

Energy Efficiency targets in Spain: The EE Directive and beyond

***2015 BP Madrid Forum on
Energy & Sustainability***

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IDAIE***

1.- EE Current Situation

A) Energy context

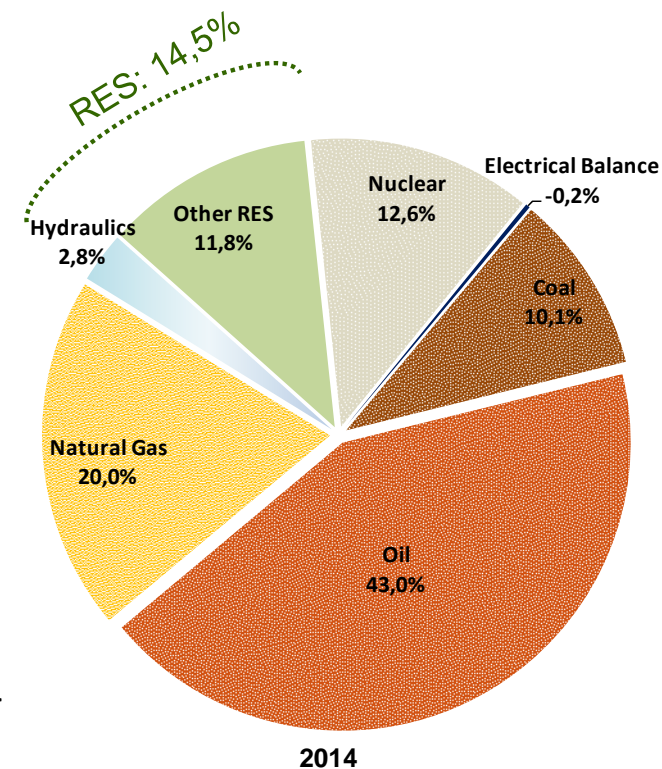
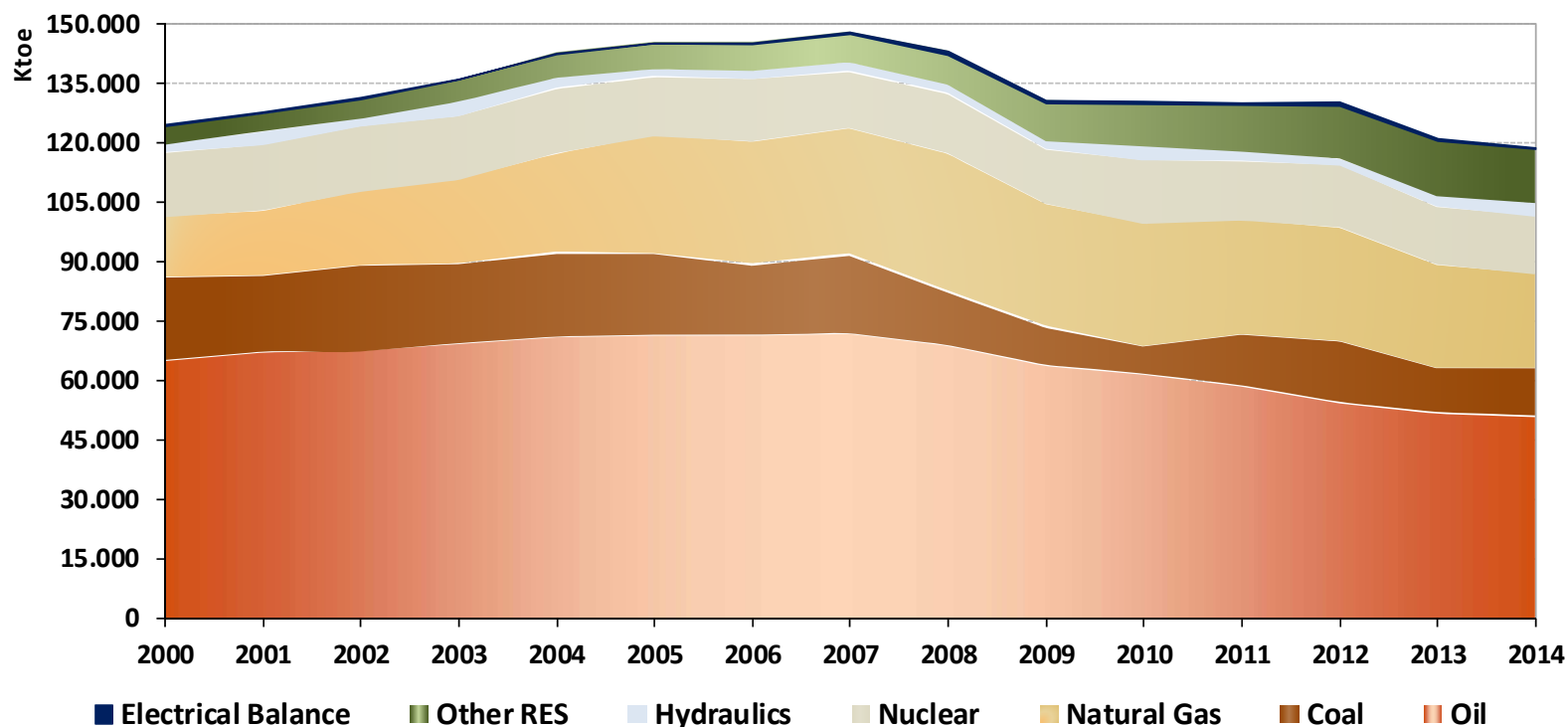
B) Measures under development (NEEAP 2014-2020)

C) Public building mandatory renovation

D) EE National Fund

2.- EE Policy Challenges

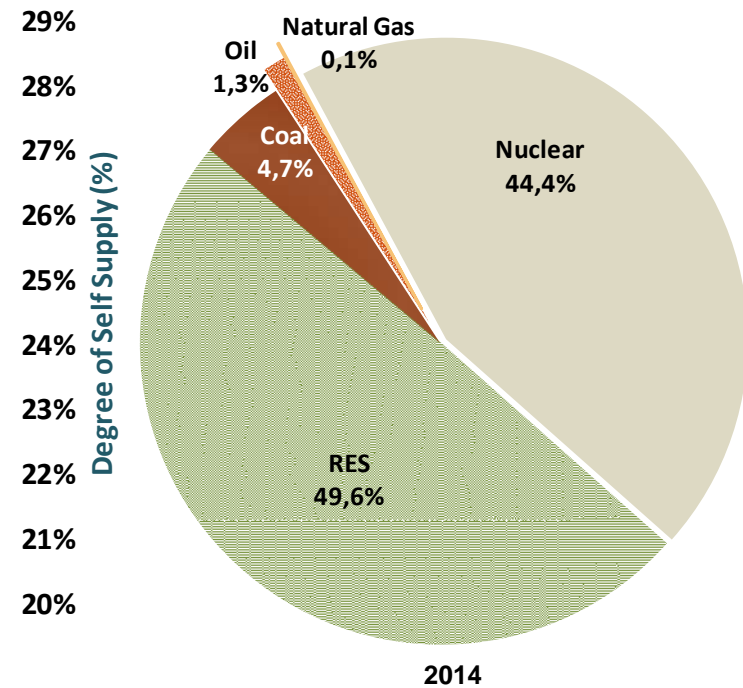
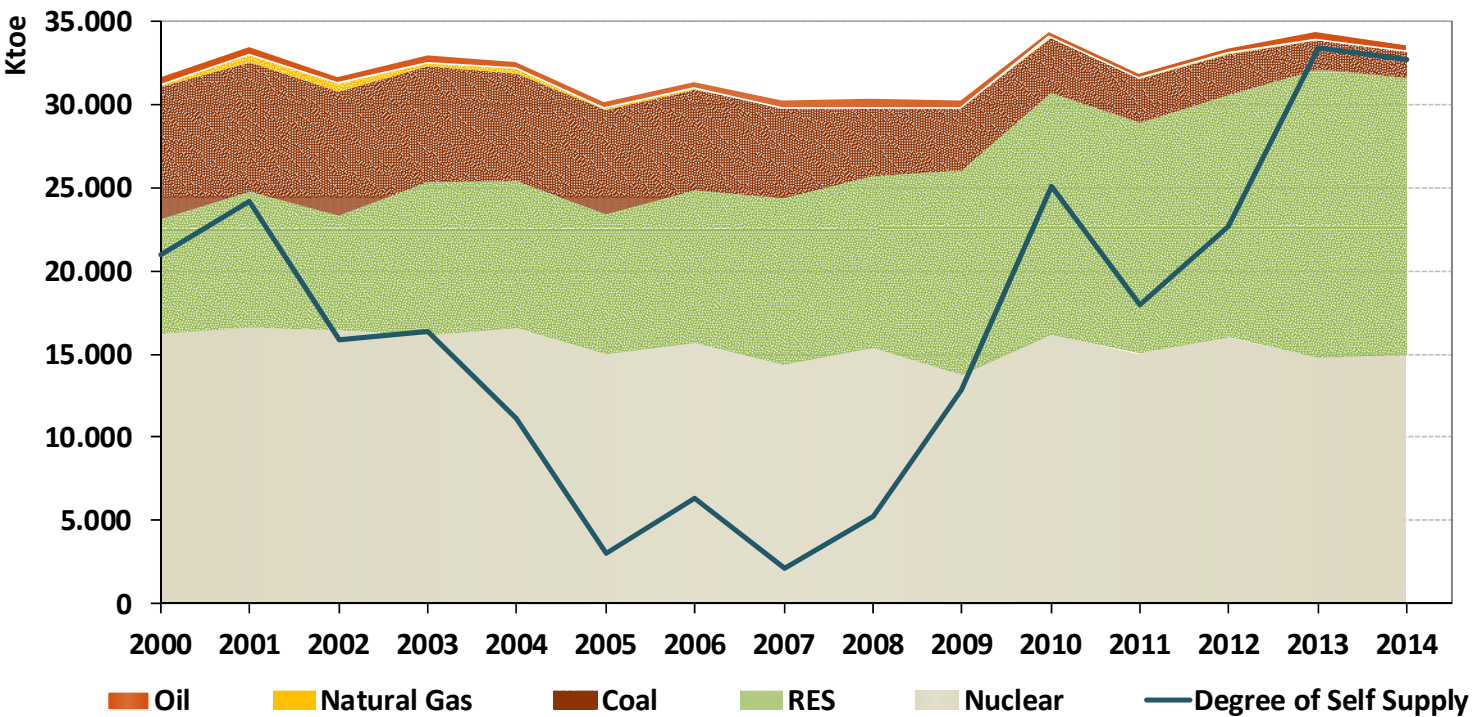
Energy context: Primary energy by sources 2000-2014



Note: Non- renewable wastes included in petrol; *small Hydro in Hydraulic

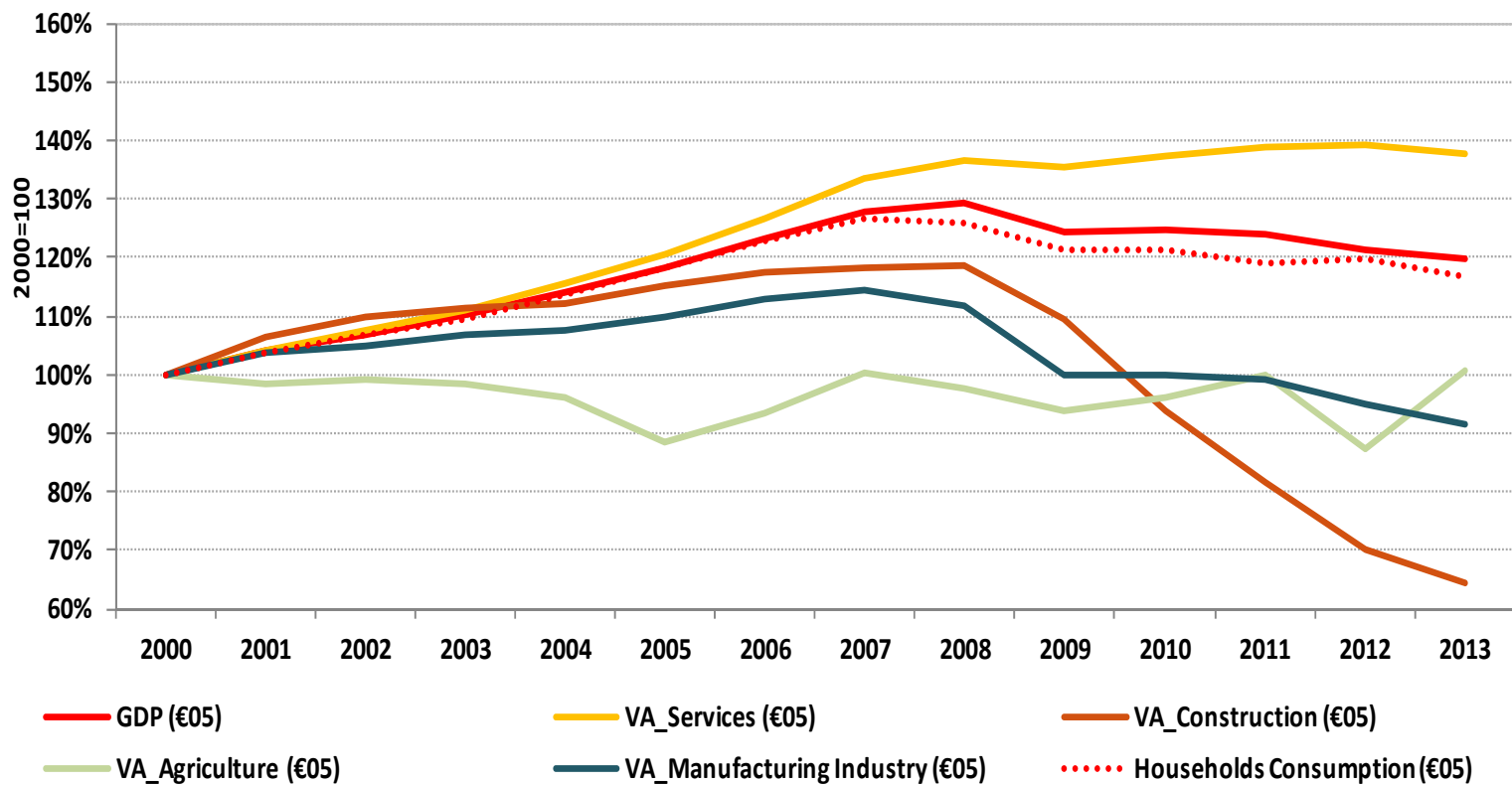
Source: MINETUR/IDAE

Energy context: Domestic production of energy 2000-2014

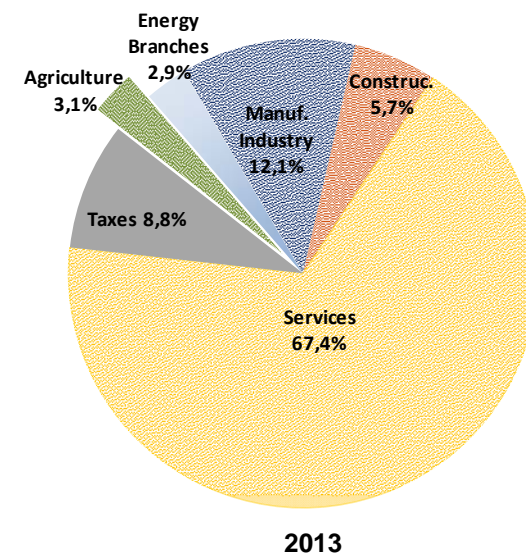
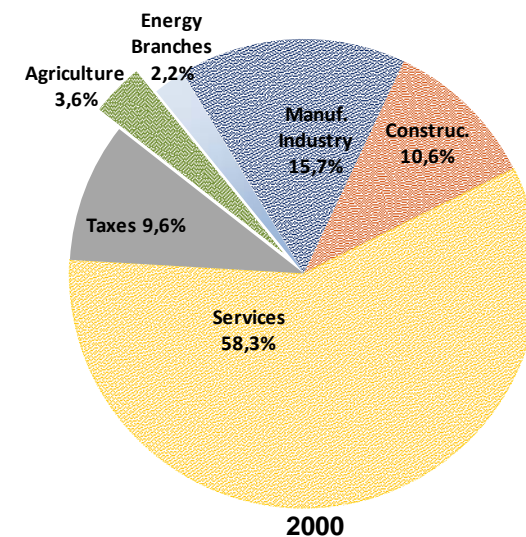


Source: MINETUR/IDAE

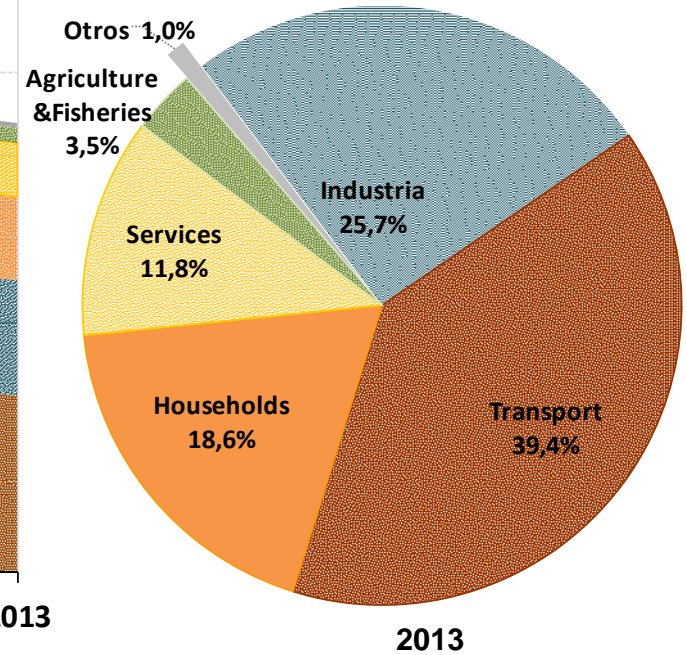
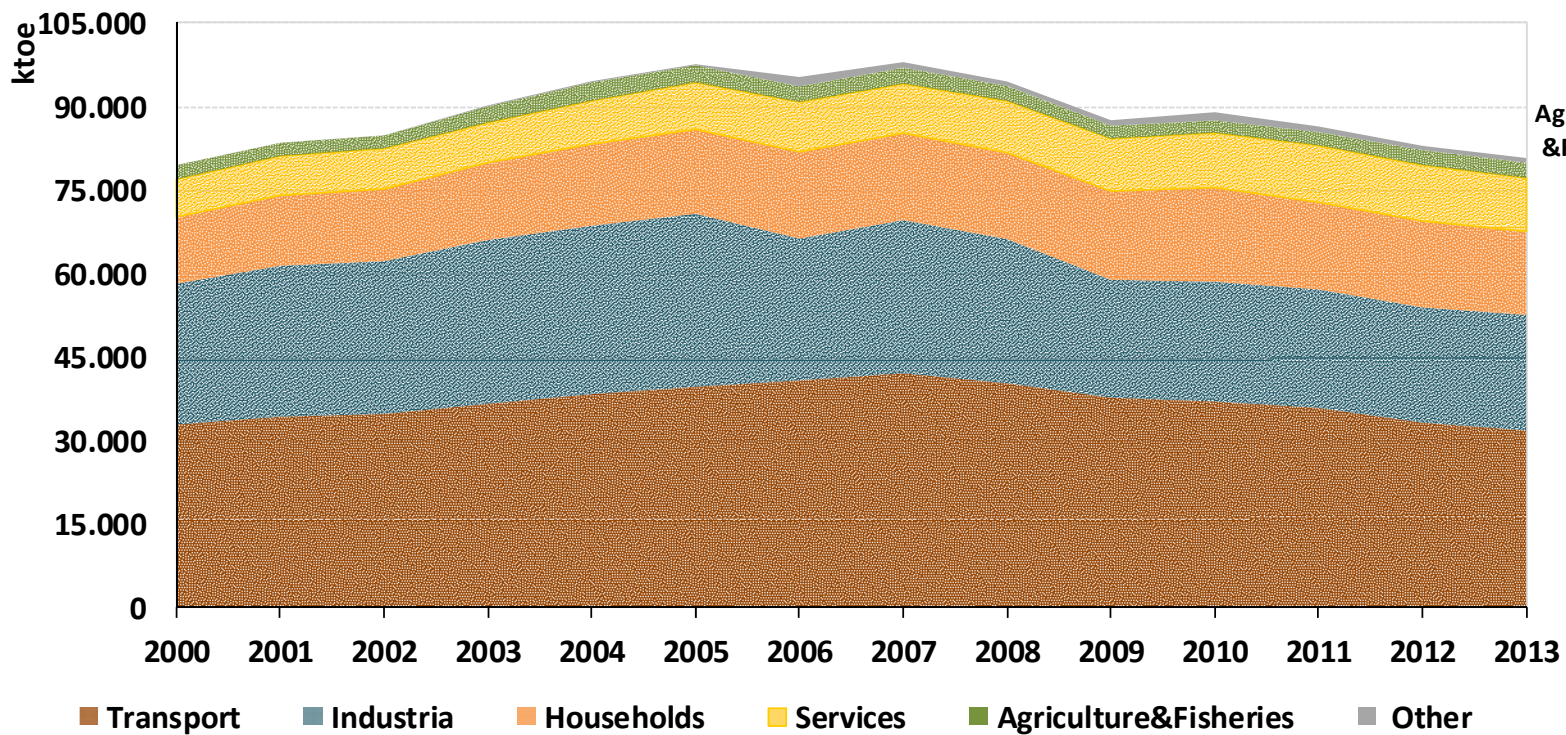
Energy context: Sectoral contribution to GDP 2000-2013



Source: MINETUR/IDAE



Energy context: Final energy by sectors 2000-2013

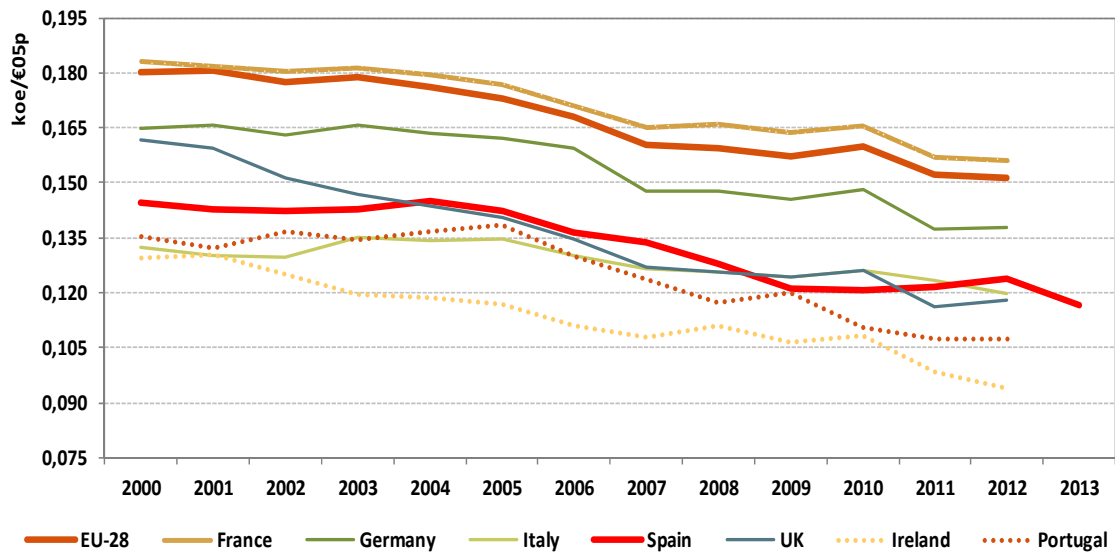


Source: MINETUR/IDAE

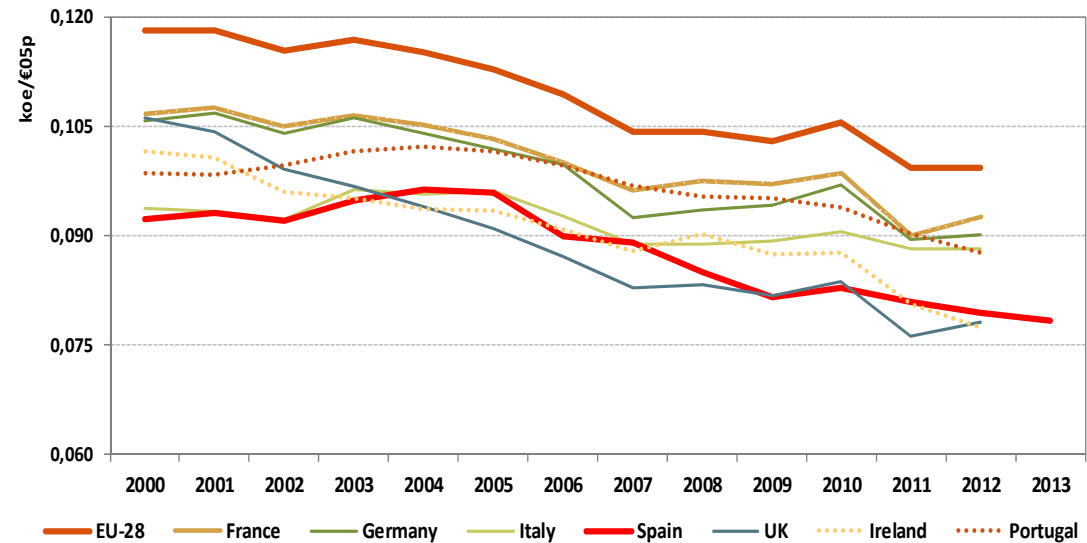
Energy context: Spain is on the path to reduce energy intensities

- **Primary energy intensity** has been reduced at an annual average rate of -2,0 % in 2004-2012 (EU: -1,90%)
- **Final energy intensity** has been reduced at an annual average rate of -2.4 % in 2004-2012 (EU: -1,82%)

Primary Intensity (PPP)



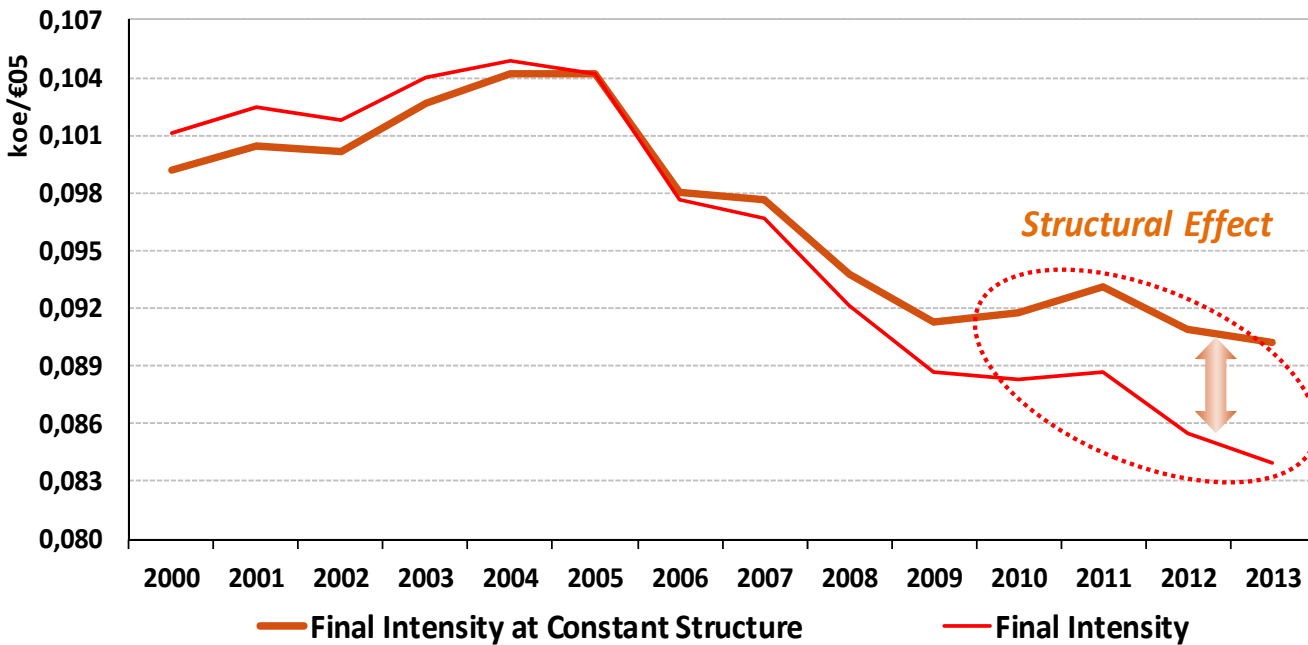
Final Intensity (PPP)



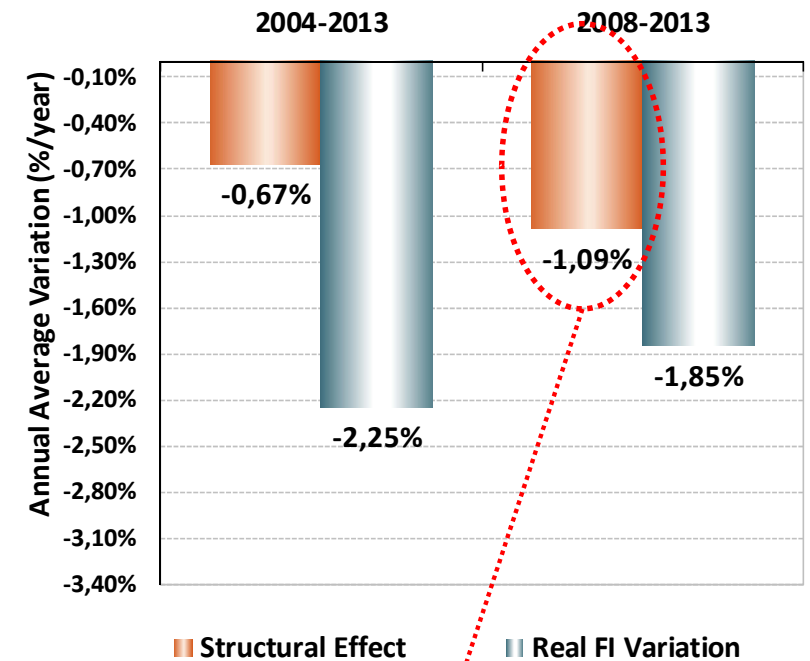
Source: IDAE/EnR

Energy context: Important structural effect on Final Intensity

Trends of Final Energy Intensity at Constant Structure



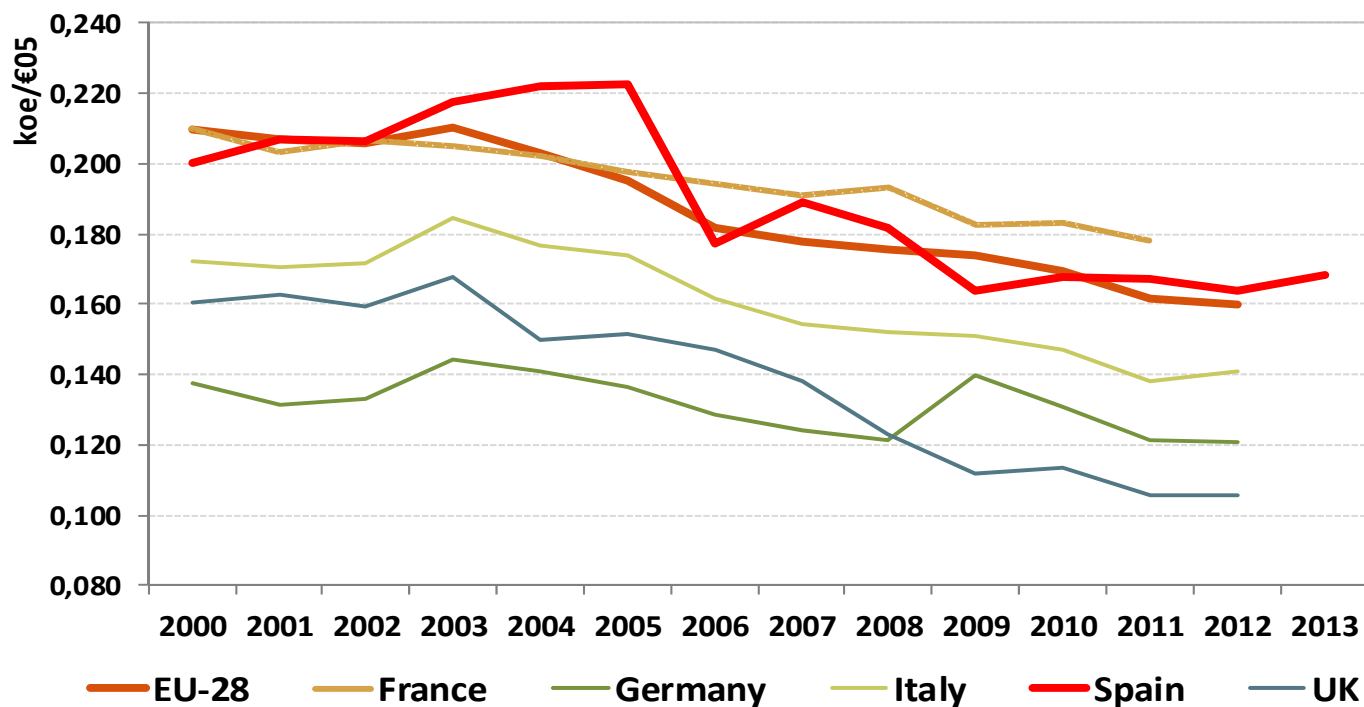
Source: IDAE



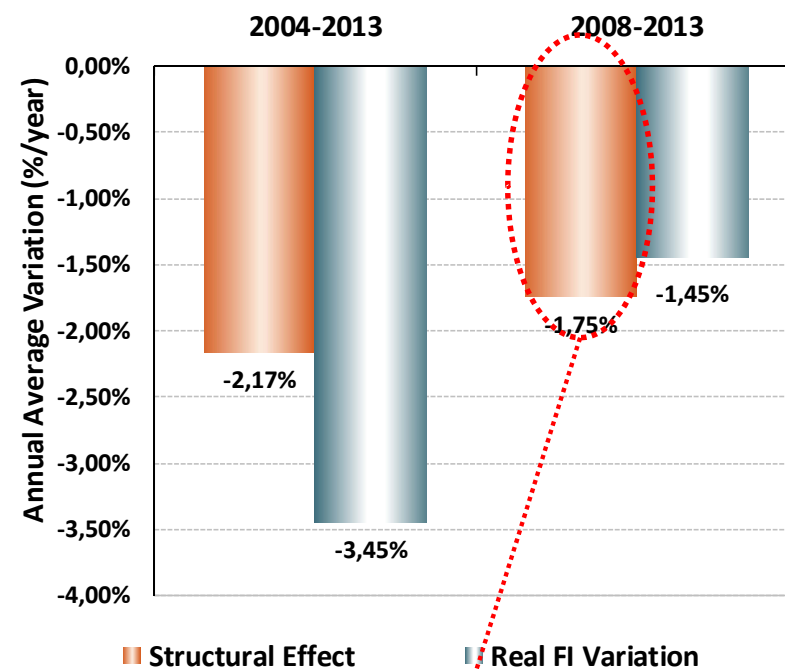
Increasing relevance of structural effect from 2008 on

Energy context: Important structural effect on Manufacturing Industry Intensity

Trends of Energy Intensity in Manufacturing Industry



Source: IDAE

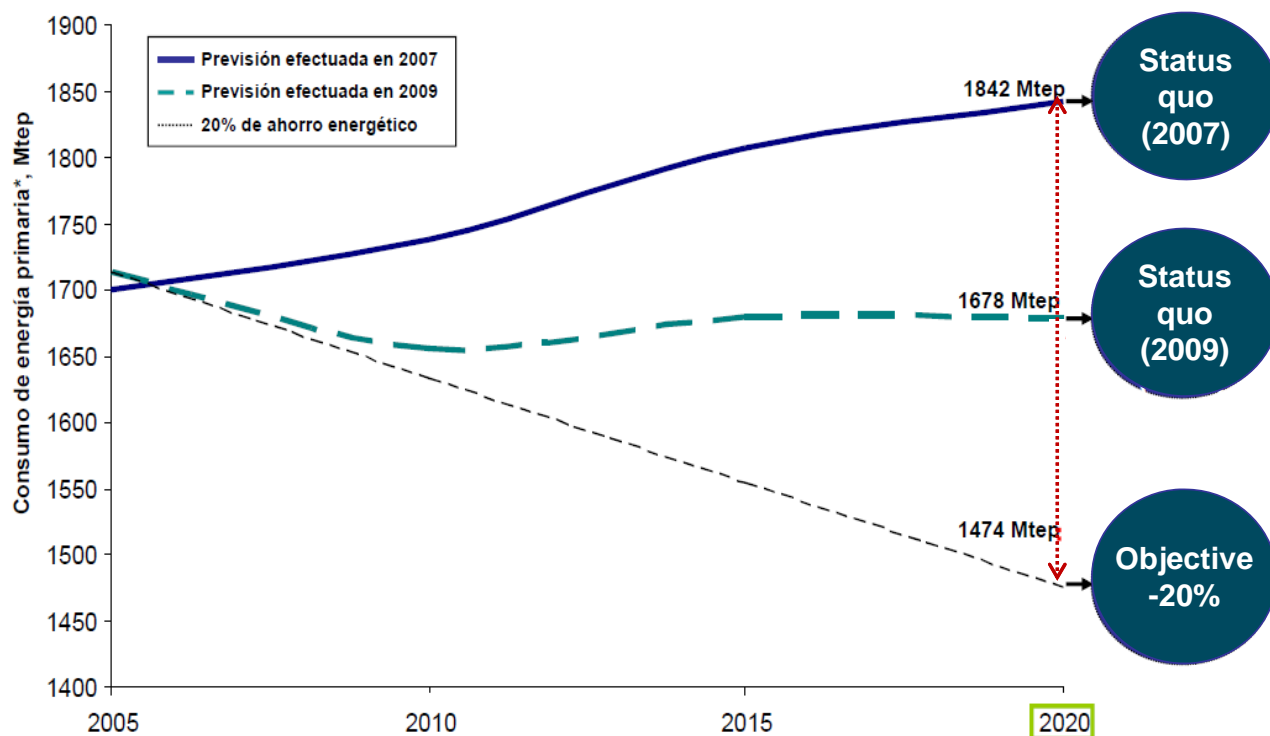


Increasing relevance of structural effect in SPAIN within Industry from 2008 on

NEEAP: Main EU Guidelines

- Directive 2010/31/EU on the Energy Performance of Buildings
- Directive 2012/27/EU on Energy Efficiency

EED, Art. 3: Establishment of national indicative objectives



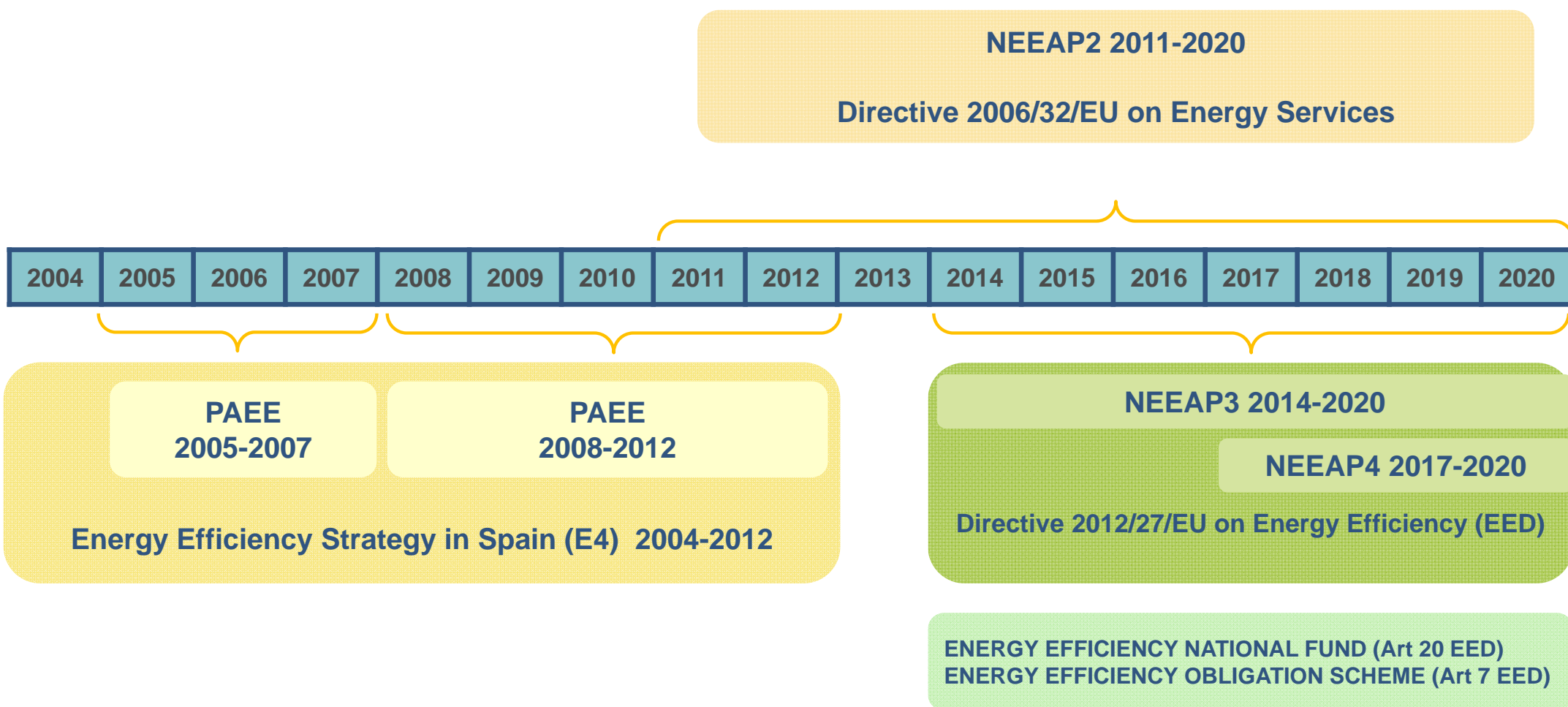
* Consumo Interior Bruto menos usos no energéticos

- **Art. 4:** Long term strategy for the renovation of the national stock of dwellings.
- **Art 5:** Energy renovation of 3% of the floor area of the General State Administration (AGE) buildings
- **Art. 7 & 20:** EE obligation schemes and EE National Funds and Alternative Measures
- **Art. 8-11:** Audits and energy management systems, metering and billing information
- **Art. 14-15:** Promotion of CHP and EE improvement of the transformation, transmission and distribution sectors

NEEAP: National scenario

- Directive 2006/32/EC of Energy Services
- National Energy Efficiency Action Plan 2008-2012 (NEEAP1)
- Directive 2010/31/EU of Energy Efficiency in Buildings
- National Energy Efficiency Action Plan 2011-2020 (NEEAP2)
- National Law 2/2011 on Sustainable Economy
- Directive 2012/27/EU of Energy Efficiency
- Sectoral plans (CHP, ECB, RITE, PIVE, MOVELE, PAREER, JESSICA, ...)
- Law 18/2014 of 15 October, approving urgent measures for growth, competitiveness and efficiency
- **National Energy Efficiency Action Plan 2014-2020 (NEEAP3)**

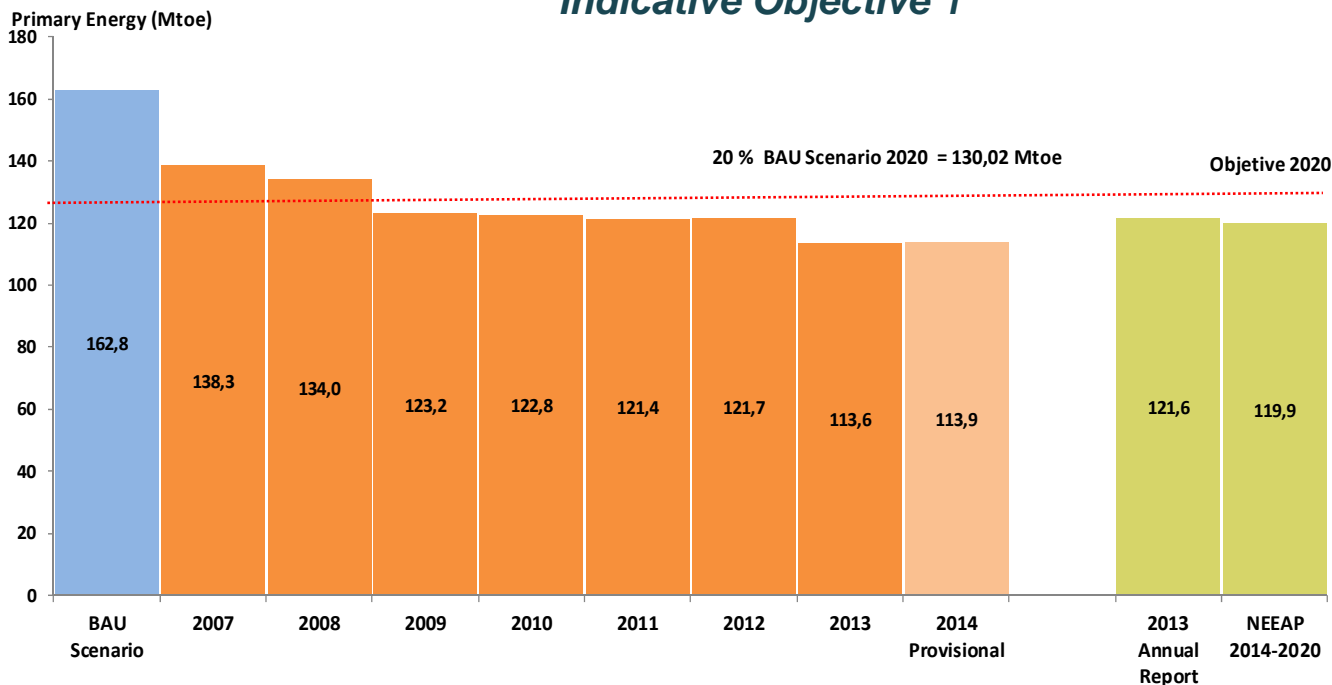
NEEAP 2014-2020: the latest of consecutive plans



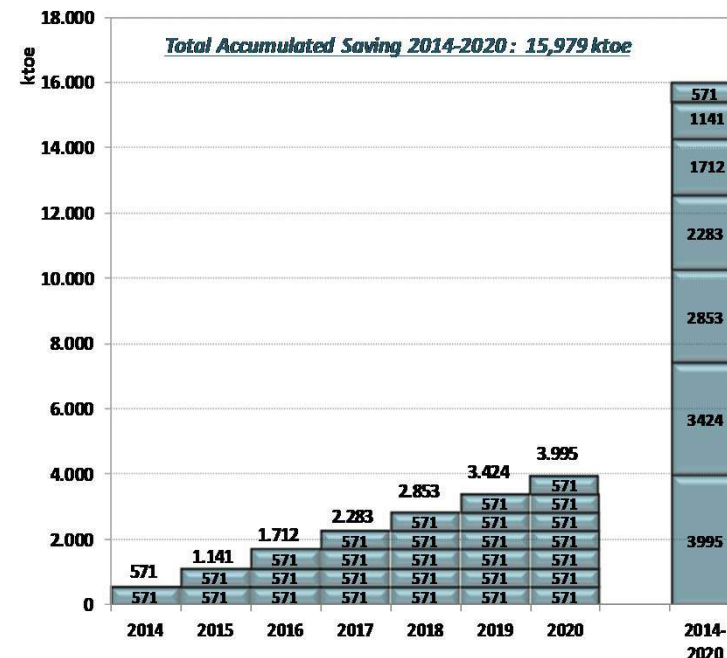
NEEAP 2014-2020: Objectives

- **Indicative Objective 1:** Reduction of primary energy consumption in 2020 compared to BAU scenario (from 162.8 to 119,9 Mtoe)
- **Binding Objective 2:** Accumulated Saving of 15,979 ktoe during 2014-2020, equivalent to 571 ktoe/year

Indicative Objective 1



Binding Objective 2



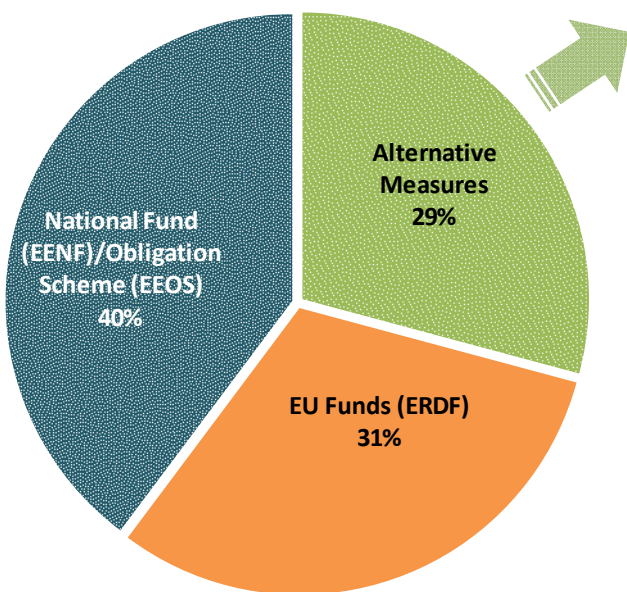
NEEAP 2014-2020: Binding Objective by measures and sectors

- **Saving target : 15,979 ktoe** (571 ktoe/year of additional accumulated savings)

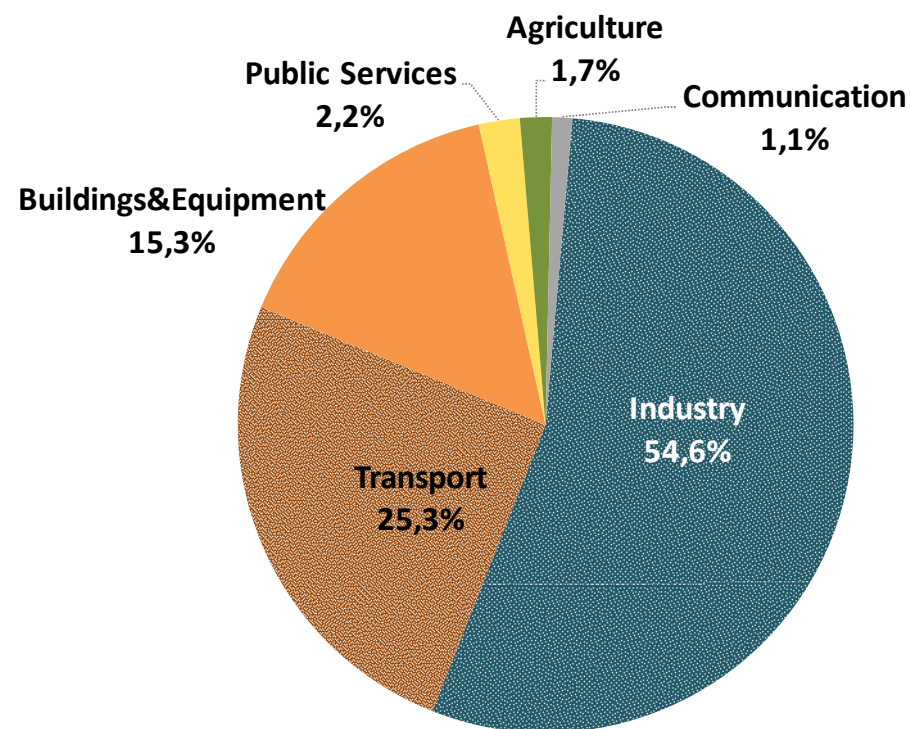
Distribution of accumulated savings (15,979 ktoe) by measures

Alternative Measures (Art 7.9):

- Law 15/2012 of energy tax measures
- MOVELE
- PIVE
- PAREER
- JESSICA-FIDAE
- PIMA Sol/PIMA Aire
- Energy efficient driving program



Distribution of annual savings (571 ktoe/year) by sectors



NEEAP 2014-2020: PIVE

- **Efficient Vehicle Incentive Plan (PIVE) – 8th call for proposals**



- **Budget:** 225 M€
- **Objective:** to incentive the purchase of new efficient vehicles -energy class (A or B)- by means of scrapping passenger cars older than 10 years.
- **Aids:** 1.000 €/veh (1.500 €/veh for large families), plus a similar contribution from the manufacturer, importer, car dealership or selling point. (750 €/veh latest call)

Concept	PIVE	PIVE 2	PIVE 3	PIVE 4	PIVE 5	PIVE 6	PIVE 7	PIVE 8	TOTAL
Launching Date	1 /10/ 2012	4/02/ 2013	29/07/2013	28/10/2013	27/01/2014	6/06/2014	27/02/2015	14/05/2015	-----
Economic Support (M€)	75	150	70	70	175	175	175	225	1,115
Vehicles Objective (units)	75,000	149,090	69,576	69,576	173,940	173,940	173,940	299,938	1,185,000.

☞ IDAE has managed more than 700,000 dossier evaluations in 2 years, relying on the support of 2,580 selling points

NEEAP 2014-2020: MOVELE

• MOVELE Program

- Promotion of electric vehicles purchasing.
- **Catalogue** of vehicles with models subject to be supported available in www.movele.es
- Incentives linked to **categories** and range of **autonomy** (not to market prices).
- Budget: **10 M€**.
- **Beneficiaries:** particulars, enterprises, regions, local corporations, AGE bodies.
- Higher incentives for **large families** and **disabled people**.

The screenshot shows the website interface for the MOVELE program. At the top, there are logos for the Spanish Government, the Ministry of Industry, Energy and Tourism, and IDAE. The main navigation bar includes links for 'Portada', 'Todo sobre Movele', 'El vehículo Eléctrico', 'Infraestructura Movele', 'Vehículo eléctrico y flotas', 'Movele audiovisual', 'Noticias', and 'Otras actuaciones'. A search bar is located on the right. The main content area is titled 'El vehículo Eléctrico' and features a list of vehicle categories: 'Catálogo Movele de vehículos', 'Catálogo "Qué coche eléctrico" de vehículos', 'Ayudas para la compra', and 'Alquiler de vehículos'. Below this, there is a section for 'Catálogo Movele de vehículos (Programa de ayudas MOVELE 2014)' with a 'Volver' link. The categories are displayed as follows:

- Cuadriciclos:** Represented by an image of a small, three-wheeled electric vehicle.
- Turismos:** Represented by an image of a small, red and white electric car.
- Furgonetas:** Represented by an image of a red electric van.
- Autobuses:** Represented by an image of a green and white electric bus.

At the bottom of the page, there is a link for 'Catálogo Movele de motocicletas' and a note: '*Vehículos no recogidos en el Programa de Ayudas Movele 2014'.

NEEAP 2014-2020: PAREER-CRECE

- **Objective:** promotion of integral actions directed to improve energy efficiency and promotion of RES in the stock of existing dwellings (households and hotels)
- **Budget:** 200 M€.
- **Support mechanisms:** Direct public aids + reimbursable loans (EURIBOR + 0,0%; 12 years payback)
- **Requirement:** energy qualification improvement of dwelling label of at least 1 letter
- **Actions:**



TYPE OF ACTION	BUILDING USE	MONEY ALLOWANCE WITHOUT CONSIDERATION					
		BASE AID	% ADDITIONAL AID				
			Social Criteria	Compreh. Action	Energy Efficiency		
"A" Final Rating	"B" Final Rating	Two-letter Upgrade or Higher					
Upgrade of the EE in the <u>thermal envelope</u>	Household	30% (limit 6 000 €/household)	15%	20%	15%	10%	5%
	All other uses		0%	20%	15%	10%	5%
Upgrade of EE in <u>thermal & lighting installations</u>	Household	20%	0%	0%	10%	5%	0%
	All other uses		0%	0%	10%	5%	0%
Replacement of conventional energy by thermal <u>biomass</u> in building thermal installations	Household	25%	5%	10%	0%	0%	0%
	All other uses		0%	10%	10%	5%	0%
Replacement of conventional energy by <u>geothermal</u> energy in building thermal installations	Household	30%	10%	15%	0%	0%	0%
	All other uses		0%	15%	10%	5%	0%

NEEAP 2014-2020: FIDAE

- **Energy Diversification and Saving Investment Fund (FIDAE):**

- **Objective:** financing of sustainable urban development projects which improve **energy efficiency** and/or use **RES** and or other private companies
- **Budget:** 123 M€
- Fund **co-funded by ERDF and IDAE** and **operated by the EIB** (European Investment Bank)
- **Technical Assistance Unit** for the identification and technical preparation of projects and public tendering
- **National Managers selected by EIB:** “BBVA”, “Banco de Santander” and “Ahorro Corporación”
- **Beneficiaries:** ESCOs, private companies, public administrations



NEEAP 2014-2020: FIDAE

• FIDAE sectors and priority topics:

FINANCIACIÓN JESSICA-F.I.D.A.E.

PROYECTOS PÚBLICOS, HASTA EL 100% DE LA INVERSIÓN E INTERÉS AL 0%

PROYECTOS PRIVADOS, HASTA EL 70% DE LA INVERSIÓN E INTERÉS EURIBOR MÁS 1% - 5%

Sectors

- 1 **Buildings:** Public buildings and social housing
- 2 **Transport:** fleets and transport infrastructure
- 3 **Lighting:** street lighting and network traffic lights
- 4 **Local infrastructure,** smart grids and ICT linked with EE, RES or clean transport



Eligibility Criteria



Priority topics

- 1 **Solar Energy**
- 2 **Biomass**
- 3 **Energy efficiency, energy management.**
- 4 **Clean transport**

- Thermal energy installations
- Biofuels production
- Biomass treatment Installations for energy purposes .
- Biofuels pump installations

- Buildings
- Renovation/heat and/or refrigeration distribution networks
- EE project ins the industry sector / port/lighting/services, etc.

- Electric and hybrid vehicles
- electric-vehicle charging infrastructure/ LNG
- Equipment for the recovery of electrical energy on braking

NEEAP 2014-2020: Audits and ESCOs (Art. 8, 16 & 18 EED)

- Mandatory Audits** for enterprises non-SME (large companies)

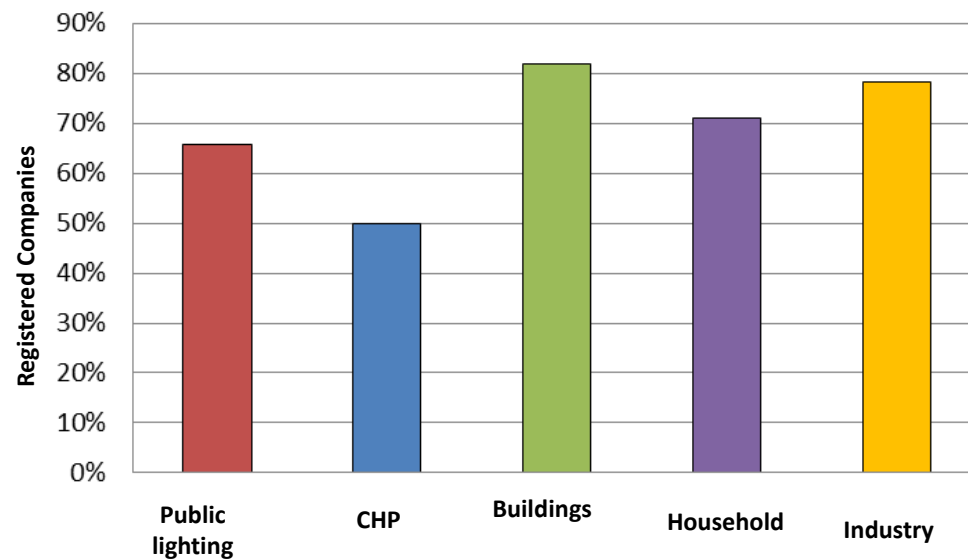
(by 5th December and every 4 years later on)

Estimation of N° of establishments which should realize energy audits by sectors

	N° of large companies	N° of establishments
Industry	931	5.813
Construction	192	1.474
Commerce	689	4.170
Other Services	1.970	15.829
TOTAL	3.782	27.286

- Promotion of **ESCOs market**

Main Activities declared by registered ESCOs (968 companies)

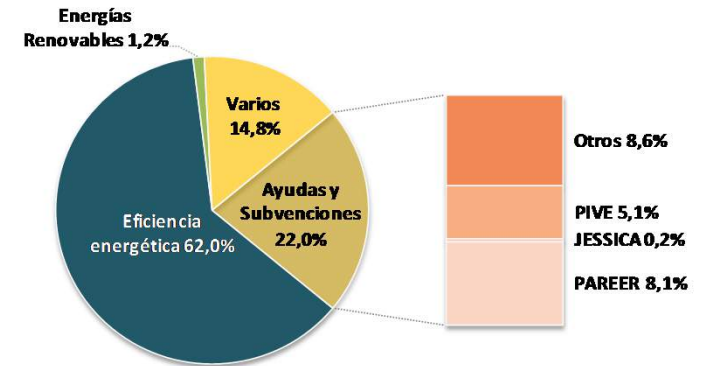
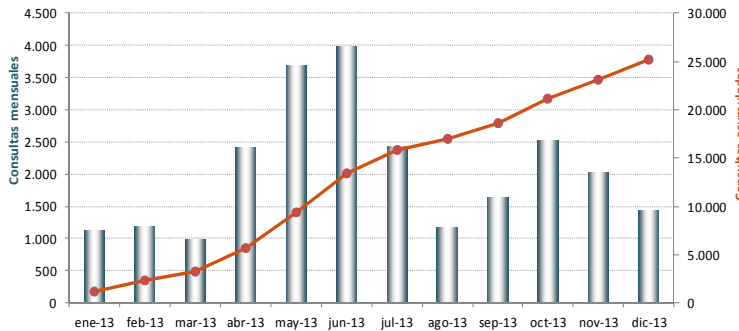


NEEAP 2014-2020: Communication, Information and Training

- “NEW ENERGY BILL” & “ENERGY SAVING”
Communication campaigns



- “SICER”: Citizen Information Service on EE and RES



- “Training and information measures”



Renovation of State Buildings (Art. 5, EED)

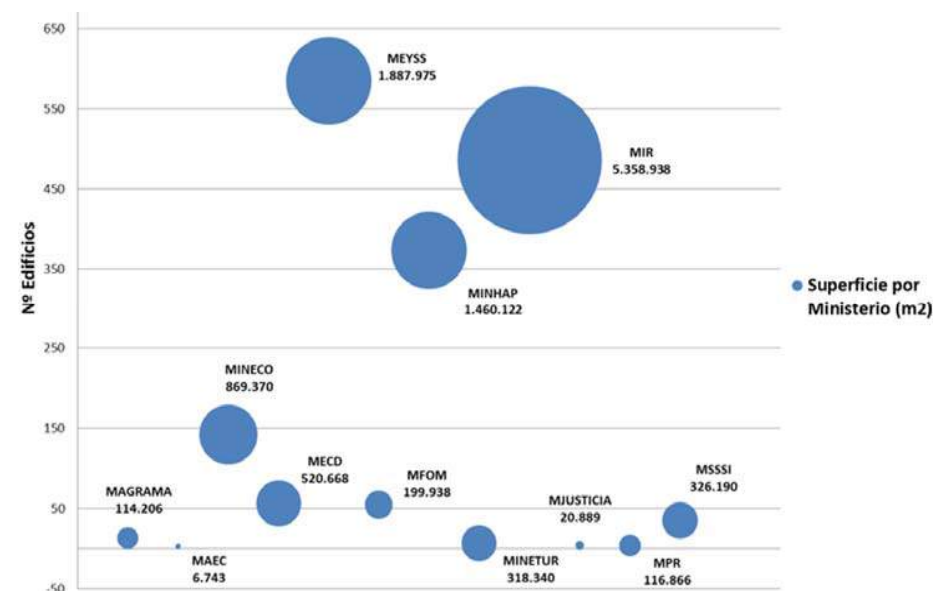
- **Annual Mandatory Renovation:** 3% of the floor area of State buildings in 2014, and then every year thereafter during 2014–2020 period, to meet at least minimum energy performance requirements of Art. 4 EED

- **Implemented actions:**

- **Buildings with total surface > 500 m²** and heating and/or cooling systems are included (> 250 m² from 9/07/2015)
- **PIGEP:** Energy and Asset Management Electronic Platform

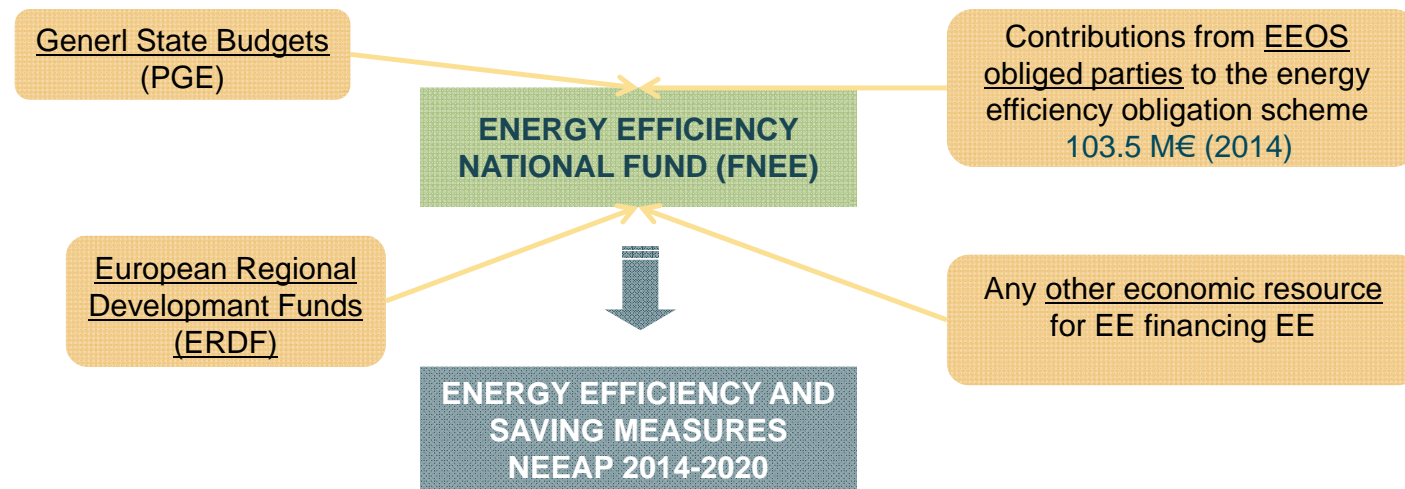
⇒ **Resulting inventory of buildings:** 1,763 buildings, with a surface over 11.2 million m² (resulting objective: 336,000 m²/year)

Inventory Results



Energy Efficiency National Fund (EENF), Art 20 EED

- Assigned to **MINETUR** through the Secretary of State for Energy
- Management by **IDAE**
- Supervised and controlled by a **Monitoring & Control Committee**
- **Approved in 2015: two consecutive programs with 168 and 210 M€ respectively**
 - 1a) Aid programme for EE buildings (PAREER)
 - 1b) Aid programme for modal split actions and efficient use of transport modes
 - 1c) Aid programme for SME and large companies' in industry
 - 1d) Aid programme for municipal street lighting infrastructure renewal
- 2) Complementary programmes for industry, street lighting, road transport, railways and water cycle



EE Policy Challenges: EE Directive

All Directive deadlines are being accomplished :

- **Article 4:** long-term strategy for renovation of residential and commercial buildings: **Spanish Strategy for Energy Rehabilitation in the Building Sector; Renovation of State Buildings**
- **Article 5:** inventory and retrofit of heated/cooled central government buildings: **1,763 buildings in 2013 and Mandatory Renovation**
- **Article 6:** new public procurement law dealing with energy products: **Law 15/2014 on Public Sector rationalisation**
- **Article 7:** EE Obligation Schemes and alternative actions according to Article 7.9: **EEOS, PIVE, MOVELE, PAREER, FIDAE, energy taxes, regulations and standards**
- **Articles 8, 9,10, 11, 16, 18:** audits, metering, training, ESCOs: **Mandatory audits, inventory of ESCOs**
- **Articles 12, 17:** Information and training: **Courses and campaigns**
- **Art 14:** Promotion of High-Efficiency CHP: **IDAE report (2013) and study under development**
- **Art 20:** Energy Efficiency National Fund: **several EENF aid lines in place**

☞ **Spain is fully committed with the EED transposition**

EE Policy Challenges: Pending issues and priorities

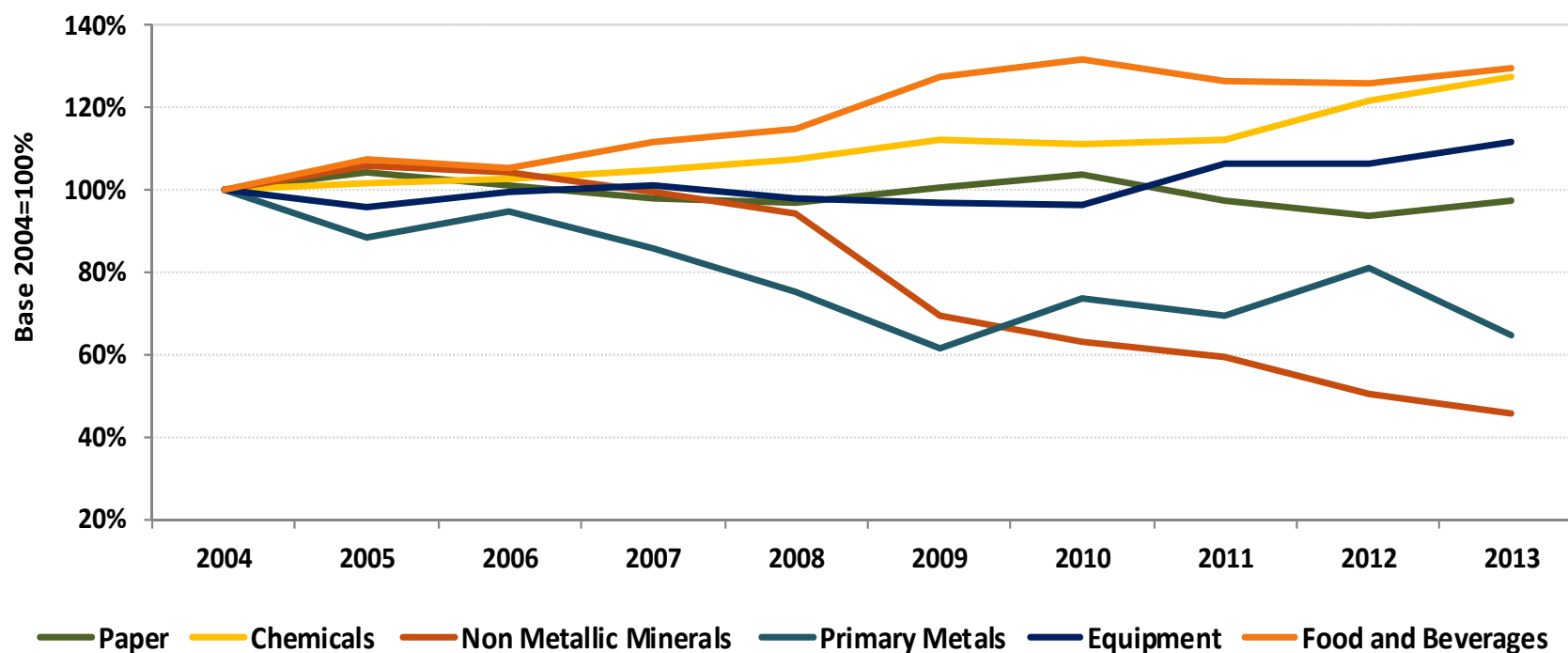
- **Widen end-use energy statistics analysis following EUROSTAT regulation**
 - Spahousec (households)
 - Planned (industry, transport, services)
- **Regulation of energy audits in SMEs and large companies**
 - Royal Decree under elaboration
- **Metering/information: empowering consumers to manage energy consumption**
 - Royal Decree under elaboration
- **Expanded efforts aimed at promoting EE in industry**
 - Industry as a priority sector in future EE policies (+66 Mill€ recently under EENF)
- **Still a big potential for improving EE in buildings**
 - Promotion of nearly zero-energy buildings
- **Smart cities / sustainable urban mobility**
 - National Strategy on Alternative Fueled Vehicles (VEA)
- **Main ERDF 2014-2020 Operative Programs under approval**
 - Expected increased activity during next years (over 1 Bill€ for EE)
- **Updating NEEAP:**
 - NEEAP 2017-2020 to be submitted by end-April 2017

THANK YOU

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Energy context: Important structural effect on Manufacturing Industry Intensity

Changes in the Added Value Structure in Manufacturing Industry



Source: IDAE

Change in the contribution of the several branches to the Gross Value Added of the manufacturing industry: reduction in the more intensive branches of non-metal minerals and metallurgy and slight displacement towards less intensive branches.

NEEAP 2014-2020: Energy Efficiency Obligation Scheme (EEOS)

