

Directorate-General for Energy and Geology

Second annual report on the progress made in achieving the national energy efficiency targets for 2020, in accordance with Directive 2012/27/EU

In accordance with Article 24(1) and Part 1 of Annex XIV of Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, Portugal hereby submits its second annual report on the progress made in achieving the national energy efficiency targets.

1 – Indicators for 2012

2012 data				
Indicator	Unit	Value	Source	Notes
Primary energy consumption	ktoe	20 197	DGEG	Does not include non-energy uses
Total final energy consumption	ktoe	15 591	DGEG	-
Final energy consumption by sector	-	-	-	-
• Industry	ktoe	5 061	DGEG	-
• Transport	ktoe	5 568	DGEG	-
• Households	ktoe	2 657	DGEG	-
• Services	ktoe	1 868	DGEG	-
Gross added value by sector	-	-	-	-
• Industry	10 ³ €2006	26 527	NSI	Quarterly national accounts (base 2006) – GDP at market prices, production approach – GVA by sector of activity, A8 – volume chain-linked series (reference year = 2006)
• Services	10 ³ €2006	103 310	NSI	
Disposable income of households	10 ⁶ €	122 851	NSI	-
Gross domestic product (GDP)	10 ⁶ €2006	155 717	NSI	Quarterly national accounts (base 2006) – volume chain-linked series (reference year = 2006)
Electricity generation from thermal power generation	GWh	29 155	DGEG	-
Electricity generation from combined heat and power	MWh	7 573	DGEG	-
Heat generation from thermal power generation	TJ	0	DGEG	-
Heat generation from combined heat and power plants, including industrial waste heat	TJ	21 419	DGEG	Only includes heat sold to third parties. Heat generated and used by the same firm is not counted.
Fuel consumption for thermal	ktoe	4 592	DGEG	-

power generation				
Fuel consumption for combined heat and power generation	ktoe	2710	DGEG	-
Lost in transmission and distribution	GWh	4 708	DGEG	-
Number of passenger kilometres (pkm), if available	10 ⁶ pkm	9 885	NSI	2012 transport statistics. Rail and road passenger transport.
Number of tonne kilometres (tkm), if available	10 ⁶ tkm	32 188	NSI	2012 transport statistics. Rail and road goods transport.
Number of transport kilometres (pkm + tkm), if (xii) and (xiii) do not apply	pkm	-	-	-
Population	10 ⁶ inhabitants	10 487	INE	-

2 – Main legislative and non-legislative measures implemented in 2013

2.1 – National Energy Efficiency Action Plan – PNAEE 2016

Council of Ministers Resolution No 20/2013 of 10 April 2013 adopted and published the 2013-2016 National Energy Efficiency Action Plan (Energy Efficiency Strategy – PNAEE 2016) and the 2013-2020 National Renewable Energy Action Plan (Renewable Energy Strategy – PNAER 2020).

With a view to meeting the new targets laid down in Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, an analysis was first conducted of the potential impact and economic feasibility of the PNAEE adopted by Council of Ministers Resolution No 80/2008 of 20 May 2008 (PNAEE 2008), for achieving the general target of a 25% reduction and the specific national target of a 30% reduction in primary energy consumption by 2020.

The PNAEE and PNAER were revised in tandem with each other as integration of the two plans makes it easier to match energy supply with demand, and more effectively to ensure compliance with national and EU targets, minimising the investment needed and making the country more competitive. The basic aim of the revision was to align the respective targets regarding primary energy consumption and secure the energy sector's contribution to reducing greenhouse gas emissions.

The main aim of the PNAEE 2016 was to identify new measures and actions, reformulating the 2016 target in coordination with the PNAER 2020, addressing concerns about reducing primary energy consumption by 2020 under Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, on the basis of three action lines:

- (i) Action to reduce the overall cost of the national energy efficiency programme by adapting measures to current economic and financial conditions
- (ii) Monitoring, by revising the methods for monitoring results to meet EU guidelines and establishing a macro picture of the impact of the national energy efficiency programme; and
- (iii) Governance, by redefining the PNAEE governance model.

PNAEE 2016 areas and programmes

PNAEE 2016 covers six specific areas: transport, residential and services, industry, State, behaviour and agriculture.

The **transport** area includes the following programmes for improving energy efficiency:

- (a) *Eco Carro*, which covers measures designed to improve the energy efficiency of vehicles;
- (b) *Urban mobility*, with measures addressing the need to encourage the use of public transport and "soft" transport modes rather than the private car, with special focus on urban areas;
- (c) *Energy-efficient transport system*, which covers measures to boost the use of passenger rail transport, and the energy management of transport fleets.

The **residential and services** area includes the following programmes for improving energy efficiency:

- (a) *Home and office renovation*, which includes a set of measures for improving the energy efficiency of lighting, electrical appliances and refurbishments;
- (b) *Energy-efficient building system*, which covers measures deriving from the building energy-certification process;
- (c) *Integration of renewable thermal/solar thermal energy sources*, covering measures to promote greater incorporation of renewables in buildings and facilities for residential or service use.

The **industry** area includes an "*industry-efficient system*" programme which includes revision of the SGCIE (Intensive Energy Consumption Management System), with a continuing emphasis on crosscutting measures in the industry sector and other sectoral measures to make industrial processes more efficient.

The **State** area includes a programme for an "*energy-efficient State*", involving a set of measures for energy certification of State buildings, energy efficiency action plans, as part of the energy-efficient public administration programme (ECO.AP), State transport fleets and public lighting.

The **agriculture** area includes an "*energy-efficient agriculture sector*" programme, designed to bring together and boost action undertaken in this sector with a view to reducing energy consumption.

The **behaviour** area includes measures to promote energy-efficient habits and attitudes among consumers, for example by recommending efficient products, through public awareness and information campaigns.

2.2 – Energy certification system for buildings (SCE)

Decree-Law No 118/2013 of 20 August 2013 (amended by amending declaration 41/2013 of 17 October 2013) transposed into national law Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings, revising the national legislation on SCE in force since 2006. The text includes the Regulation on the energy performance of residential buildings (REH) and the Regulation on the energy performance of commercial and service buildings (RECS).

The aims of the SCE include: ensuring the application of the regulatory provisions and requirements laid down in the REH and RECS for energy efficiency and the use of renewables; certifying the energy performance of buildings; identifying corrective measures or improvements for the energy performance of buildings and the main types of technical building systems, while also setting minimum energy efficiency standards for air conditioning, hot water supply, lighting and the use of renewables in energy management.

The regulation on the energy performance of residential buildings (REH) lays down requirements for residential buildings, whether new or under renovation, and parameters and methods for ascertaining the energy performance, under standard conditions, of all residential buildings and their technical systems, with a view to promoting improved thermal performance, more efficient technical systems, and minimised risk of surface condensation in the elements which make up the building envelope.

The regulation on the energy performance of commercial and service buildings (RECS) lays down the conditions to be met in the design, construction, modification, operation and maintenance of commercial and service buildings and their technical systems, and the requirements for ascertaining their performance, with a view to promoting energy efficiency and indoor air quality.

The following additional legislation was published in the wake of Decree-Law No 118/2013:

- Law 58/2013 of 20 August 2013, adopting the requirements for access to and exercise of the activity of accredited energy-certification expert (PQ) and of building and systems installation and maintenance technician (TIM).
- Ordinance 249-A/2013 of 29 November 2013. This defines the competences of the SCE management body, regulates the activities of SCE technicians, establishes building categories for energy certification purposes, and types of pre-certified and certified SCE and responsibility for

issuing them. It also sets the rates for SCE registration and criteria for verifying the quality of SCE certification processes, and lays down the elements to be included in the report and in the marking in the PQ's individual register.

- Ordinance 249-B/2013 of 29 November 2013. This defines the methodology for determining energy performance class by type of pre-certified and certified SCE, as well as the technical behaviour and efficiency requirements for the technical systems of new buildings and buildings undergoing major renovation.
- Ordinance 249-C/2013 of 2 December 2013. This lays down the elements that must be included in procedures for licencing or prior notification of building work, and authorisation of use.
- Ordinance 249-D/2013 of 2 December 2013. This lays down design requirements for the thermal quality of the building envelope and the efficiency of the technical systems of new buildings, buildings undergoing major renovation, and existing buildings.
- Order 15793-C/2013 of 3 December 2013, publishing models for the various types of pre-certified and certified SCE to be issued for new buildings, those undergoing major renovation and existing ones.
- Order 15793-D/2013 of 3 December 2013, publishing conversion factors for useful energy and primary energy, to be used when determining standard annual primary energy needs.
- Order 15793-E/2013 of 3 December 2013, publishing simplified rules to be used in buildings undergoing major renovation and existing buildings in cases where it is impossible or difficult to obtain more accurate information.
- Order 15793-F/2013 of 3 December 2013, publishing parameters for climate zoning and data related thereto.
- Order 15793-G/2013 of 3 December 2013, publishing the minimum elements to be included in the testing and reception procedure for installations and the minimum elements to be included in the maintenance plan, together with related terminology.
- Order 15793-H/2013 of 3 December 2013, publishing the rules for calculating the contribution of energy produced using renewable energy systems, according to system type.
- Order 15793-I/2013 of 3 December 2013, publishing the methods for calculating annual standard effective energy needs for ambient heating and cooling, standard effective energy needs for the production of domestic hot water and overall annual standard primary energy needs.
- Order 15793-J/2013 of 3 December 2013, publishing rules for determining energy class.

- Order 15793-K/2013 of 3 December 2013, publishing thermal parameters.
- Order 15793-L/2013 of 3 December 2013, publishing the method for ascertaining the economic viability of using or adopting a given energy efficiency measure envisaged in an energy rationalisation plan.
- Ordinance 353-A/2013 of 4 December 2013. This lays down minimum values for new air flow by area, together with protection thresholds and reference conditions for indoor air pollutants in commercial and service buildings (new, undergoing major renovation or existing), with the corresponding assessment methodology.

2.3 – Plan for promoting efficient energy consumption (PPEC 2013-2014)

The main objective of the Plan for promoting efficient energy consumption (PPEC) is to provide financial support for initiatives that promote energy efficiency and reduce consumption among the various categories of user.

Ordinance 26/2013 of 24 January 2013 lays down rules for assessment procedures and criteria to be used when selecting and ranking candidates in competitions held under the PPEC, establishing a harmonised evaluation which includes objectives in the context of economic regulation by the regulatory body for energy services (ERSE) and in the context of energy policy by the Directorate-General for Energy and Geology (DGEG).

For the 2013-2014 PPEC, 207 measures submitted by 65 promoters, for a total value of EUR 58.8 million, were deemed eligible. Competition was therefore keen, and the measures selected were those ranked most highly, in the context of economic regulation using the assessment grid established in the rules governing the plan for promoting efficient consumption (Directive 5/2013 of 22 March 2013), and in the context of energy policy using the assessment grid relating to energy policy objectives and instruments (Order 3317/2013 of 1 March 2013).

The 2013-2014 PPEC approved a total of 70 measures, submitted by 29 promoters.

2.4 – Energy Efficiency Fund - FEE

The Energy Efficiency Fund (FEE) is a financial instrument established under Decree-Law 50/2010 of 20 May 2010 to finance programmes and measures provided for in the National Energy Efficiency Action Plan (PNAEE), encourage energy efficiency on the part of households and businesses, support energy efficiency projects and promote behavioural changes in this field.

By means of specific notices, the fund supports energy efficiency projects in areas such as transport, buildings, service provision, industry and public services that help to reduce final energy consumption in an efficient and optimal manner.

This support is open to individuals or groups, in the public, cooperative or private sector, whether for profit or not, which meet the conditions laid down in Ordinance 26/2011 of 10 January 2011 and are defined as eligible in the specific FEE notices issued.

The following notices were issued in 2013:

■ **Notice 03 – Efficient building**

Operations eligible for funding under this notice come under the "Residential" strand of the measures included in the PNAEE, and cover investment in schemes to improve the energy performance of existing residential buildings by boosting energy efficiency, accompanied by audit and assessment processes on the potential for improving energy performance, to be carried out in the context of energy certification of buildings. Schemes were restricted to thermal solar energy and passive building envelope, with the following two types of option:

- (a) Installation of thermal solar systems to produce hot water;
- (b) Installation of efficient windows, by replacing single-glazed windows.

The notice covered the whole of Portugal, and the incentive was available to individual owners of residential buildings or of independent subdivisions of existing residential buildings. Promoters eligible to carry out the operations are energy service enterprises (ESE) accredited under the accreditation system for energy service enterprises (Regulatory order 15/2012 of 3 July 2012 as provided for in Article 6(2) of Decree-Law No 29/2011 of 28 February 2011), enterprises supplying thermal solar systems and enterprises supplying efficient windows.

Three selection processes were held for this notice, in February, April and July. A total of 1459 applications were received, of which 1350 were accepted (1007 for thermal solar systems and 343 for efficient windows). The total funding approved came to EUR 1 704 366.42.

■ **Notice 04 - SGCIE**

Operations eligible for funding under this notice come under the "Industry" strand of the measures included in the PNAEE. The support is targeted on operators with Rationalisation of Energy Consumption Agreements (ARCE) concluded with the DGEG in the context of the Energy Consumption Management System – SGCIE (Decree-Law No 71/2008 of 15 April 2008).

The incentives granted under Article 12 of Decree-Law No 71/2008 relate to the following categories:

- (a) Category 1 – 50% rebate on the cost of mandatory energy audits for operators whose annual consumption is less than 1000 toe/year;

(b) Category 2 – 25% rebate for investment made in equipment and systems for managing and monitoring energy consumption.

A total of 55 applications were received, 43 of which were approved (eight in category 1; 32 in category 2; and 3 in categories 1 and 2). The total sum granted came to EUR 159 680.13.

■ Notice 05 - CE.State

Operations eligible for funding under this notice correspond with those falling within the "State" strand of the PNAEE, and studies coming under Article 5(2) of Decree-Law No 29/2011 of 28 February 2011, included in the ECO.AP programme.

The funding is available for the conduct of preparatory studies, technical analyses and the creation of tools and methodologies for analyses leading to energy certification and certification of the quality of indoor air in buildings and systems under the ECO.AP programme or, where this is not mandatory, audits which make it possible to identify baseline energy consumption for use in the ECO.AP programme.

The beneficiaries of this funding may be:

(a) Central administration, i.e. services and bodies under direct and indirect State administration, public undertakings, universities, public enterprise bodies, public foundations, public associations, or private associations with a majority public holding;

(b) Local authorities, i.e. local councils and municipalities.

A total of 43 applications were received, 15 of which were considered for their merits. The 10 highest ranking of these were awarded funding, to a total of EUR 238 404.52.

2.5 – Innovation Support Fund - FAI

The Innovation Support Fund (Regulation published in Order 5727/2013 of 2 May 2013) is designed to support innovation, technological development and investment in renewable energy sources and energy efficiency, pursuant to the targets set in the National Renewable Energy Action Plan (PNAER), the National Energy Efficiency Action Plan (PNAEE) and the national energy strategy.

A competition was launched in 2013 for the submission of applications for financial incentives in the form of loans for demonstration projects for energy efficiency management contracts in private buildings (offices, health units and hotels) with a total equivalent energy consumption of between 2 GWh/year and 12 GWh/year. The aim is to demonstrate the operation of energy efficiency management contracts in private buildings that are representative of the national building stock, with significant potential for energy savings; they should also be replicable in the public sector.