GOBIERNO DE ESPAÑA
MINISTERIO DE INDUSTRIA, ENERGÍA Y TURISMO

THE REFORM OF THE SPANISH POWER SYSTEM: TOWARDS FINANCIAL STABILITY AND REGULATORY CERTAINTY

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1. **The starting point: evolution of system's costs and tariff deficit**
2. **The reform of the Spanish power system: financial stability and regulatory certainty**

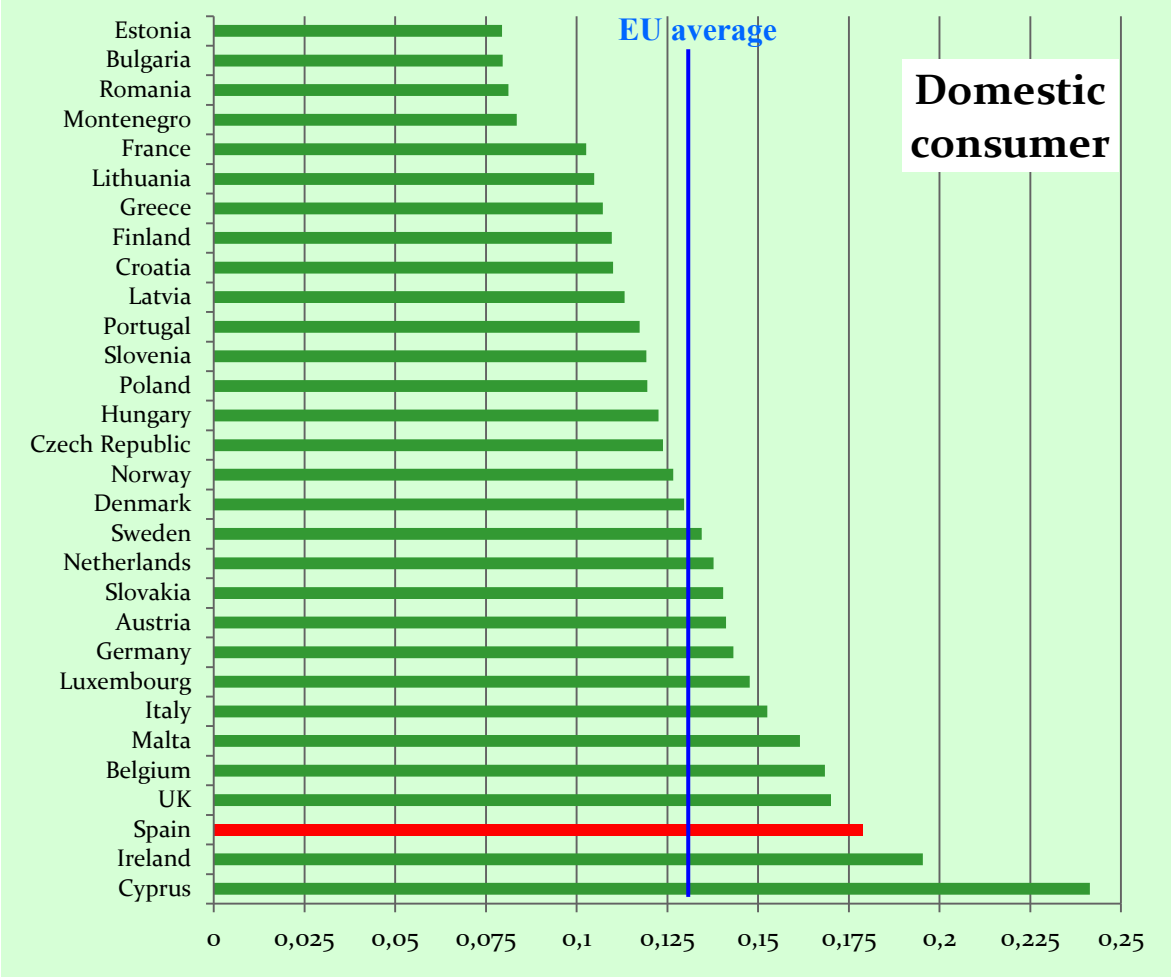
Spain has a strong and modern power system…

Strengths of the Spanish power system:

- ✓ A diversified and well **balanced mix** of electricity production (hydro-electric, nuclear, coal, combined cycle gas and renewable).
- ✓ A **high penetration of renewable and combined heat and power** electricity production (38% of demand in 2012 and 50% in the first half of 2013).
- ✓ A modern and **developed infrastructure network** and high quality of power supply.
- ✓ A high level of **competition** in electricity production in European standards.

… But electricity prices are above EU average

Spanish households pay electricity 30% above EU average

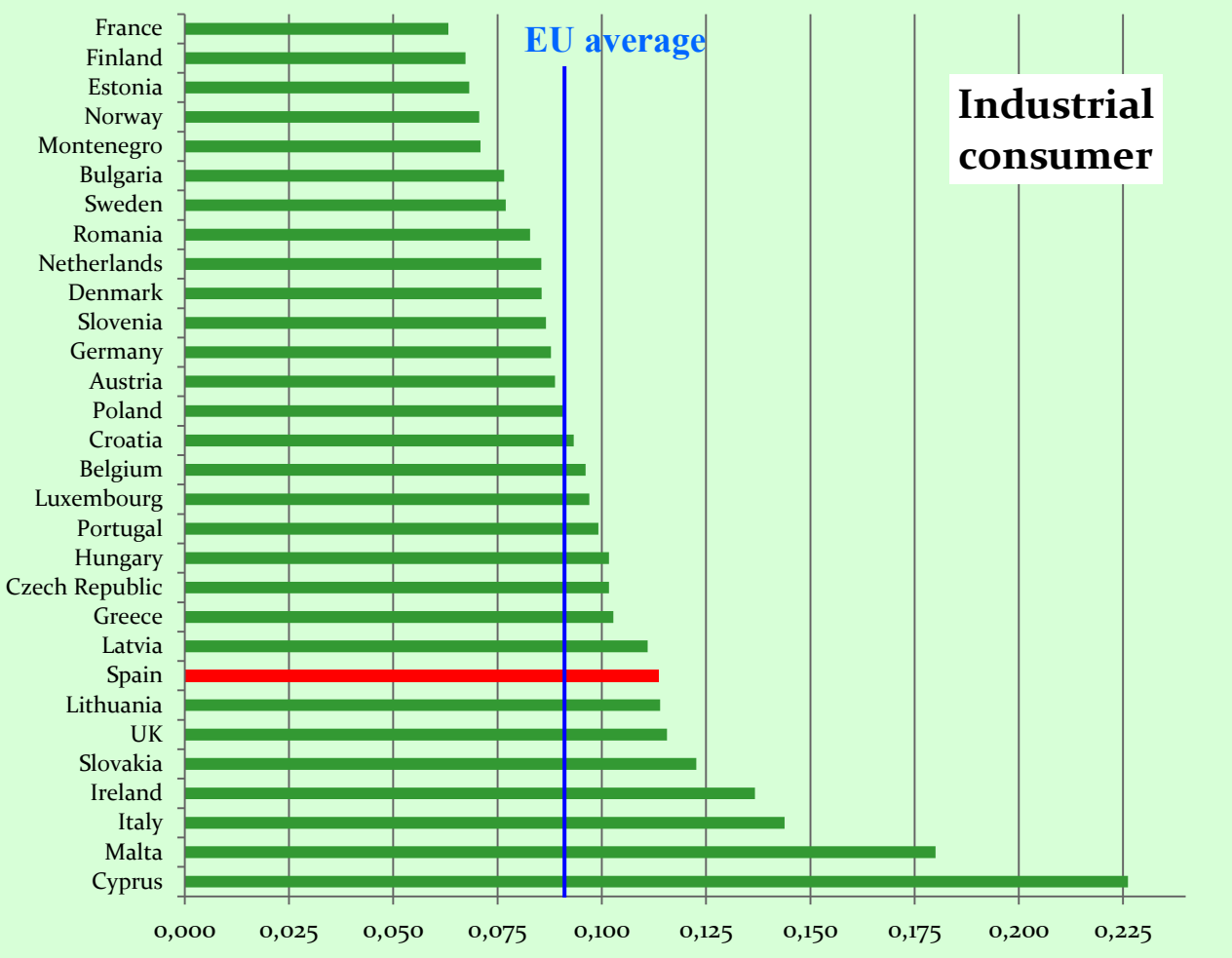


Only Ireland's and Cyprus' domestic consumers have a higher price of electricity before taxes than Spain

Source: Eurostat 2012. Electricity price for domestic consumer before taxes (€/MWh).

… But electricity prices are above EU average (cont.)

Spanish industry pays electricity 18% above EU average

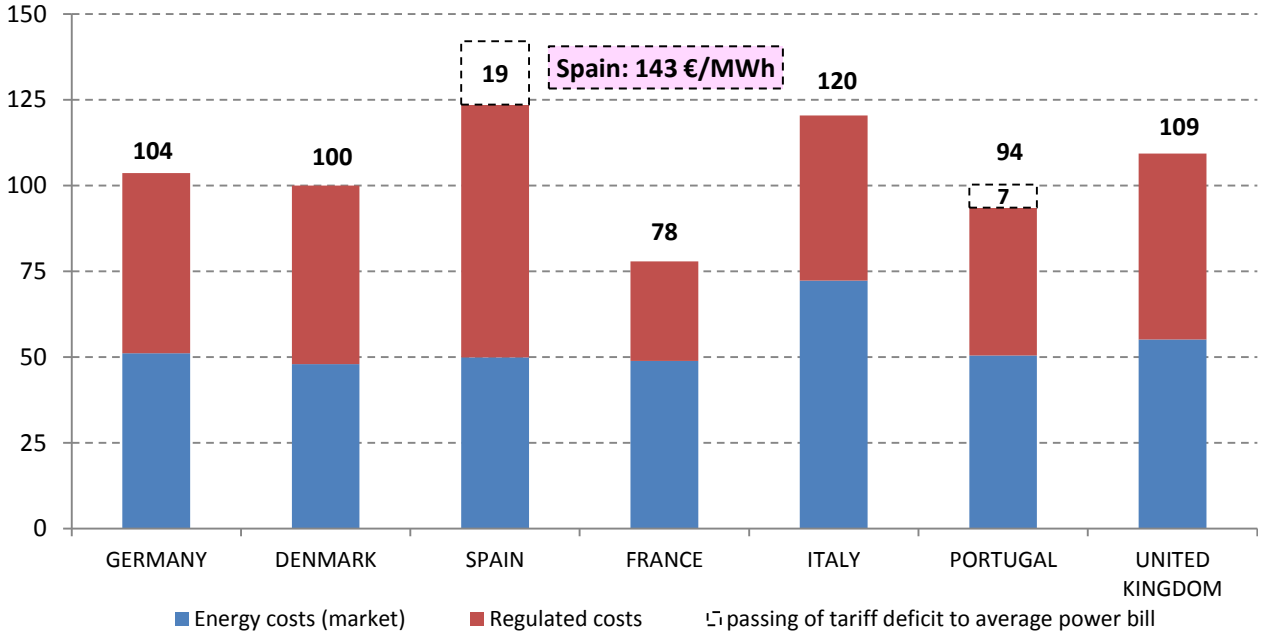


Spanish industrial consumers pay electricity significantly above its main competitors.

Source: Eurostat 2012. Electricity price for industrial consumer before taxes (€/MWh).

Regulated costs in the electricity bill in Spain are considerably above European standards

Electricity average weighted price for industrial and domestic consumers (€/MWh 2012)



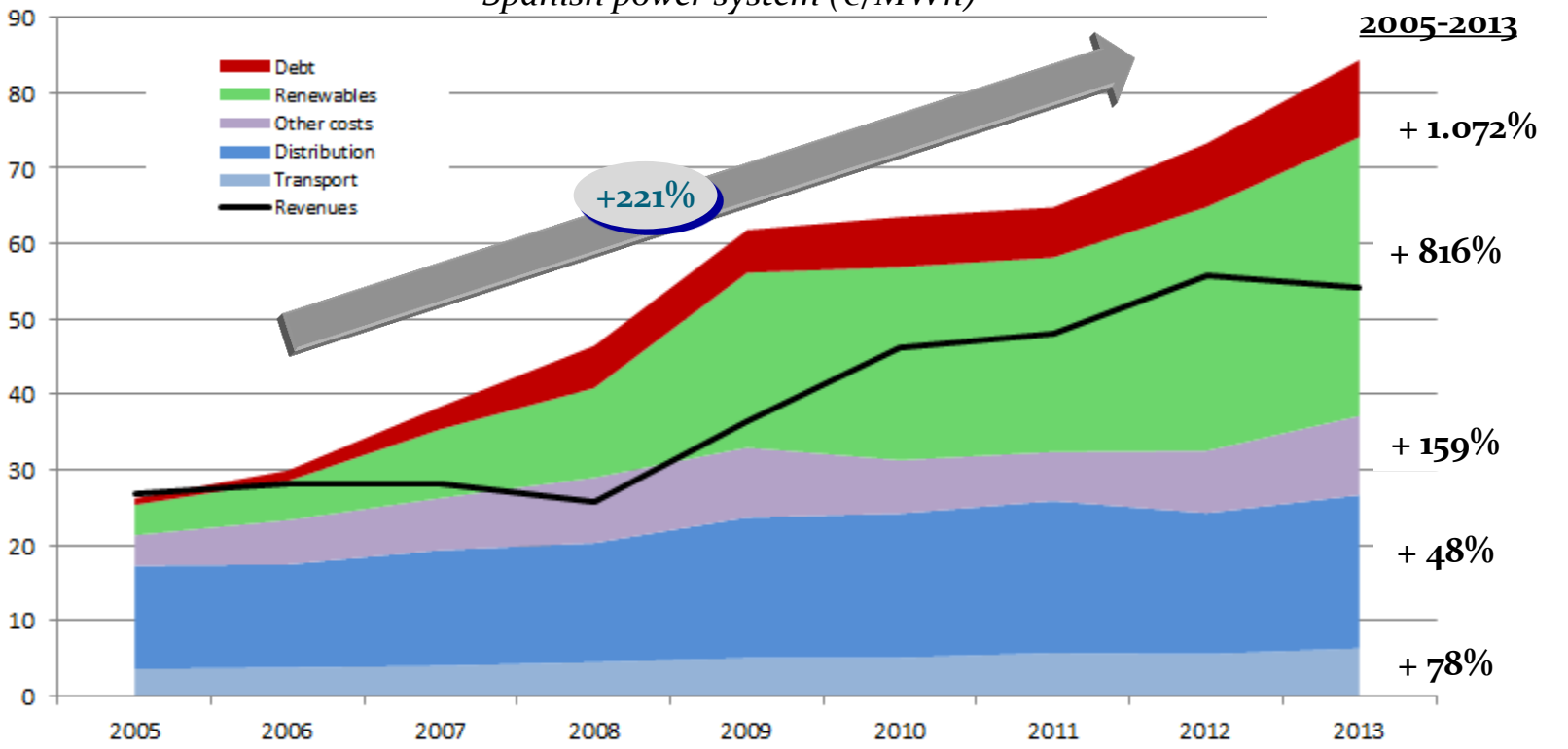
Source: Own calculations based on Eurostat.

Despite high prices, the system does not cover its costs, creating a **tariff deficit**

- ✓ For a similar average market price of electricity, regulated costs in Spain are 40% above comparable countries.
- ✓ If current tariff deficit was passed fully into the power bill, these regulated costs would increase an additional 15% (19€/MWh)

Regulated costs have escalated since the mid 2000s, growing above the power system's revenues.

Evolution of revenues and costs of the Spanish power system (€/MWh)



Rate of growth 2005-2013

+ 1.072%

+ 816%

+ 159%

+ 48%

+ 78%

- ✓ Among regulated costs, renewable energies and debt payments rose above all since 2007.
- ✓ According to CEER*, Spain is the European country with the largest support to RE in €/MWh.

* Status Review of Renewable and Energy Efficiency Support Schemes in Europe. CEER junio de 2013.

Why this extraordinary increase in regulated costs?...

1

Electricity demand forecasted in mid-2000s was proven wrong

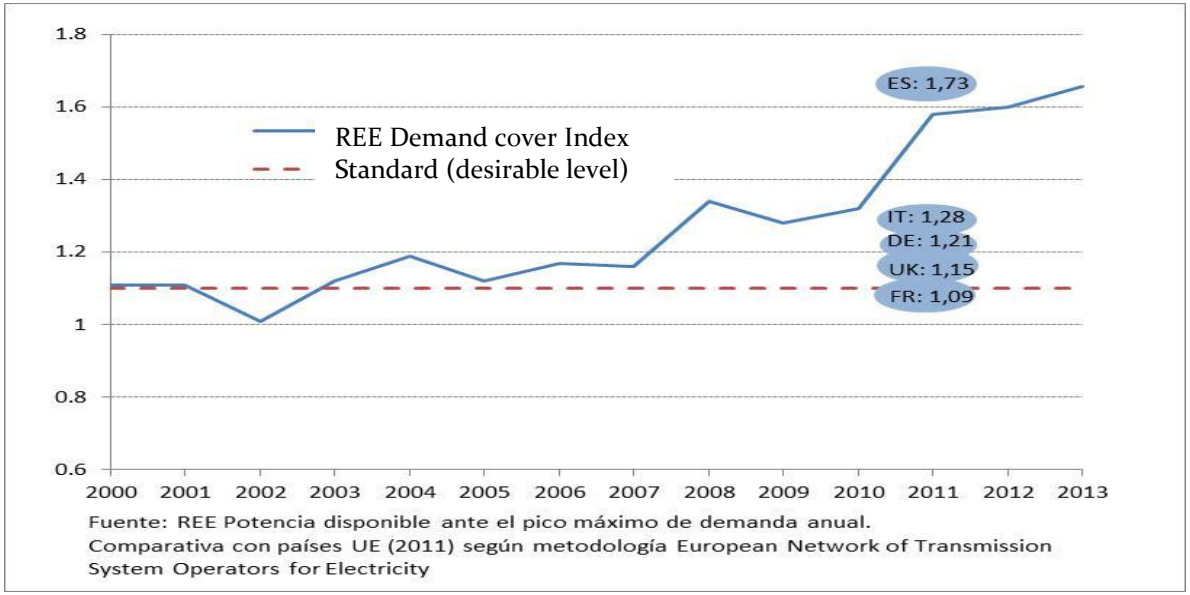
2005 forecast for 2013

Forecasted demand	25%	Real demand	- 1%
Forecasted GDP	24%	Real GDP	+ 2%

2

Investment boosted since 2005

- ✓ Large investment in RE, CHP and CCGT power stations.
- ✓ Network extension as a result of RE introduction.
- ✓ Network investment consequent to construction growth.



Fuente: REE Potencia disponible ante el pico máximo de demanda anual.
Comparativa con países UE (2011) según metodología European Network of Transmission System Operators for Electricity

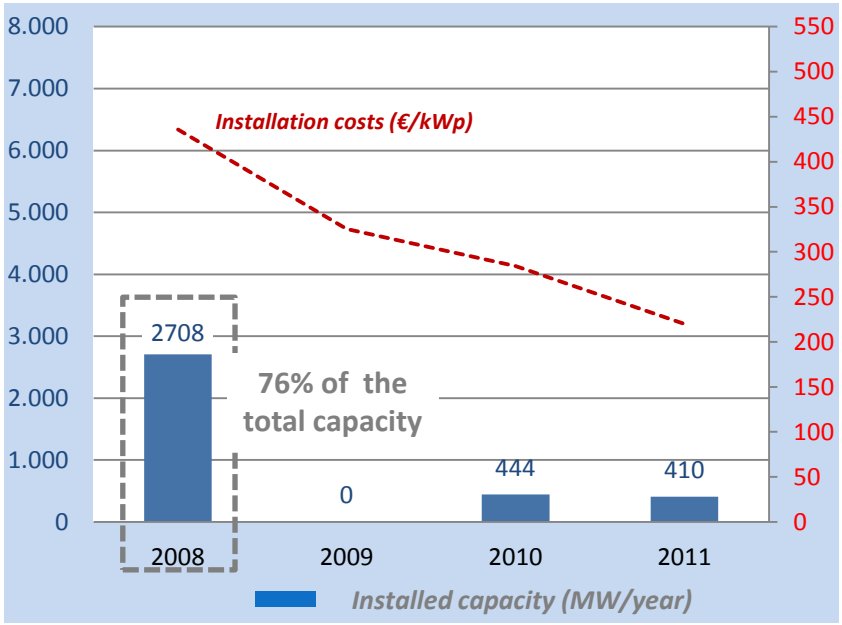
As a result, the system has a large **excess capacity** on international comparison.

Why this extraordinary increase in regulated costs?...

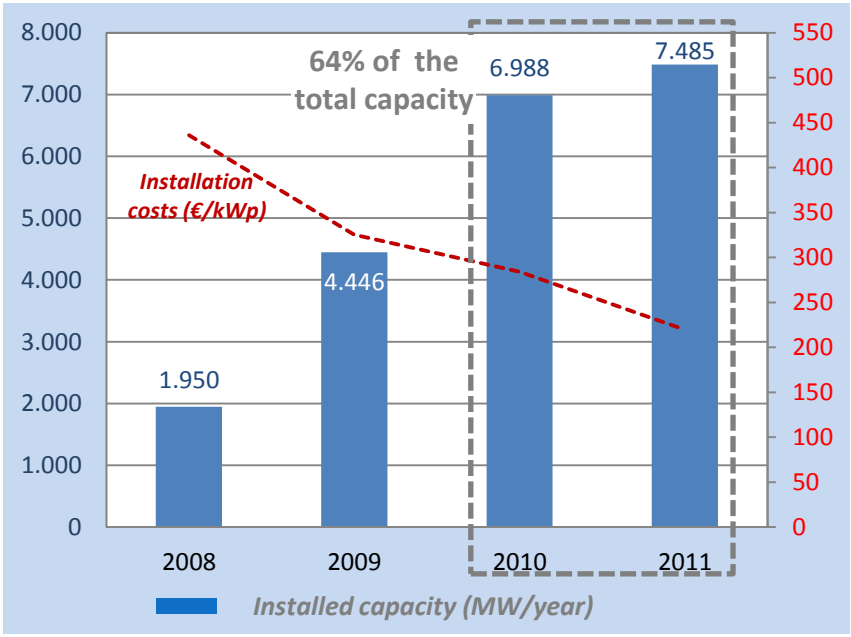
3

Spain bet for RE technologies at a very early stage, at high investment costs, and not fully profiting from their learning curve

Evolution Photovoltaic installed capacity in Spain



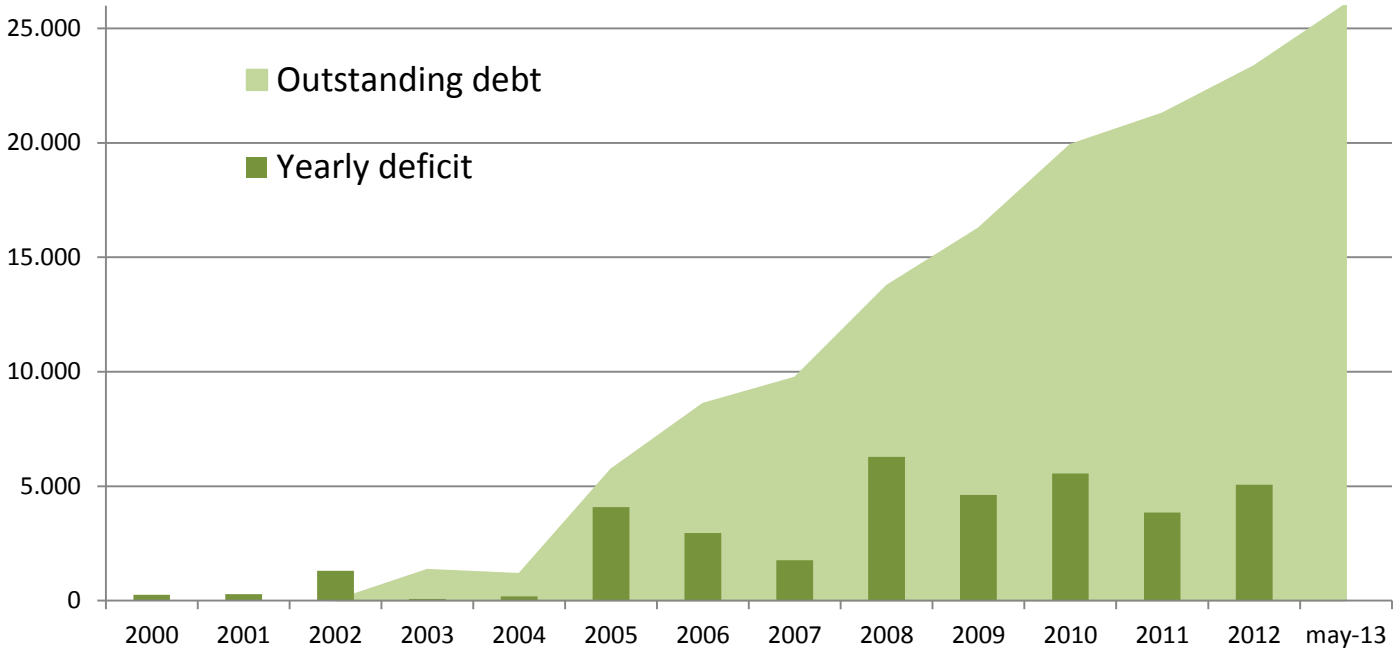
Evolution Photovoltaic installed capacity in Germany



Spain installed 76% of PV capacity in 2008 above 6 M€/MW, with a 450 €/MWh tariff.

Germany installed 64% of its PV capacity between 2010 and 2011, at 3-4 M€/MW, with a 250 €/MWh tariff.

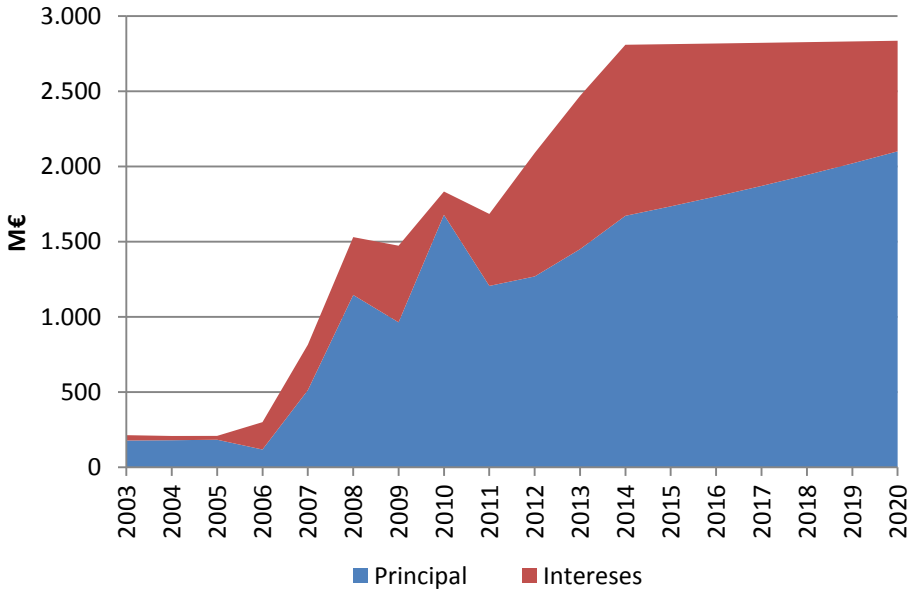
Consequently, yearly tariff deficits have accumulated, resulting in a current outstanding debt of € 26 billion.

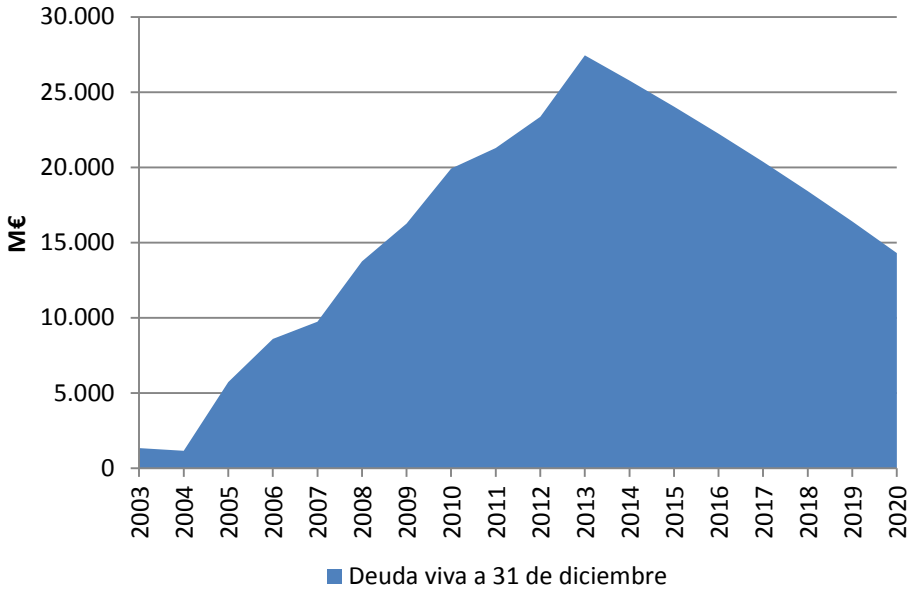


Source: CNE Report on electric power system`s debt May 10th, 2013

- ✓ Despite having paid €10 bn off , the system's debt has reached €26 bn.
- ✓ Previous deficits have been financed by FADE, a securitization vehicle with Spanish Government's guarantee created by Law in 2009.

The annuity for debt repayment is included as a cost to be financed by the power system revenues.



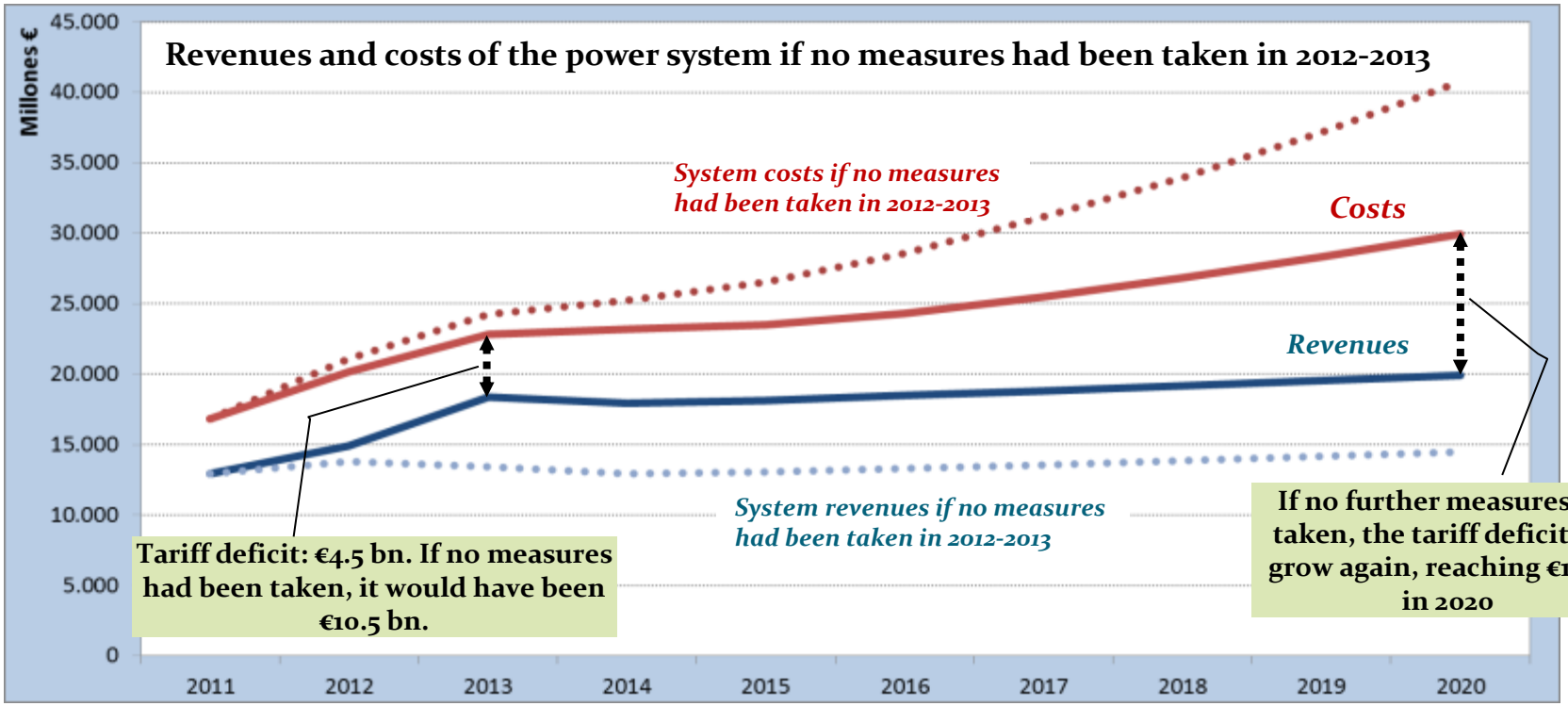


Source: CNE Report on electric power system`s debt May 10th, 2013

- ✓ Annuities currently total € 2.6 bn, adding a significant stress on the system's finances.
- ✓ The Law prevents the use of the securitization fund beyond 2012, therefore making the reform a necessity.
- ✓ No further debt accumulation is possible, and outstanding debt is being paid-off as it reaches its maturity (maximum 15 years).

Under this scenario, the Government took measures in 2012 and 2013, which reduced considerably the gap between revenues and costs.

Without the referred measures, the deficit would have reached €10.5bn in 2013



But further measures are still necessary to definitively adjust the system

In sum, no action was no option.

No action would have led to the power system's bankruptcy	✓ Systemic risk ✓ Country risk and investors' perception towards Spain
No reform would have meant a 42% rise of power prices on average to balance the system	✓ Competitiveness loss ✓ Household purchasing power vastly reduced
A partial solution would have gone nowhere	✓ Future legal changes needed ✓ Regulatory uncertainty increased

The reform had to find a definitive, balanced, rational, and stable solution.

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1. The starting point: tariff deficit and regulatory dispersion

2. **The reform of the Spanish power system: financial stability and regulatory certainty**

The reform is a comprehensive exercise and it is made to stay long.

Urgent measures taken in 2012 and beginning of 2013 to "stop the bleeding"

- ✓ **Law 15/2012: Energy taxes** (€3.5 bn yearly revenues)
- ✓ **Royal Decree-Laws: urgent measures to avoid system costs rising** (€1.5 bn year cost savings)
- ✓ **Access tariff increase:** €1 bn yearly revenues.

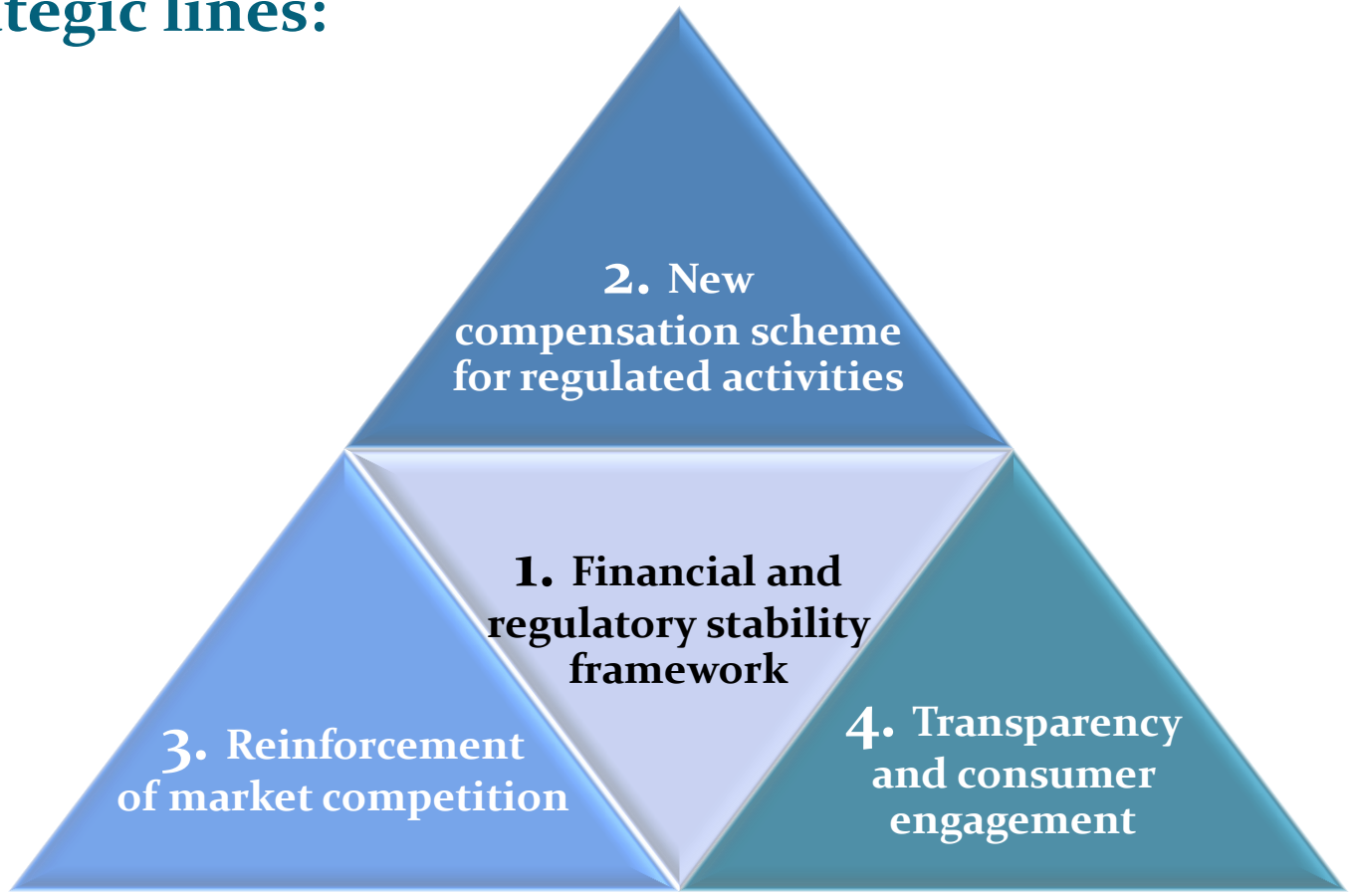
Comprehensive Electricity Sector Reform, July 2013

- ✓ **Law 15/2012:** New **Electricity Sector Law** changing the previous Law from 1997.
- ✓ **1 Royal Decree-Law** to ensure **urgent application of the reform in 2013**
- ✓ **7 Royal Decrees** setting a new regulatory framework and compensation mechanism for:
  - Renewables, cogeneration and waste technologies
  - Transmission
  - Distribution
  - Capacity payments and mothballing
  - Electricity supply
  - Auto-consumption
  - Non-peninsular systems
- ✓ **5 Ministerial Regulations:**
  - Interrumpibility of demand
  - New tariffs and charges structure
  - Natural Gas in CSP stations
  - Wind and PV in non-peninsular systems

The whole reform will be fully into force at the end of 2013 after consultation process with sector agents and supervision of independent agencies

Main pillars of the power sector's reform

The reform definitely corrects the tariff deficit based on 4 strategic lines:



1. Financial and regulatory stability framework

Financial stability framework

Financial stability rule	✓ The Law sets a limit to temporary gaps between costs and revenues in a given fiscal year, and an obligation to increase fees automatically in those cases to keep the **system balanced.**
Prevention of new costs to the system	✓ No new costs can be introduced into the electric power system without an equivalent revenue increase or cost reduction.
Government definition of standard costs	✓ Standards will be set by regulatory authorities on an homogenous basis. If local or regional regulations carry extra costs to the system, these will not be included in the electricity tariff.

1. Financial and regulatory stability framework

Regulatory stability framework

Reasonable compensation	✓ **Adequate compensation** and **reasonable return** to investment will be guaranteed according to the risk level of different regulated activities.
Predictability	✓ Regulated activities compensation is based on **objective, transparent and uniform criteria**.
Reliability	✓ A **mid term-review** of the regulatory framework will take place after a 6 year period, reviewing standards and compensation schemes according to market conditions and economic situation.

2. New compensation scheme for regulated activities

Renewables, cogeneration and waste

Objectives

- ✓ RE and CHP technologies will be compensated so as to put them at the **same competitive level** as conventional technologies.
- ✓ A **reasonable return** to investors in RE and CHP technologies will be guaranteed.
- ✓ The new compensation system is essentially **market oriented**

Compensation scheme

- ✓ RE and CHP technologies will receive a **fix payment to cover investment costs** not recuperated through market sales. Market income's risk is reduced through a cap and floor mechanism.
- ✓ Compensation will be set up according to **investment and operational standard costs** per technology and year of startup. These standards will be objective, transparent and regularly revised.
- ✓ A **reasonable return** on the standard investment is based on Government's Treasury Bonds for 10 years plus a 300 spread (currently 7,5%). Facilities beating the standard through efficiency or cost savings will get an additional return.
- ✓ Specific incentives are set up for renewables in the **Canary islands and Baleares**, as these technologies are less expensive than existing conventional fossil fuel's.

2. New compensation scheme for regulated activities

Transmission and distribution networks

Objectives

- ✓ New compensation schemes will be **homogeneous and stable**.
- ✓ Adequate compensation is set according to reduced market risk of network activities.

Compensation scheme

- ✓ Compensation of network activities will be established according to audited standards which will be **objective, transparent and regularly revised**.
- ✓ An **adequate compensation** is guaranteed for investments based on the Government's Treasury Bonds for 10 years plus 200 basis points (currently equal to 6,5%).
- ✓ Additional **incentives** are foreseen to increase grid availability, improve the quality of supply and reduce network losses.
- ✓ Predictability is assured as the **maximum investment** will be known in advance for a 6 year period.

3. Reinforcement of market competition

Mothballing CCGT	✓ Compensation for mothballing combined-gas power stations will be **auctioned** to reach a maximum power capacity to be set aside.
Resolution of technical constraints	✓ Payments to power stations called for resolution of **technical constraints** are reviewed to prevent monopoly situations and reduce compensation.
TSO's demand interruption	✓ **Compensation for instant interrumpibility services to large industries** is reduced, in a context of excess capacity, and based on an auction system.
Reform of the electricity wholesale market	✓ RE and CHP technologies will be encouraged to participate in **markets for ancillary services**. ✓ An independent commission will be set up to propose a **reform of the electric power market** before the end of the year.

4. Transparency and consumer engagement

Market-based reference price to small domestic consumers

- ✓ Current last-resort consumer tariff will be replaced by a market-based **Voluntary Price to Small Consumers.**
- ✓ Voluntary price to small consumers will be set on a quarterly auction open to new power supply companies. **Competition to supply these consumers is encouraged** and minimum reference prices disappear.

Vulnerable consumers

- ✓ Reduced administrative price to vulnerable consumers (**bono social**) is based on a discount on the voluntary price to small consumers, which is limited restrictively to pensioners, unemployed and large families with a limited income level.

Other improvements

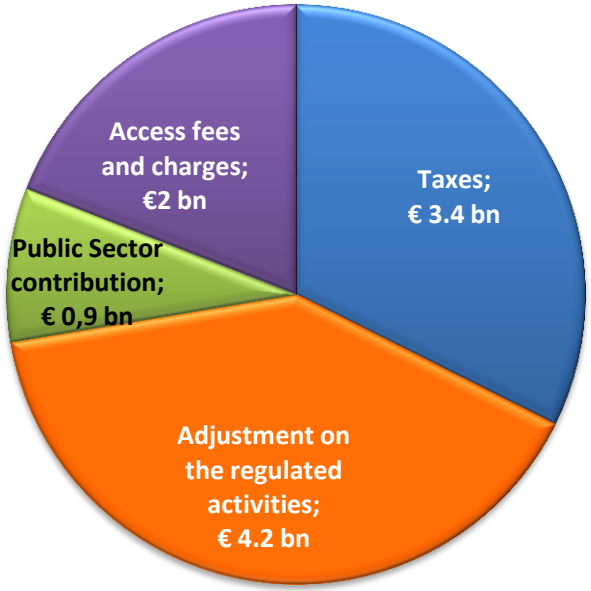
- ✓ The process for consumers' **change of power supply companies** is facilitated.
- ✓ **Arbitration mechanism** for resolution of **consumer disputes** are strengthened, according to European Directives.
- ✓ **Fight against fraud** is strengthened through a new inspection and sanction framework.

Impact of the reform among agents

The reform corrects the tariff deficit with a balanced impact between agents and consumers

Expected deficit in 2013 without measures

Impact of the reform between agents (including previous measures)



In sum, the reform of the Spanish electricity sector…

I. **Was a necessity,** as the continuation of the deficit would have led to the system's bankruptcy or to a huge tariff rise which would have seriously damaged the economy.

II. **Is a final solution,** as it ensures **financial stability of the system,** preventing the possibility of future imbalances in the new Electricity Sector Law.

III. Adopts a comprehensive approach which avoids past continuous regulatory changes and introduces **regulatory certainty** to agents and investors.

IV. Establishes a **transparent, homogeneous and stable compensation mechanism** for regulated activities, guaranteeing a reasonable return to RE investments and an adequate compensation for network based activities.

V. Ensures a **balanced impact** between the different agents of the power system, consumer and Government budget.