

Portugal Efficiency 2015

Council of Ministers Resolution No. 80/2008

Seminar on Energy Efficiency in Europe on 20 November 2008

MINISTÉRIO DA ECONOMIA
E DA INOVAÇÃO



Coordination :



Support

:

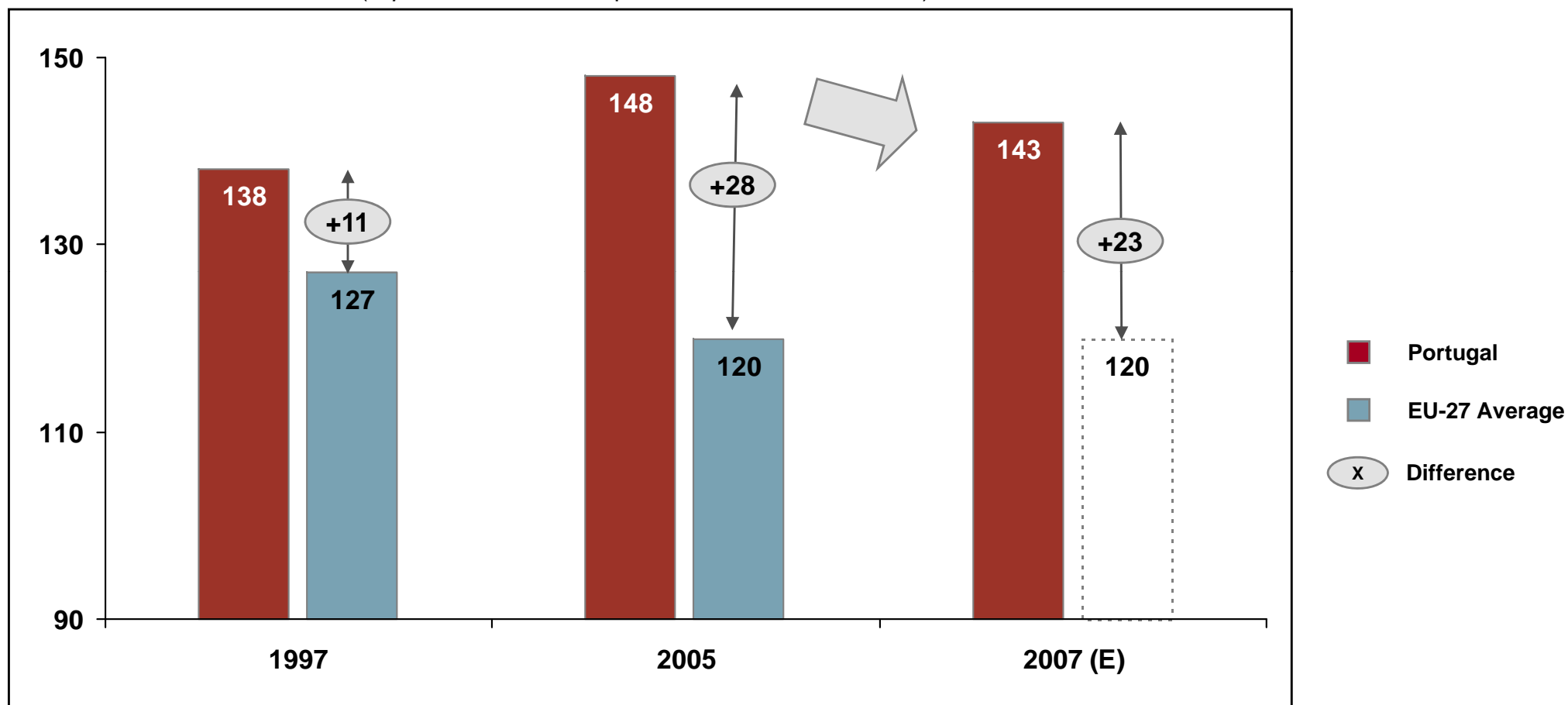


Strong reversal in energy intensity in the last 2 years

However, national energy intensity remains significantly above the European average

Energy Intensity in Portugal and European average Final energy / GDP

(Equivalent Oil Tonnes per million euros of the GDP)

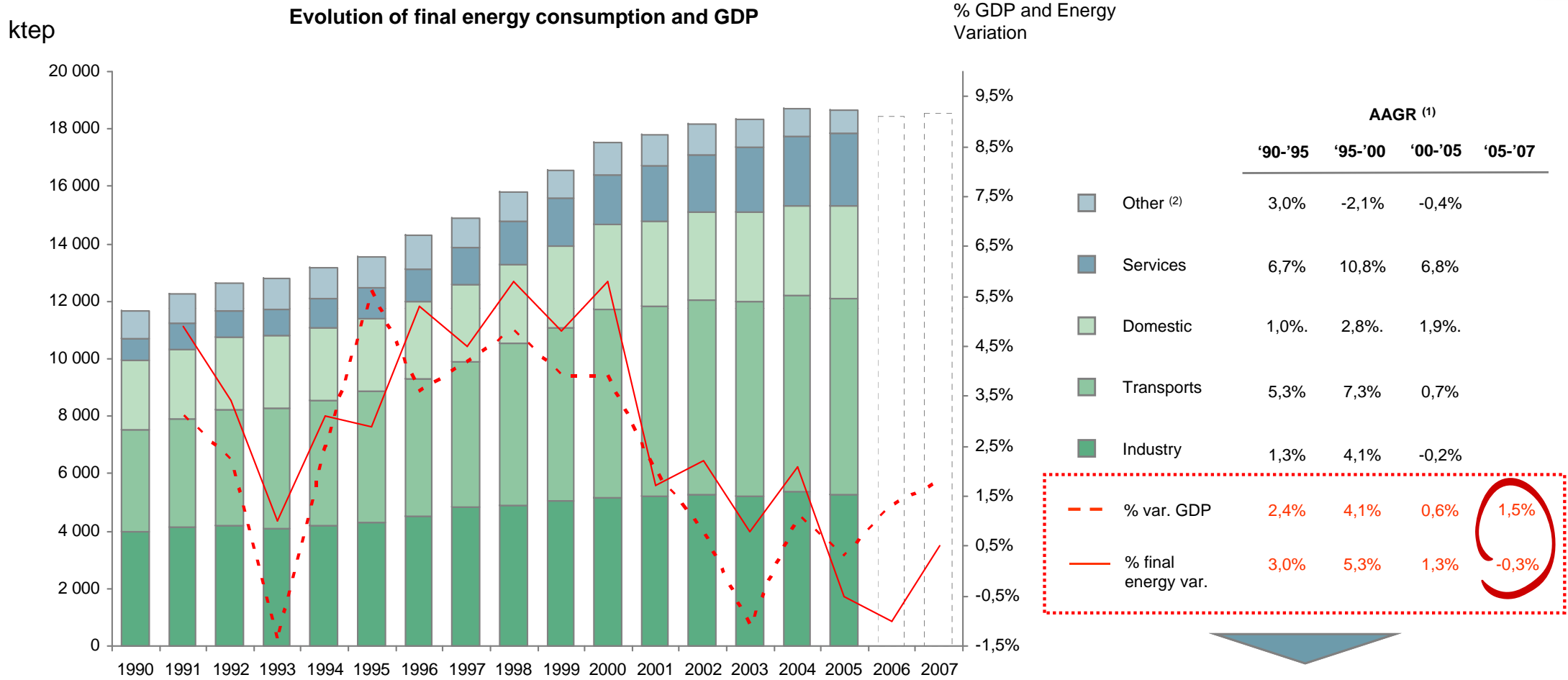


NOTE: GDP at constant 2000 prices

Source: Eurostat; Energy Balances (DGEG); Analysis ADENE/DGEG

In the last five years, Portugal managed to significantly decelerate energy consumption

Having reversed the relationship between economic and energy growth in the last two years



1. AAGR = Average Annual Growth Rate
 2. Agriculture and Fisheries, Mining Industry, Construction and Public Works
 Note: excludes consumption of non-energy oil
 Source: Energy Balances (DGGE);INE; Analysis ADENE/DGEG

- The observed slowdown in energy consumption cannot be dissociated from the present context of economic slowdown
- Despite this context, the Service sector maintains high growth rates

Portugal Efficiency 2015 Programmes (I/II)

Main measures and objectives

Transports

1 Vehicle Renewal Programme

2 Urban Mobility Programme

3 Energy Efficiency System in Transports

- 20% reduction in light goods vehicles with over 10 years
- Over 20% reduction in average CO₂ emissions for new vehicles sold annually (143g/km in 2005 to 110g/km) .
- 20% of vehicles with monitoring equipment (on-board computer, GPS, *cruise control* or automatic tyre checking) .
- Creation of an innovative traffic management platform with GPS-optimised routes
- Creation of urban mobility plans for district capitals and corporate centres with over 500 workers
- Modal transfer of 5% of individual transport to collective transport.
- 20% of the international goods trade transferred from road transport to maritime transport.

Residential and Services

4 Home & Office Renewal Programme

5 Energy Efficiency System in Buildings

6 Renewable at the Time and Solar Programme

- Incentives programme for sustainable urban rehabilitation, with the objective of achieving 1 in 15 homes with optimised energy class (equal or higher than B-) .
- Programme to renew 1 million large electrical appliances
- Replacement of 5 million lamps with CFL
- 75 thousand electricity-producing homes (165MW of installed power).
- 1 in 15 buildings with Solar Hot Water.

Industry

7 Energy Efficiency System in Industry

- Agreement with the transforming industry aimed at 8% reduction in energy consumption.
- Creation of the *Intensive Energy Consumption Management System* extended to medium-size companies (> 500 tep) and incentives for implementing identified measures

Portugal Efficiency 2015 Programmes (II/II)

Main measures and objectives

State

8

E3 Programme: Energy Efficiency in the State

- Energy certification for all State buildings
- 20% of State buildings of class B or higher
- 20% of State vehicles with CO₂ emissions lower than 110 g/km
- *Phase-out* of inefficient street lighting
- 20% of traffic lights with efficient lighting (*LED*)

Behaviours

9

Plus Programme

10

Operation E

- Launch of the “Efficiency Plus Bonus” to reward excellence on several levels (ex., companies, buildings, schools, amongst others).
- “Energy *Efficiency Plus*” concept: “stamp”/accreditation in order to identify good practices, on five levels: Homes, Councils, Companies, Schools and Equipment.
- Increased awareness of energy efficiency and changes in behaviour through communication and awareness campaigns (up to 2 million euros/year)

Taxes

11

Green Taxes

- New vehicle tax regime and taxing of industrial fuels
- Fast depreciation regime for efficient equipment and vehicles
- Fiscal incentives to micro-production and progressive alignment of taxes with the Energy Certification System for Buildings (ex., IRS benefits for class A/A+ homes)

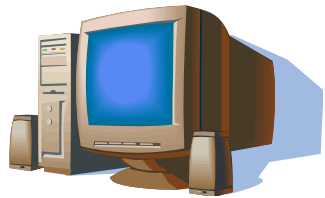
Incentives and financing

12

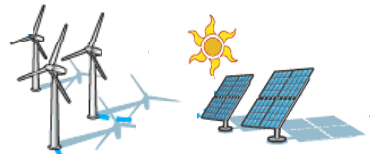
Energy Efficiency Fund

- Incentives to efficient electricity consumption - incentives for clients with large consumption through bonuses given to clients with lower consumption and the Energy Efficiency Fund
- Efficiency cheque: Bonus equivalent to 10% or 20% of electricity costs for 2 years in case of observed 10% or 20% reduction in electricity consumption
- Low-interest credit: €250M/year for investments in efficiency (focus on urban rehabilitation)
- Promotion of Energy Service Companies through incentives to their creation (QREN), tenders for State audits and “Efficiency Contract” regulations

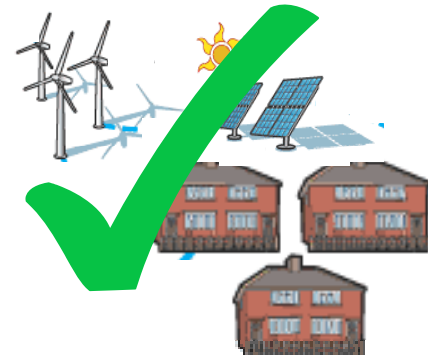
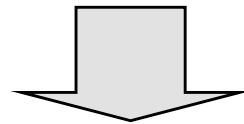
Through simple online registration, individuals may initiate building of *themicro*production unit “at the time”



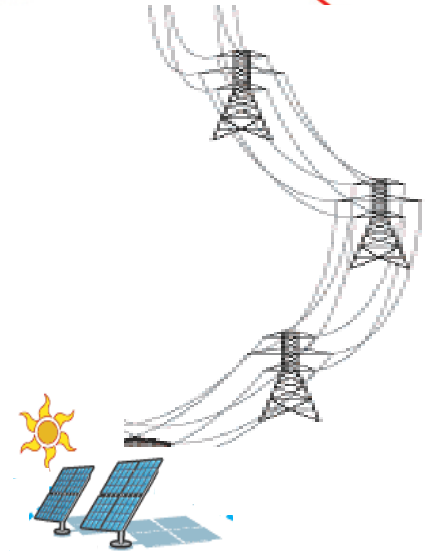
Online registration



Contracting of installation



Inspector issues
Exploitation
Certificate



Sales to the network start

Microproduction Registration System (MRS)

Identification of electricity customer no.
Power and technology to install
Up to 50% of power consumed and 3.68 kW

Installation of:
Micro-photovoltaic or
Micro-Aeolian or
Micro-hydraulic or
Biomass cogeneration or
Hydrogen cells
+
Solar thermal collector
(except estates and micro-cogeneration)

Requests inspection within a maximum of 4 months after registration

MRS issues exploitation certificate

Signs contract with provider and starts selling electricity to the network

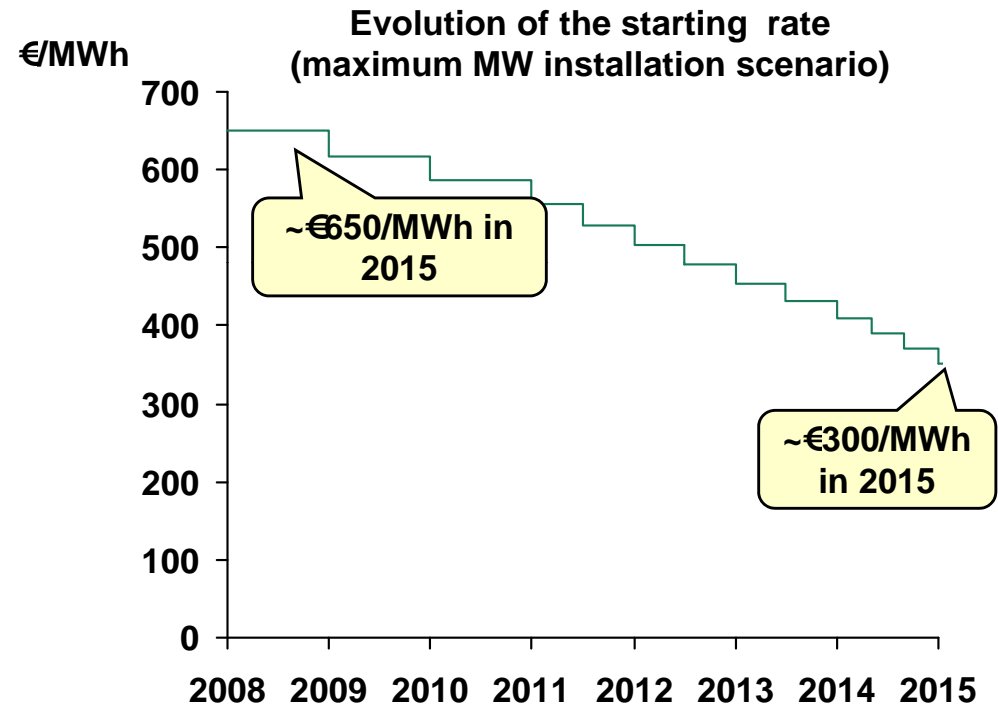
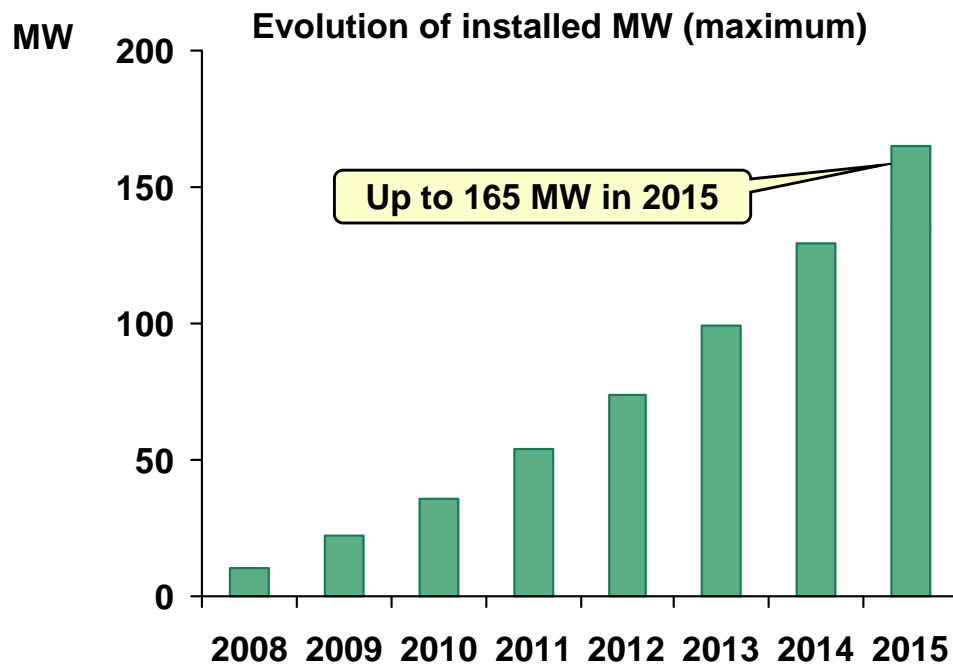
- Possibility of contracting 75% of revenues directly with the bank for investment financing

The foreseen remuneration model stimulates the market and the efficiency of micro-production technologies



Up to 165 MW installed in 2015

Decreasing rates (-5% every 10MW)



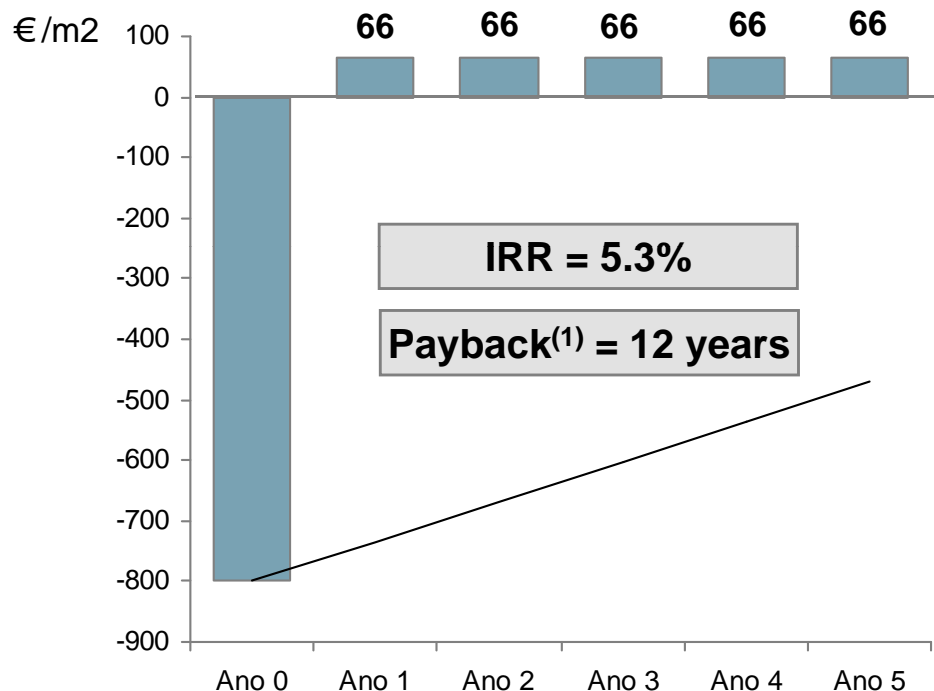
The maximum power that may be installed annually increases by 20% every year

The applicable rate in the year of installation is guaranteed during the first 5 years. Applicable rates for each year will apply in the following years.

Support to private investment and increased sector competitiveness are fundamental factors

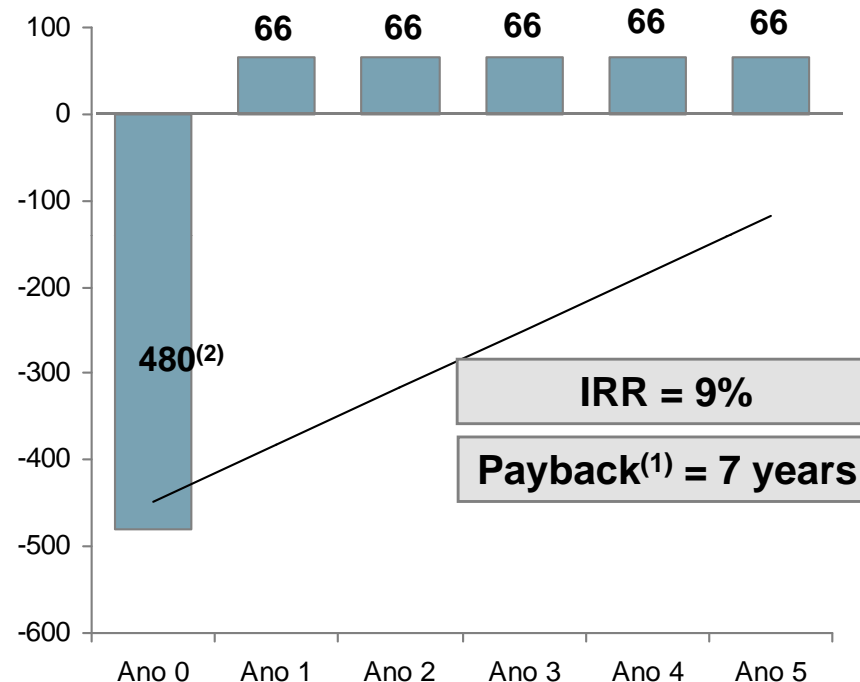


Current Solar Thermal economic proposal for single-family home installations⁽³⁾



Economic proposal (after 20% competitive price reduction and 30% tax benefit)

Investment and Savings (€/m2)



(1) Simple payback = initial investment / annual savings

(2) Investment of 480 = 800 x (1 - 0.20) x (1 - 0.30)

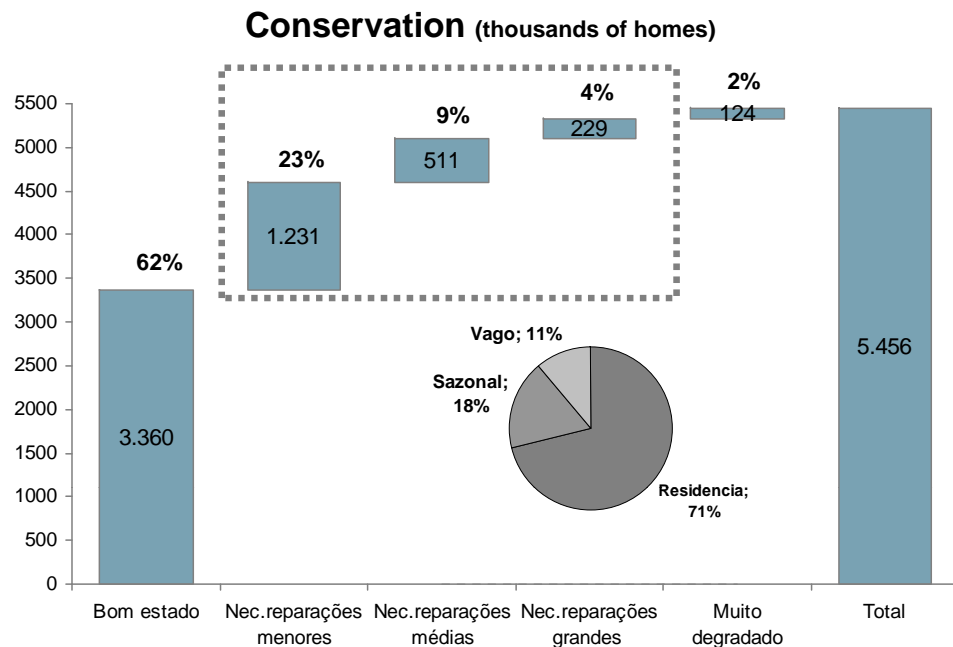
(3) An investment of €800/m2 constitutes a conservative scenario

Note: generation of 600 kWh per m2, valued at €0.11/kWh, is considered

Source: Analysis ADENE/DGEG/MEI

Urban rehabilitation promotion potential

Residential estate including 5.5 million homes, of which less than 2/3 are in good conservation state



- 62% of homes in good conservation state
- 1.2 million needing small repairs
- Nearly 800 thousand needing medium or large repairs
- Seasonal homes represent nearly 1/5 of the total

• Efficient *Window Measure*

- Incentives for replacement of inefficient glass surfaces
- Involving rehabilitation of approximately 200 thousand homes by 2015



• Thermal *Insulation Measure*

- Incentives for thermal insulation
- 100 thousand rehabilitated homes by 2015



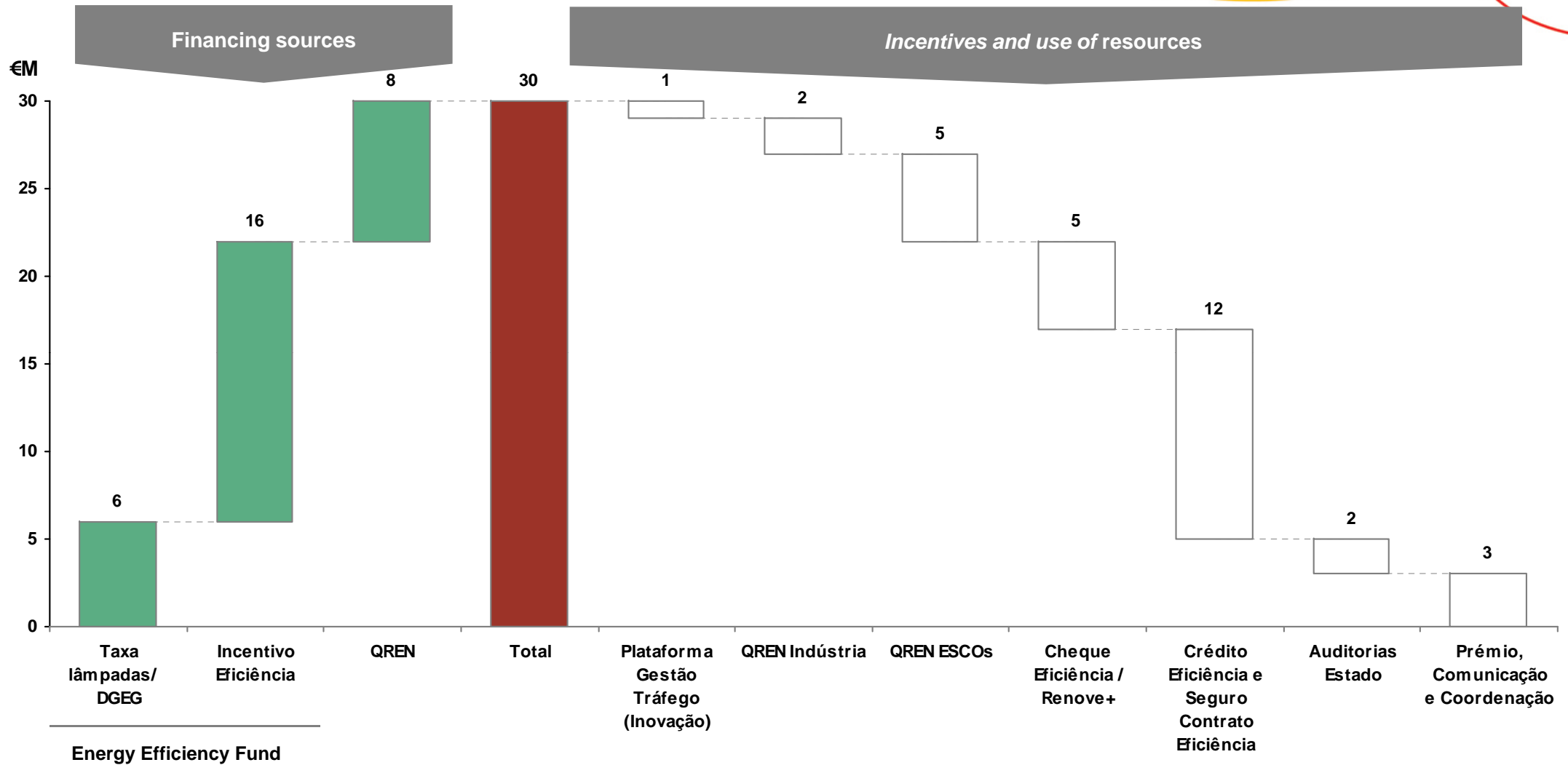
•Green *Heat Measure*

- Installation programme for 200 thousand efficient ambient heating systems
 - biomass heat exchangers
 - heat pumps with COP equal or greater than 4



Approximately €30M of additional annual investment

With a financing and applications plan defined from the start



Note: does not include tax incentives

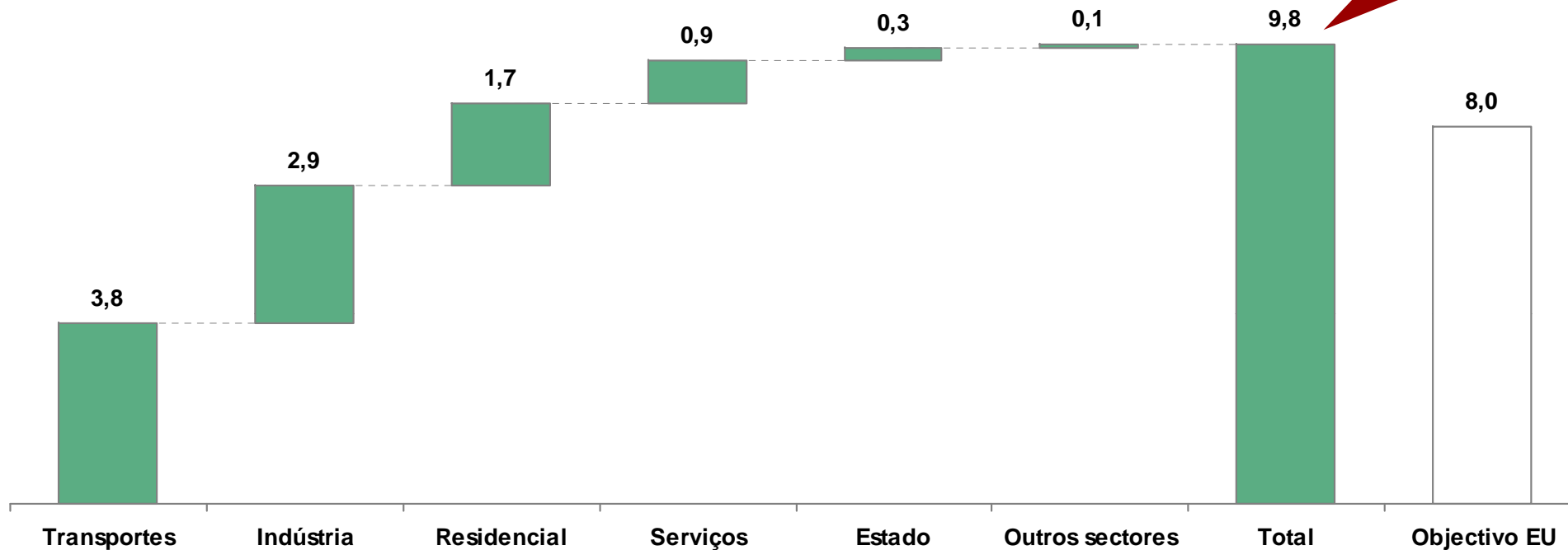
Source: Analysis ADENE/DGEG

10% savings target by 2015

20% higher than the target set in European Guideline 2006/32/EC for 2015

Impact of EE measures on energy consumption in 2015
(% savings vs. '01-'05 average)

National Objective 20% higher than the European objective



	Transportes	Indústria	Residencial	Serviços	Estado	Outros sectores	Total
Savings (ktep)	706	536	318	166	49	16,3	1.792
% sector consumption ('01-'05)	10,3%	10,1% ⁽¹⁾	10,4%	8,9%	12,3%	1,8%	
Electricity savings (GWh)							4.777
% reduction in electricity consumption in 2015							7%

(1) Including consumption for companies within the scope of the PNALE and retroactive RGCE measures

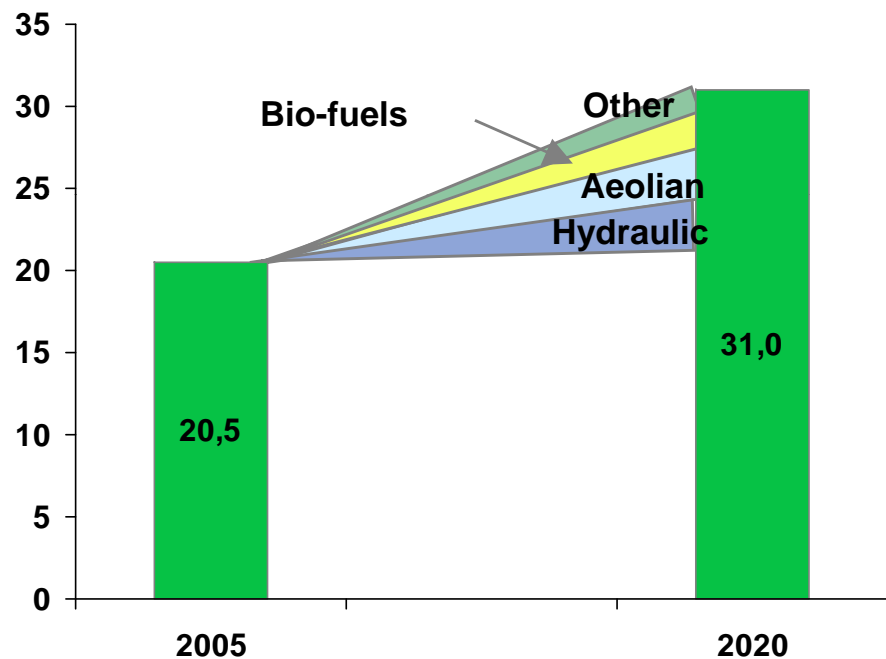
Source: Energy Balances DGEG 2001-05; Analysis ADENE/DGEG

Strong bet on renewable energies and energy efficiency

The Plan reduces the increase in the energy invoice in ~1%/year

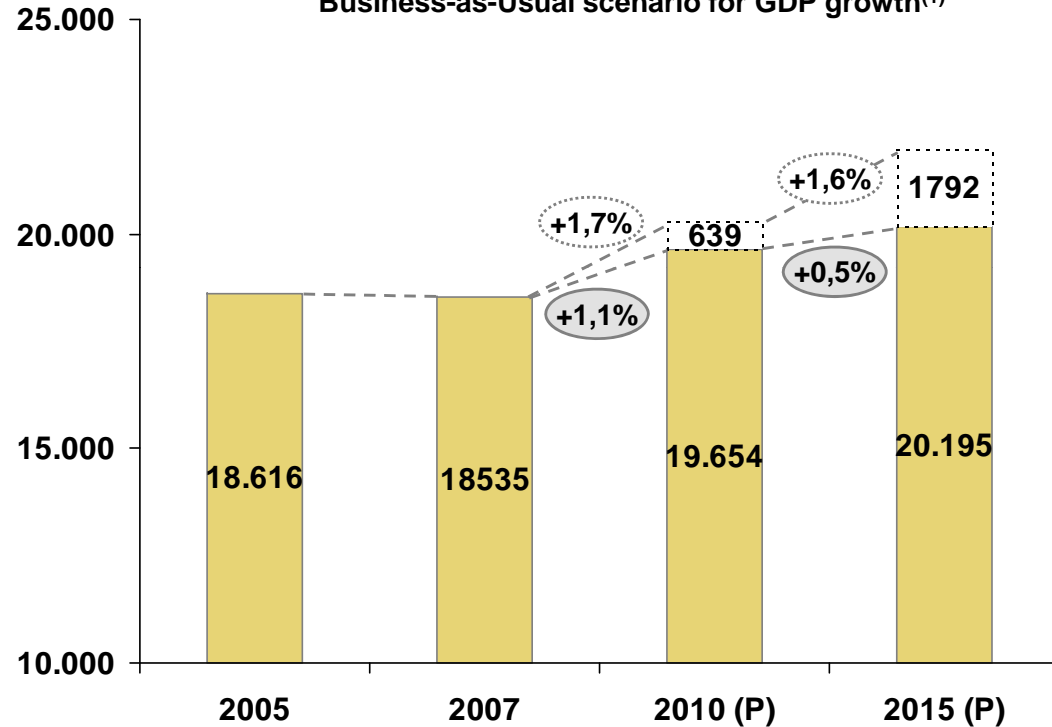
31% target for renewable energies in final energy in 2020

Weight of renewable energies in final energy (%)



Implementation of the Plan allows a reduction of ~1% in energy invoice increase

Forecasted evolution of final energy consumption in Business-as-Usual scenario for GDP growth⁽¹⁾



Reduction in final energy consumption is also an important leveraging factor for increasing the weight of renewable energies

(1) Medium scenario between high and low GDP growth scenarios
Source: Energy Balances (DGEG); CEEETA; Analysis ADENE/DGEG