

Energy Efficiency in Lisbon

IT4ENERGY

Lisbon, 27th April 2015

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www.lisboaenova.org

LISBOA E-NOVA

LISBON'S MUNICIPAL 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
- Best practices in Urban Planning and Construction
- Sustainable mobility



AFFILIATES



LISBOA E-NOVA

AREAS OF EXPERTISE

Energy and
Environmental
Strategy

Energy
Efficiency and
Renewable
Energy

Water

Sustainable
Mobility

Smart Cities

Urban
Planning

Biodiversity

Environmental
Awareness

COMMUNICATION



LISBON'S ENERGY AND ENVIRONMENT STRATEGY

Defined goals to accomplish between 2009-2013 (political mandate) in the sectors: energy; water and materials

COVENANT OF MAYORS

Lisbon undersigned this Document in 2009 and Lisboa E-Nova was responsible for the definition of Lisbon's methodology for the Sustainable Energy Action Plan, and is currently monitoring it.



BESOS PROJECT

**(building energy decision support systems for
smart cities)**

BESOS proposes the development of an advanced, integrated, management system which enables energy efficiency in smart cities from a holistic perspective.

Data and services' sharing through an EMS – open trustworthy platform deployed in a typical district that are consuming or producing energy, and which nowadays normally count with an isolated IT management solution

Design and development of higher level applications –i.e. the Business Balanced score Card and DSS Cockpit - that are able to process real-time data and generate valuable analysis to affect the business and Monitoring and Control (M&C) strategies that operate a smart city – or a subset of the energy services deployed.





TRAFFIC LIGHTS PROJECT (a PPEC + ECO.AP solution)

LED IN TRAFFIC LIGHTS

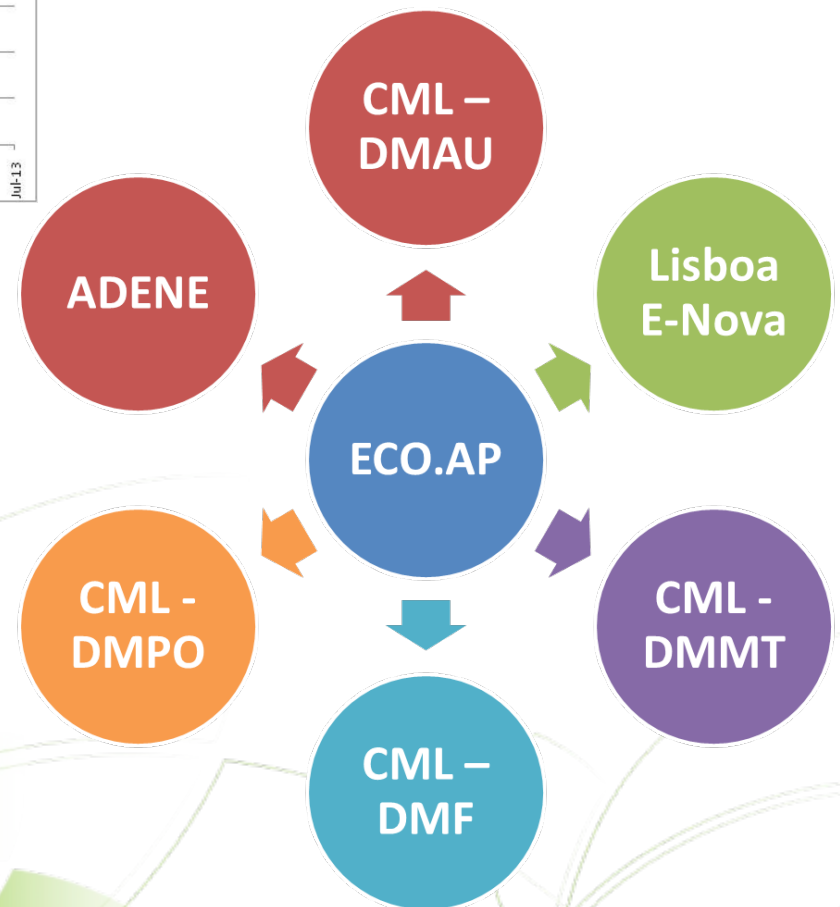
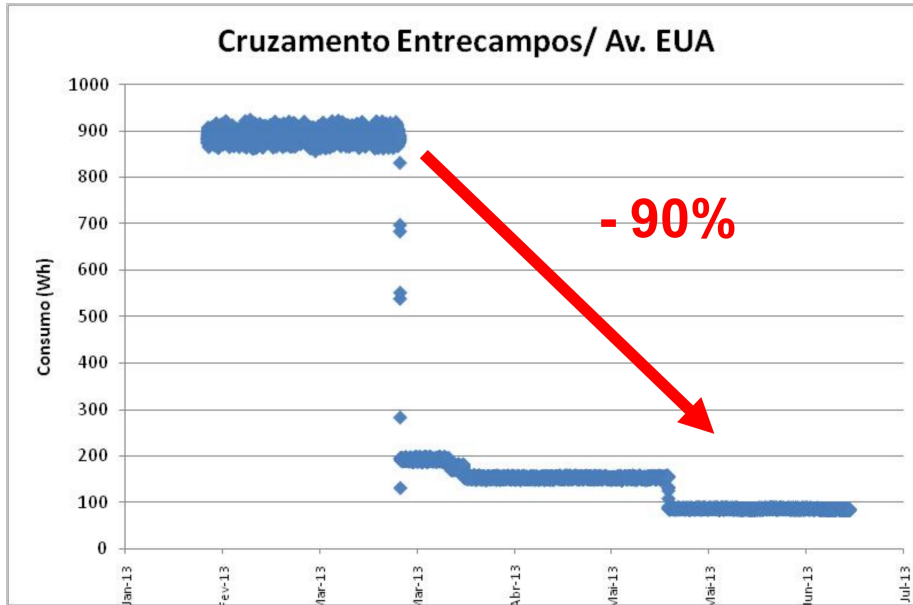
- Replacement of 4000 bulbs for LED in the last 3 years (15%)
- Reduction/year:
1300 MWh electricity
48 ton CO₂
140.000 €



EPC IN TRAFFIC LIGHTS

- Replacement of 22500 bulbs for LED during 2015 (the city remains 100% LED)
- Reduction/year:
6200 GWh electricity
230 ton CO₂/year
700.000 € (after the 2 years contract)

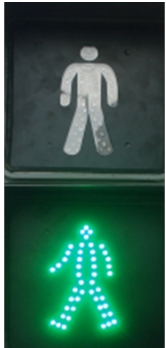




PUBLIC LIGHTING PROJECT

PUBLIC LIGHTING

- Equipping existing 250 W (HP Sodium-vapour lamps) luminaires with electronic ballasts (light flux reduction and less energy consumption) and remote-management.
- LED use
- Power reduction - 826 kW.



PUBLIC LIGHTING

EPC in Public Lighting

Preparing an entire District for more efficient lighting under an EPC procedure

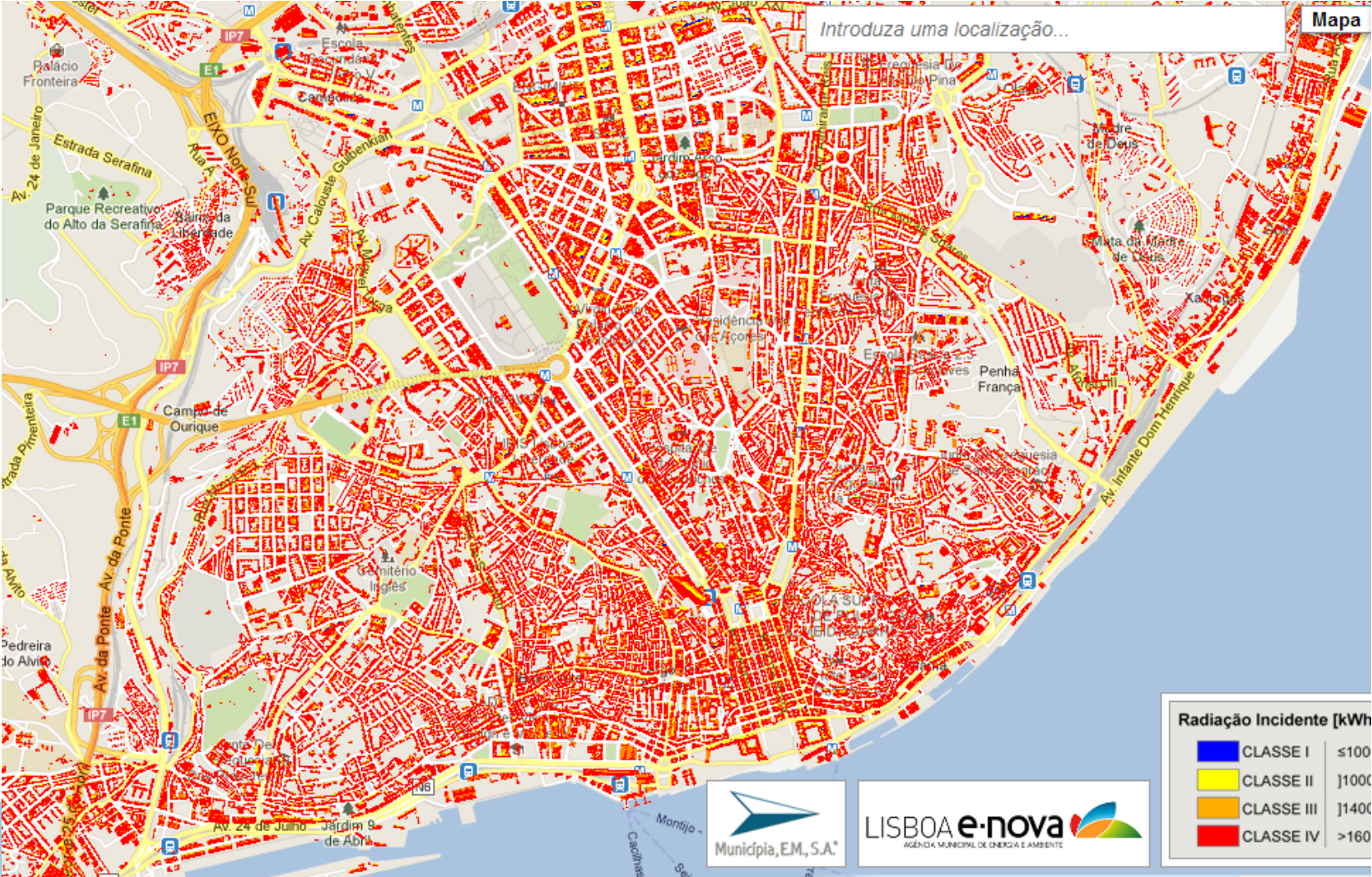
Current plan to 2020	Consumption reduction	Cummulative Budget (million Euro)
Energy Efficiency in street lighting and traffic lights	37,3 GWh/yr	-53 % 43



ENERGY EFFICIENCY IN MUNICIPAL BUILDING PROJECT

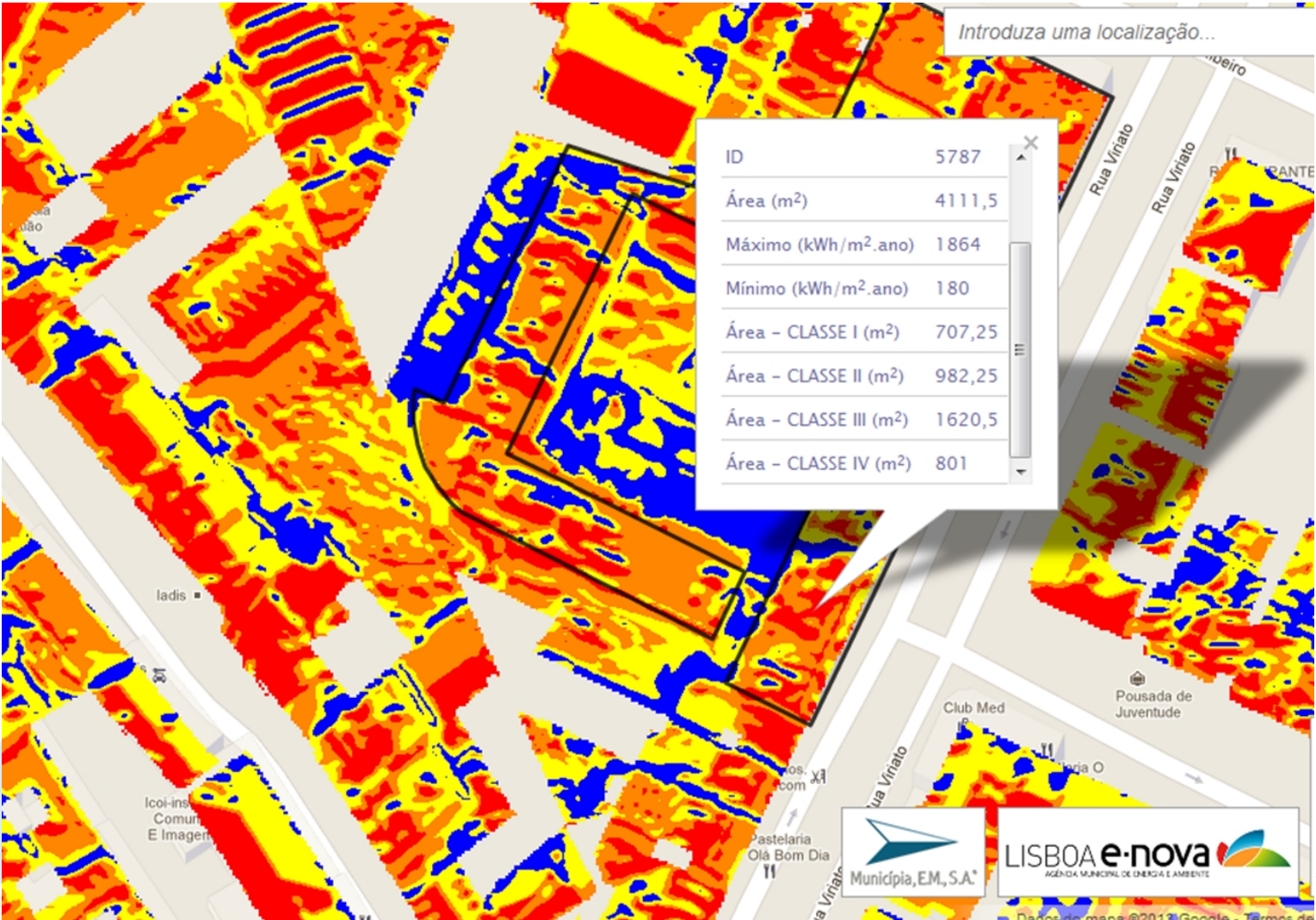
**(combining energy efficiency and pv self
consumption)**

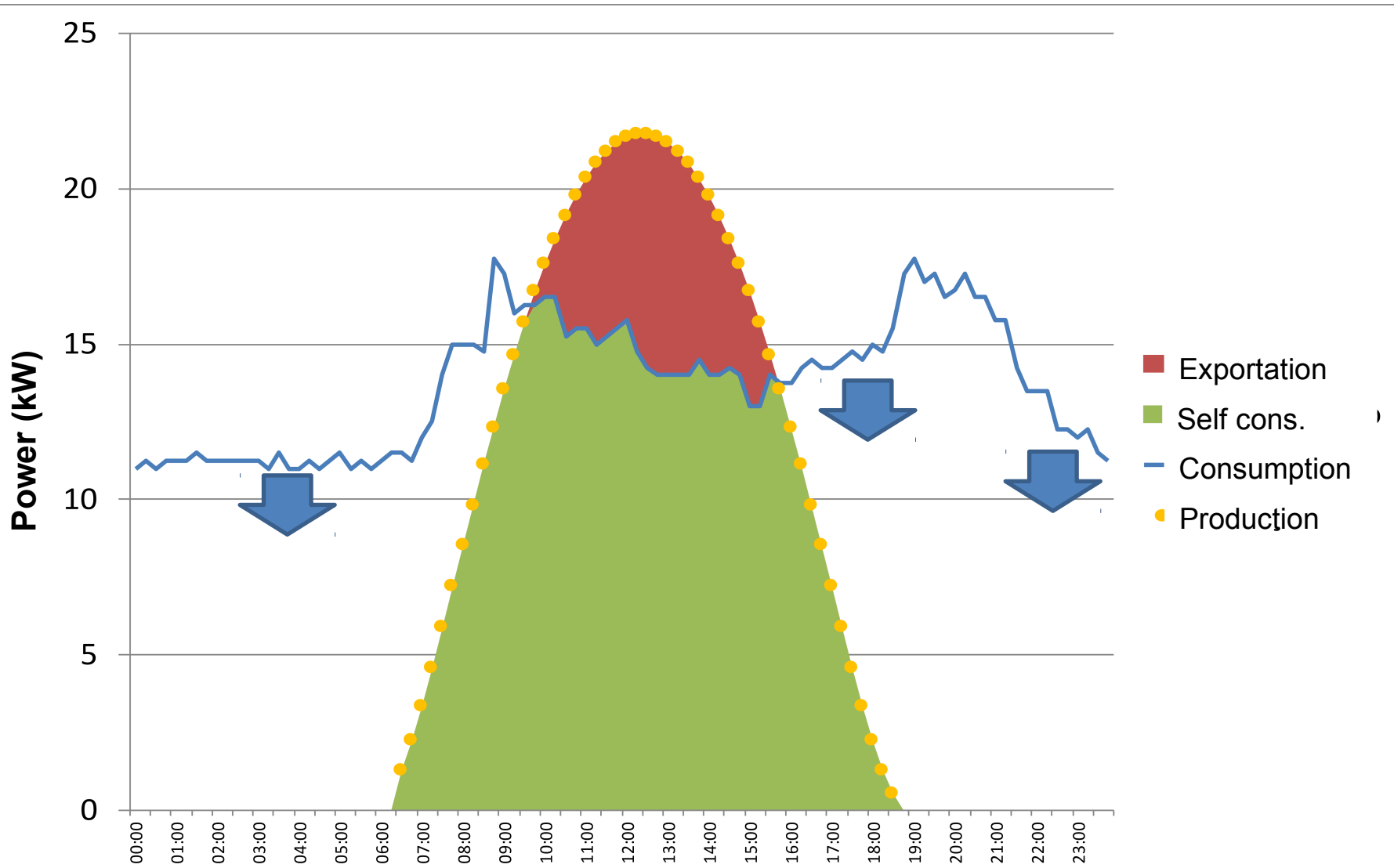
LISBON'S SOLAR POTENTIAL CHART



www.lisboaenova.org/cartasolarlisboa

LISBON'S SOLAR POTENTIAL CHART

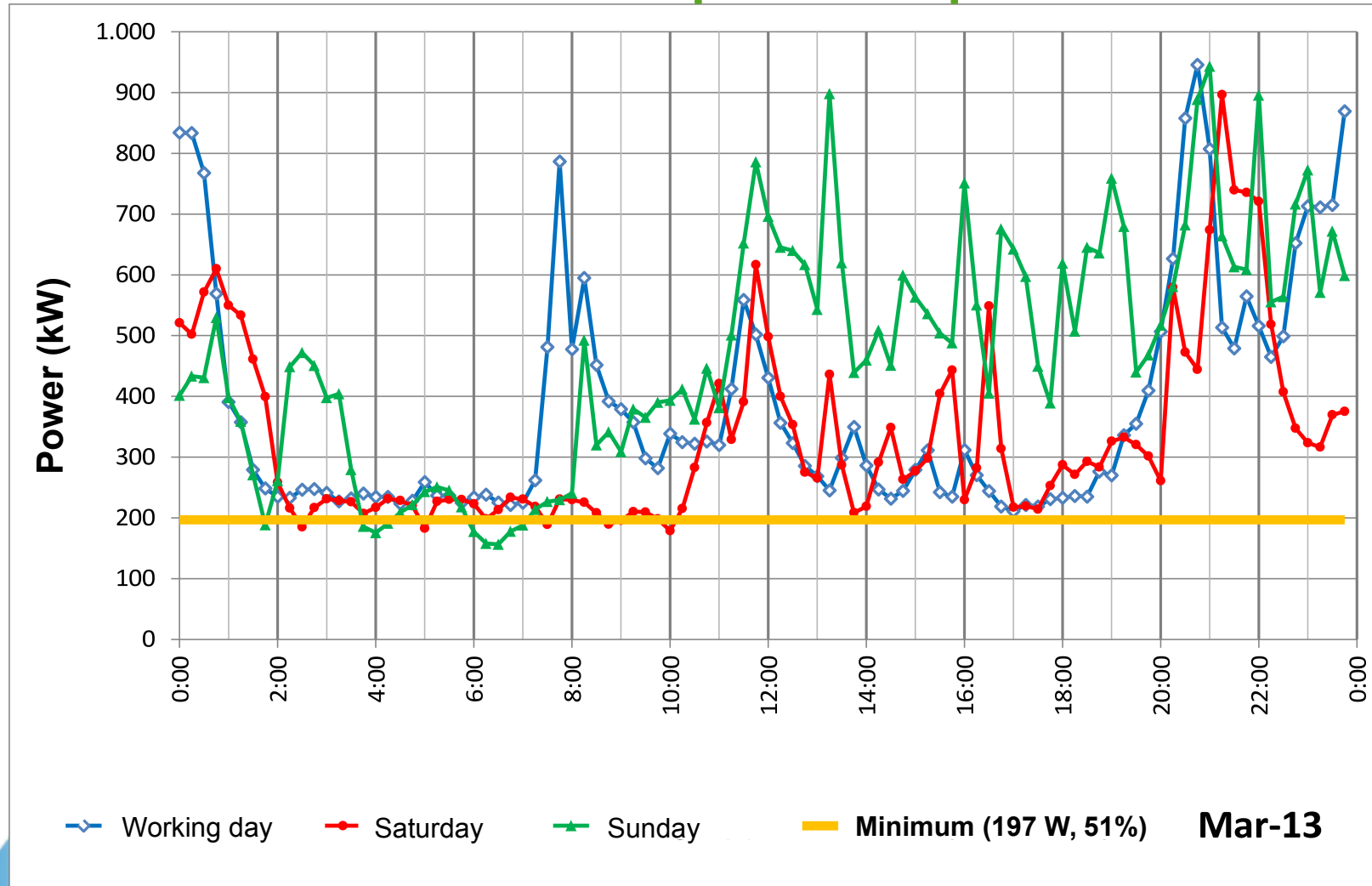




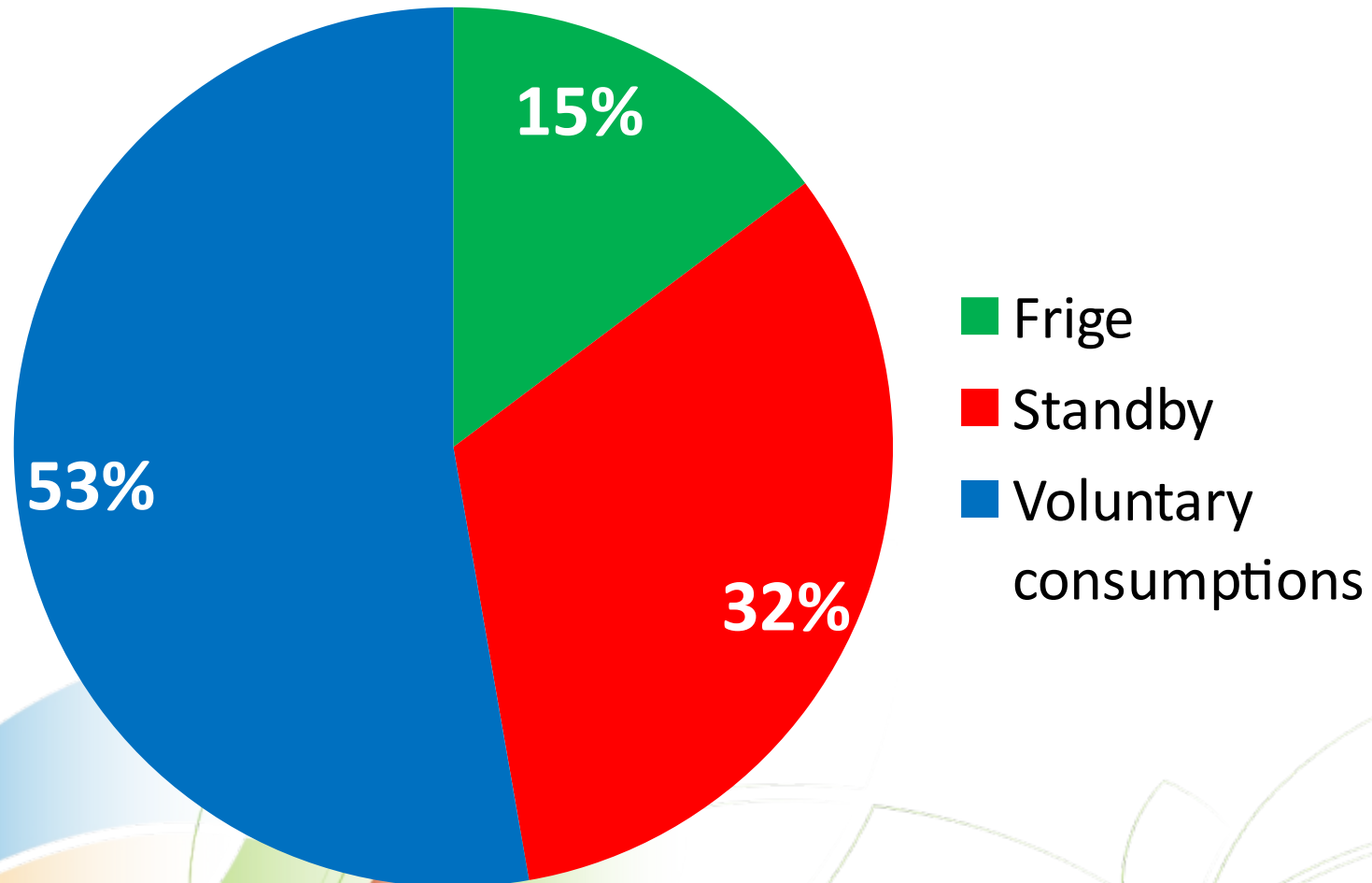
PPEC-CONTADORES INTELIGENTES PROJECT

**(250 residential smart metering
15 minutes data)**

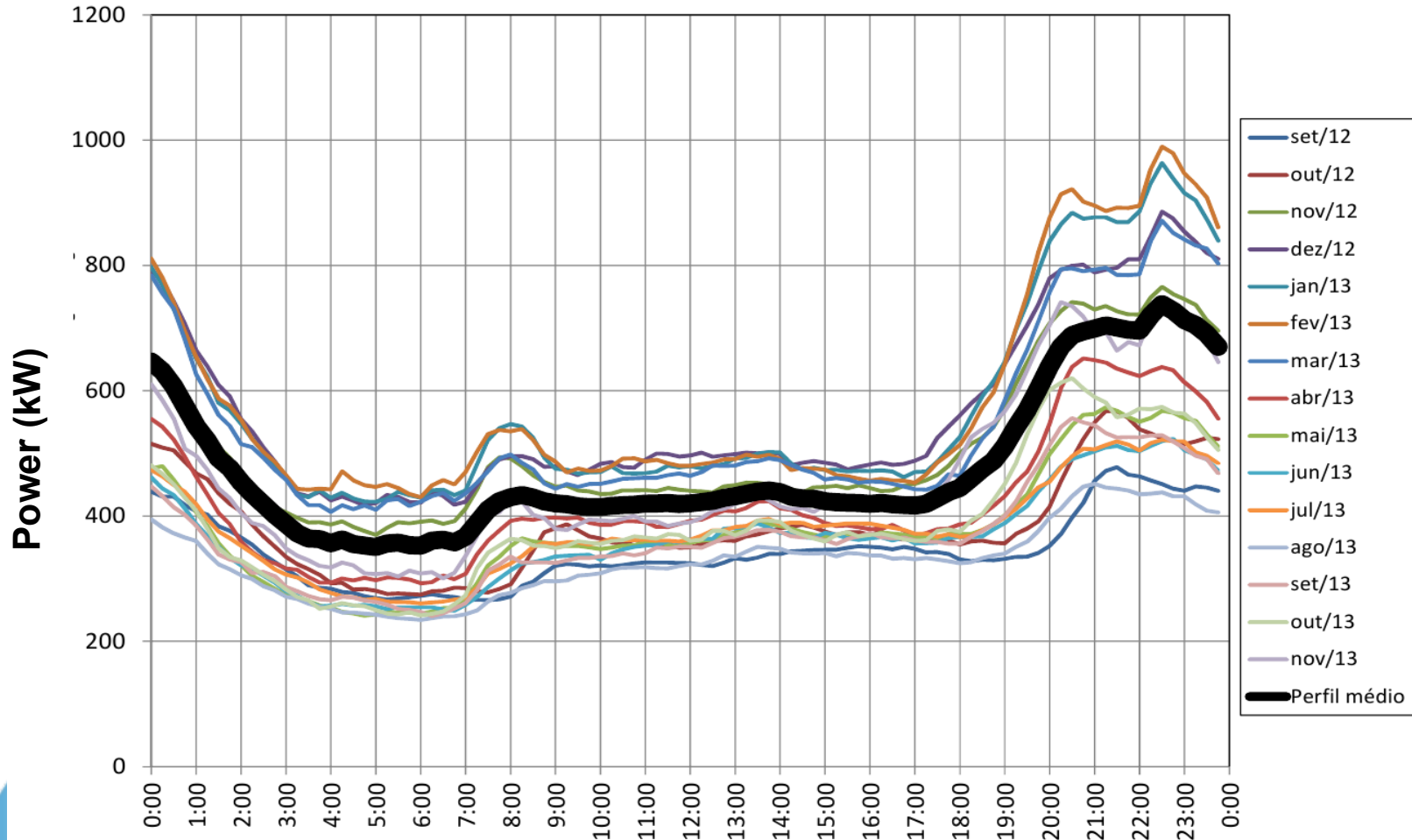
Minimum consumption is important



Standbys may represent 32% of total consumption



In average (250 consumers) residential profile is smooth and predictable



GESTOR REMOTO PROJECT

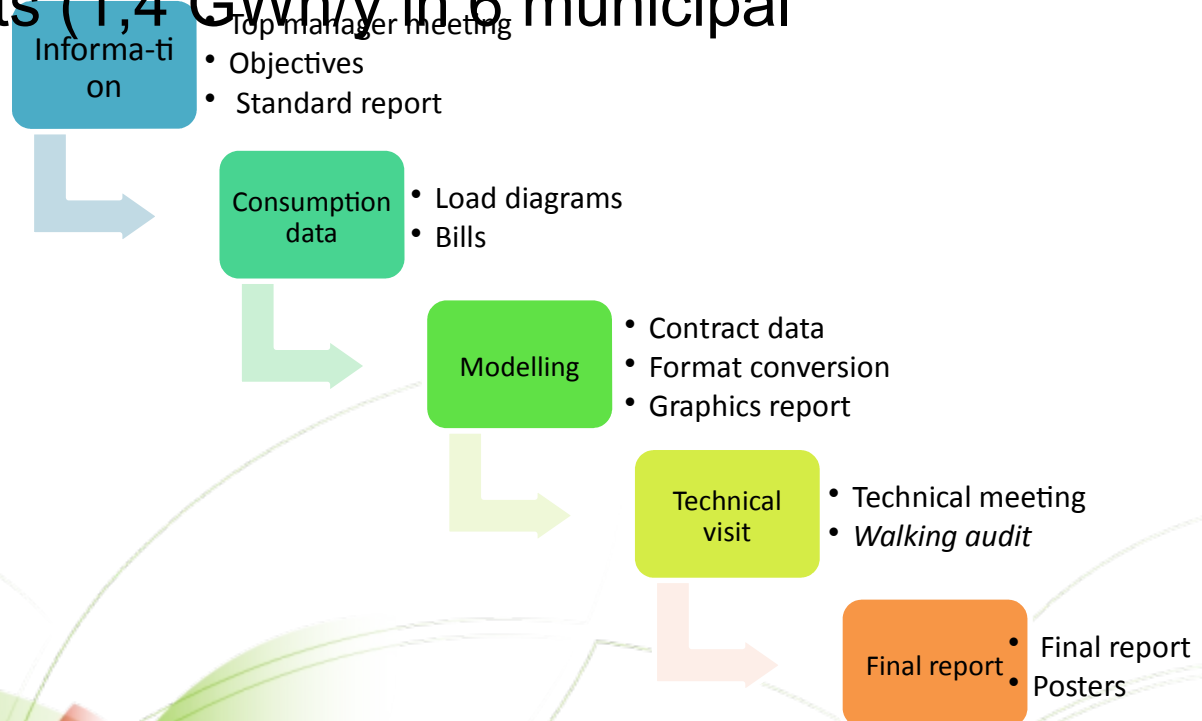
**(energy efficiency based in distributor smart
meter - 15 minutes data)**

Gestor Remoto:

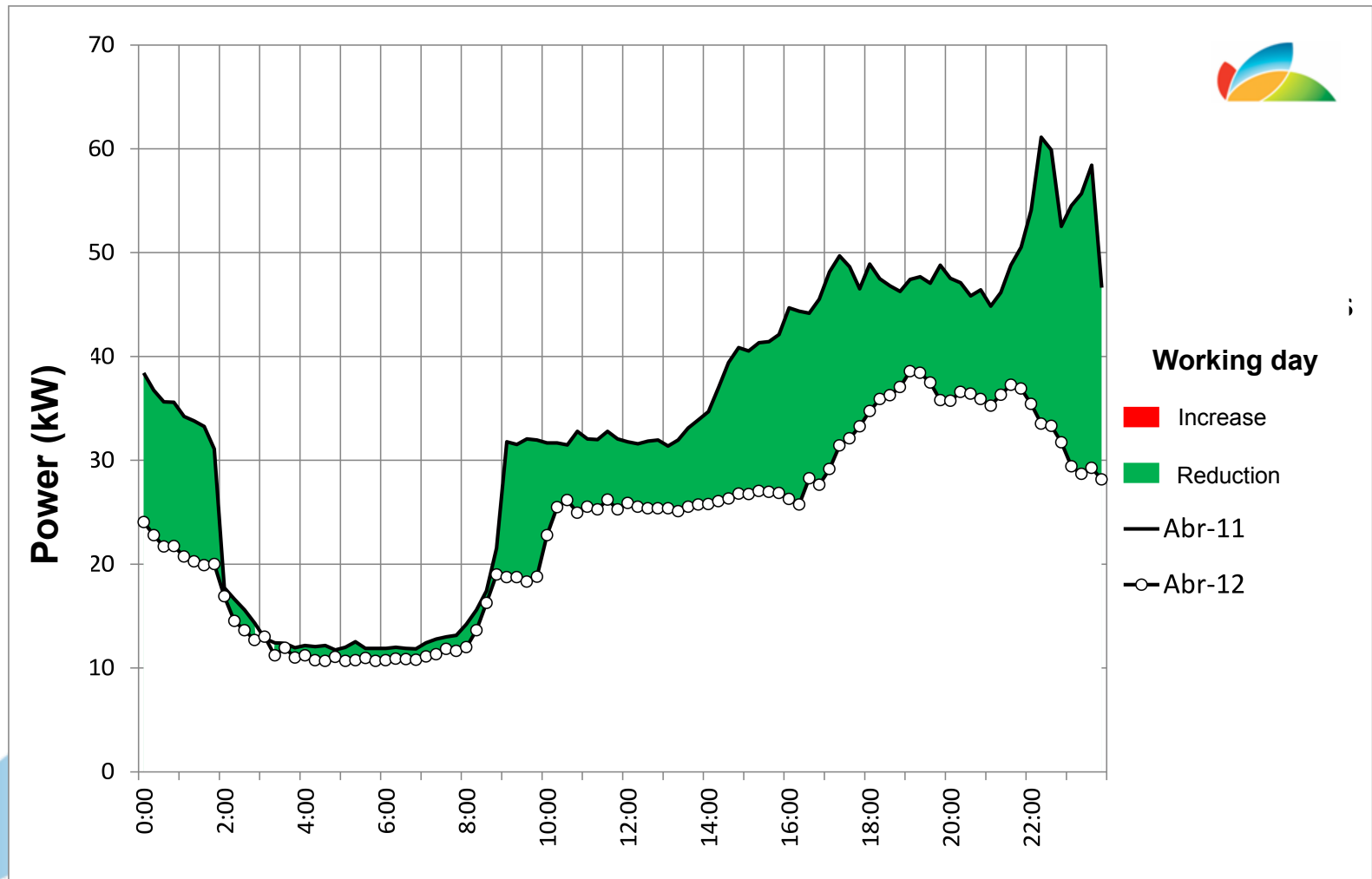
no investment (uses the distributor smart meter)

new methodology

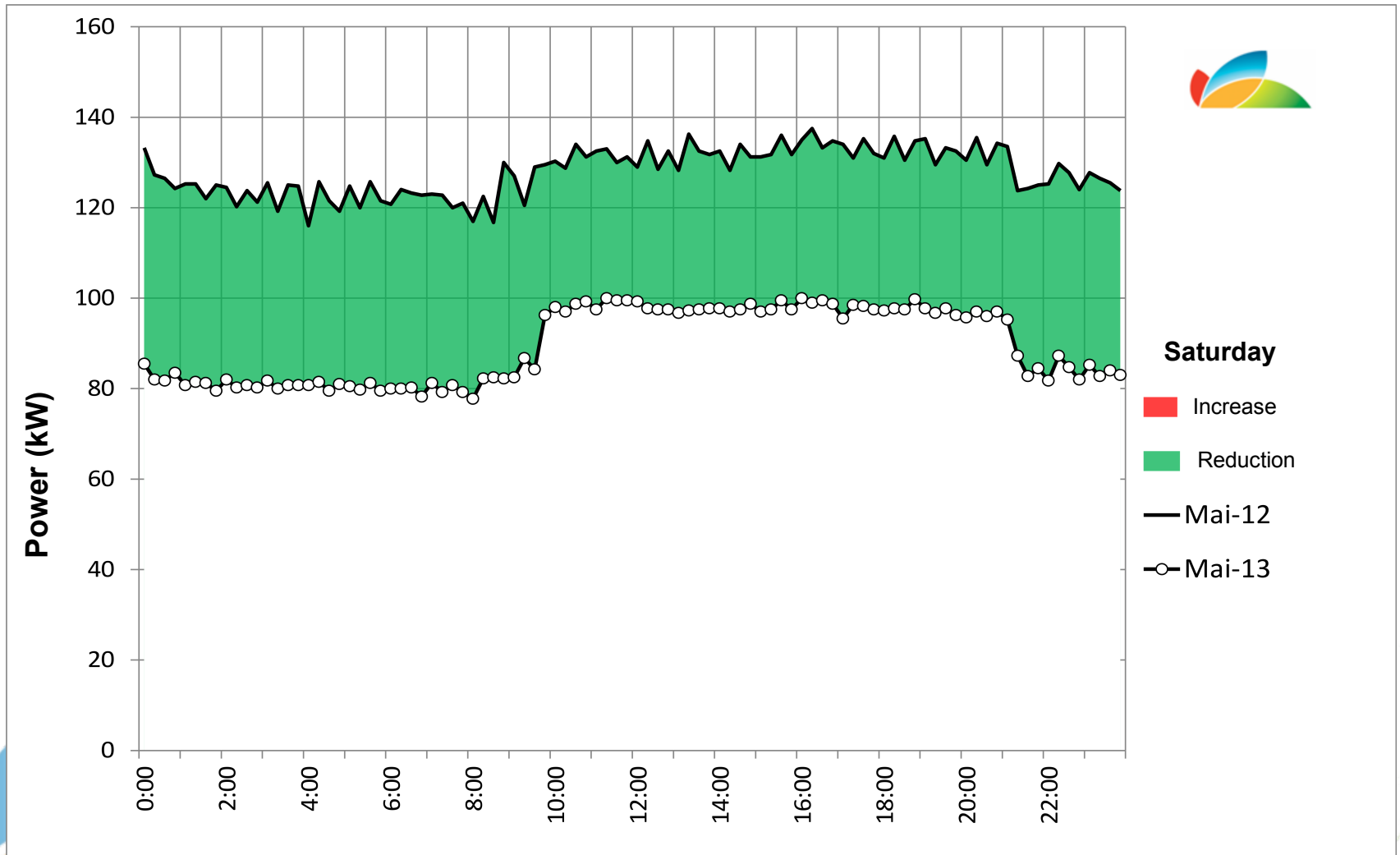
good results (1,4 GWh/y in 6 municipal buildings)



CASE STUDY 1: - 300 000 kWh/year Savings: 28%



CASE STUDY 2: - 150 000 kWh/year Savings: 12%

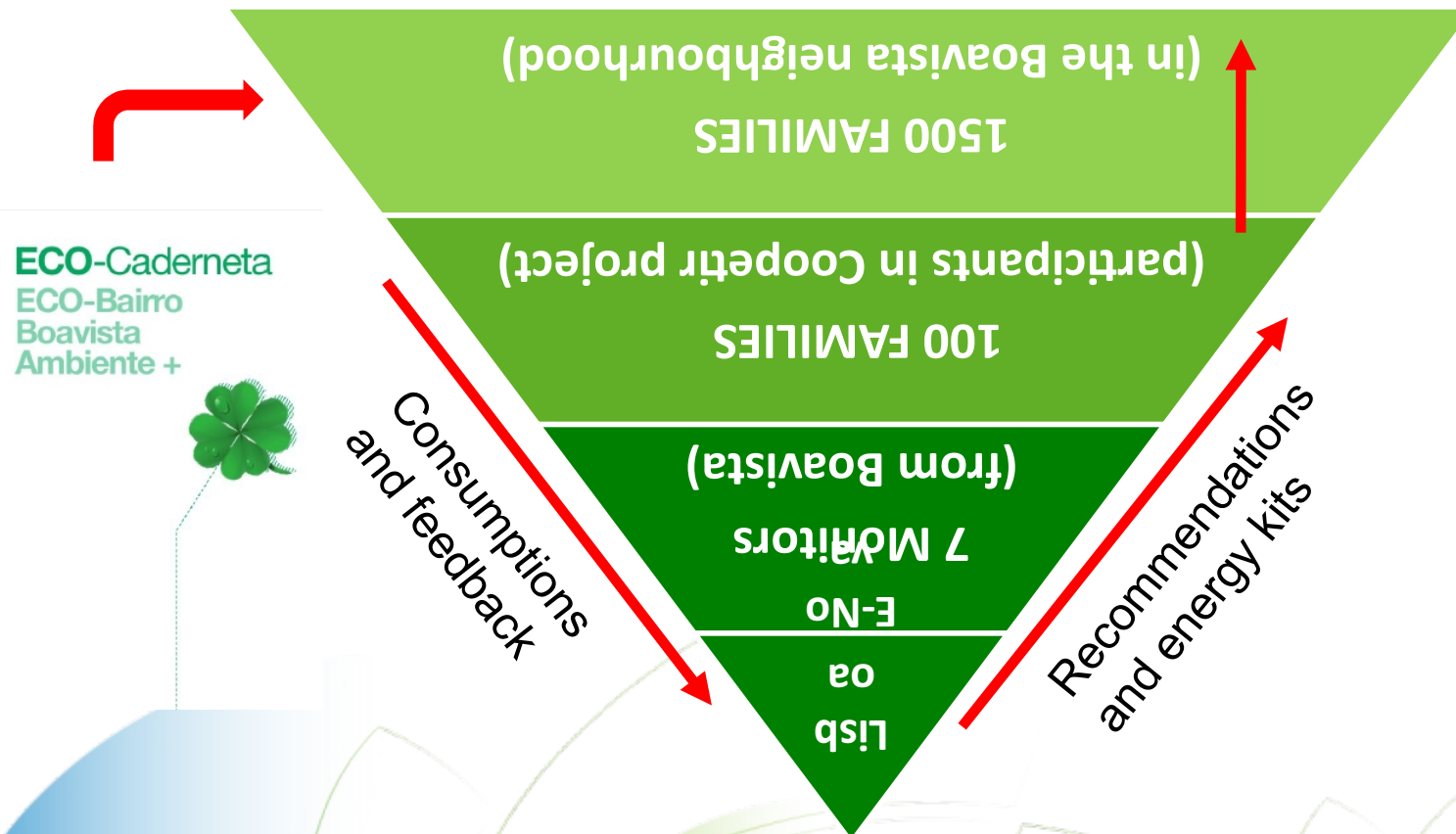


The EMS must be clever, mainly when it controls 90%



COOPETIR PROJECT (social housing energy efficiency)

Methodology



Education & visits



+ Mantenha o controlo da temperatura do frigorífico entre os **3°C/4°C** e do congelador nos **-18°C**

Mantenha os alimentos bem tapados e desligue o arrefecedor antes de os colocar no frigorífico.

Afaste a grelha traseira (condensador), no mínimo cerca de 10cm da parede, e limpe-a pelo menos uma vez por ano.

Quando se ausentar por tempo prolongado (mais de 4 semanas), esvazie o(s) seu(s) equipamento(s) de frio e desligue-os.

Verifique as borrachas de vedação dos equipamentos - coloque uma folha de papel entre a borracha e a porta: se a folha ficar solta, a porta não está a fechar convenientemente e a borracha deverá ser substituída.

Opte pelos frigoríficos e arcaas de classe energética A+, A++ ou A+++ pois proporcionam uma poupança do custo de 20%, 40% a 60%, em comparação com os de classe A. Mas não basta que estes sejam eficientes, é essencial que tenham o tamanho e desempenho adaptados às suas necessidades.

A+++	20%
A++	40%
A+	60%

Docs & gifts



ECO-Bairro Boavista Ambiente +
ECO-Cademeta

Como pode poupar e contribuir para um ambiente melhor?

No final de Julho, um grupo de monitores residentes no Bairro da Boavista, irá visitá-lo em sua casa para lhe oferecer uma publicação (Eco-Cademeta), onde poderá encontrar pistas para poupar água e energia, melhorando o ambiente do Bairro e da Cidade de Lisboa.

Coopetir

Vai ser convidado a inscrever-se numa desafiante competição de poupança dos seus consumos domésticos de Electricidade, Gás Natural e Água - Programa COOPETIR.

Inscriva-se, poupe, contribua para um ambiente melhor e seja premiado por isso.

Contamos consigo!

Para mais informações dirija-se à ARMABB



THANK YOU!



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