%

**OUTROS** 0.000%

UNIDADES

MEUS OBJECTIVOS ENERGÉTICOS

CASA

Eur 0.000

HISTÓRICO | OBJECTIVOS

**ENERGIA DOMÉSTICA**

kWh 112.718

Eur 0.000

Kg 112.718

EQUIPAMENT...

O QUE USA MAIS

01 CASA Tomada 2

kWh 31.192 | Eur 0.000 | Kg 31.192

02 CASA Tomada 3

03 CASA Tomada 1

HISTÓRICO

## LISBON PILOT

### Expected results

- **More balanced** local grids
- **Lowered average energy** costs for consumers
- A **policy recommendation** set for local and national agencies
- A **viable business model**, including a positive business case and an enticing value proposition
- This kind of project can be **replicated in other regions**, in order to support new energy efficiency policies and boost new business models that privilege the consumers
- **Creates awareness** in energy savings



# THANK YOU!



LISBOA **e-nova**

AGÊNCIA DE ENERGIA E AMBIENTE DE LISBOA

## **Lisboa E-Nova**

Agência de Energia – Ambiente

Rua dos Fanqueiros, 38 1º, 1100-231 LISBOA

Tel. +351 218 847 010

Mobile: +351 927 992 969

Fax. +351 218 847 029

**Rui Mendes**

[ruimendes@lisboaenova.org](mailto:ruimendes@lisboaenova.org)

[info@lisboaenova.org](mailto:info@lisboaenova.org)

[www.lisboaenova.org](http://www.lisboaenova.org)