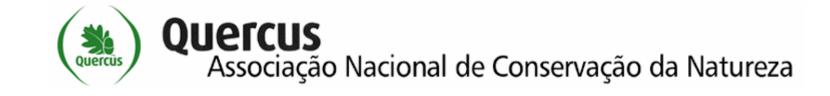


# Ecofamilies: Evaluating and promoting energy savings

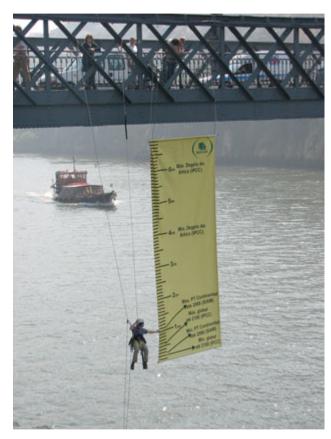
Francisco Ferreira, Ana Rita Antunes, Ana Filipa Alves, Sara Ramos



### Quercus

Portuguese Environmental NGO (The largest and most active in Portugal...)

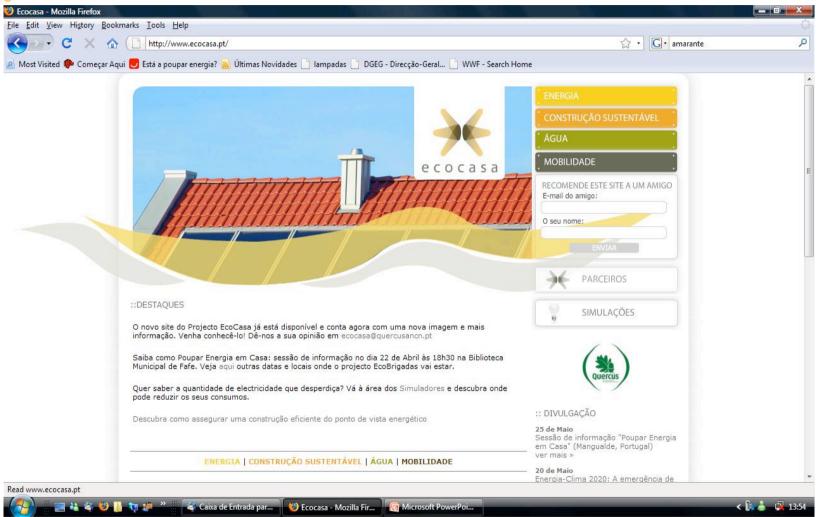
- Quercus intervention includes:
  - Energy, climate change;
  - Nature conservation;
  - Forest and agriculture issues;
  - Genetically modified organisms;
  - Waste management;
  - Air quality, transports and mobility;
  - Urban problems (land-use planning);
  - Water quality and management.







#### www.ecocasa.pt







#### **Ecocasa project**

- 2004
- website
- Email and telephone
- Schools
- Workshops

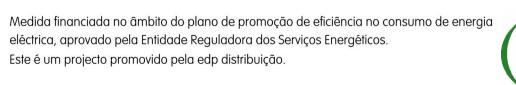




#### **EcoFamilies Project**

- 2007
- 225 Families in Portugal
- Volunteers families
- Onsite measurement
- National geographic distribution







### **Geographical Distribution achieved**







#### Goals

- Characterization of the energy consumption habits of Portuguese families;
- Promote energy efficiency consumption in the domestic sector, through personalized and direct advice
- Change behaviour





#### **Consumption Reduction**

Energy saving potential was calculated based in consumption of:

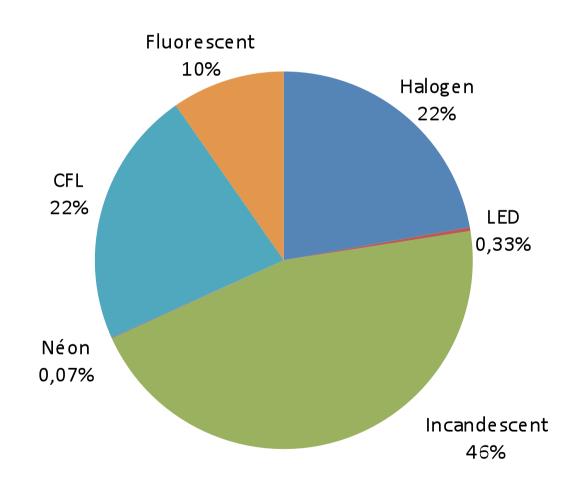
- standby and off-mode
- lighting
- refrigeration equipment
- washing machines and dishwasher







#### **Bulbs used in households**

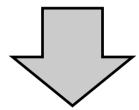






#### **Lighting - Savings**

- Replacing the bulbs with more efficient alternatives;
- Power of the bulb; Time of consumption;
- Pay-back period of 5-years maximum



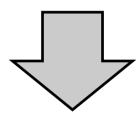
- Saving potential of 107 kWh/year per family
- 3.2% of total electricity consumption





#### **Appliance replacement**

- Refrigeration equipment
- Washing machines and dishwashers
- Replacement more energy efficency model
- Pay-back period of 6-years maximum



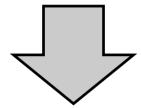
- Only refrigeration appliances reasonable to change
- Saving potential of 64 kWh/year per family
- 1.9% of total electricity consumption





#### **Standby and Off-mode**

- Entertainment and computing equipment
- Highest saving potencial category

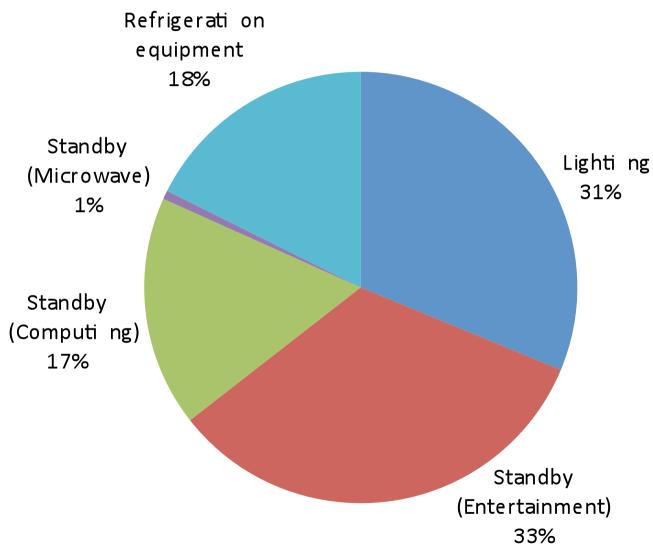


- Saving potential of 176 kWh/year per family
- 5.3% of total electricity consumption





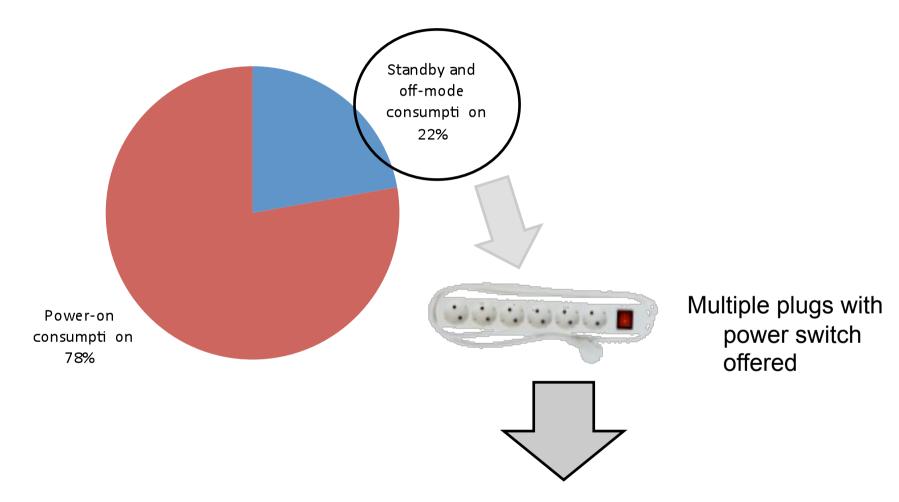
## Contribution of the different areas







#### **Standby and Off-mode**



80% standby and off-mode reduction measured





#### **Global results**

		Standby and Off -mode	Lighti ng	Refrigerati on equipments	T ot al
Total	kWh/year	36283	22140	13212	<b>7</b> 1634
	€/year	4103	2504	1494	8101
	kgC02/year	17452	10649	6355	34456
Perfamily	kWh/year	<b>17</b> 6	107	64	348
	€/year	20	12	7	39
	kgC02/year	85	52	31	167
% of saving from consumption		5,3%	3,2%	1,9%	10,4%





#### Conclusions

- 10.4% potential energy saving
- Saving potential in domestic sector is very significant
- Habits are shifting more efficient energy consumption
- Education for better consumption is essential to maximise the potential saving





# Thank you

www.ecocasa.pt ritaantunes@quercusancn.pt

