



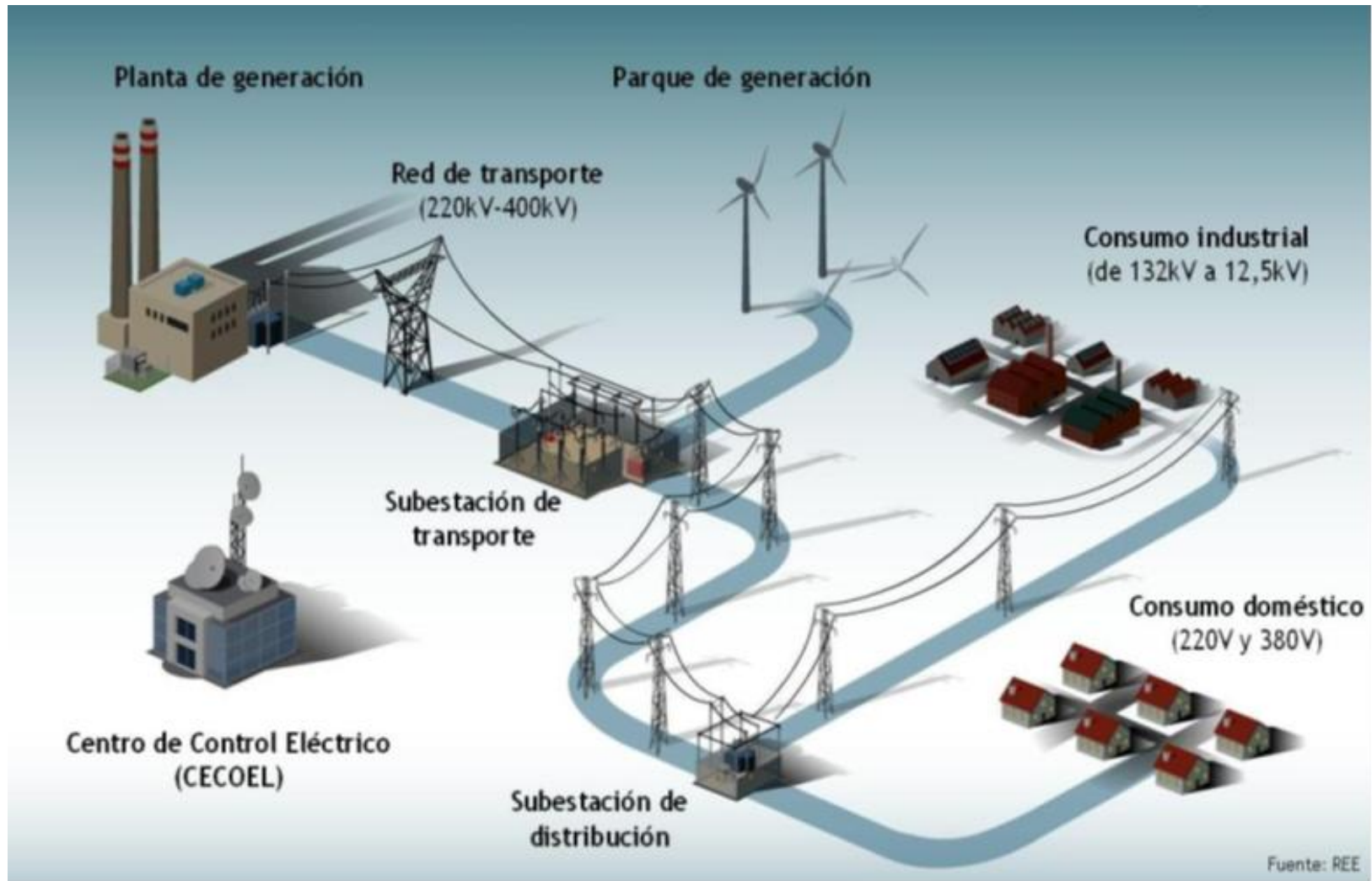
MINISTERIO DE INDUSTRIA, ENERGÍA Y TURISMO



# NET METERING and other policies for buildings and households

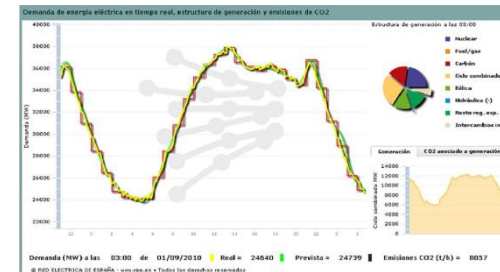
*IDAE – David Poza*

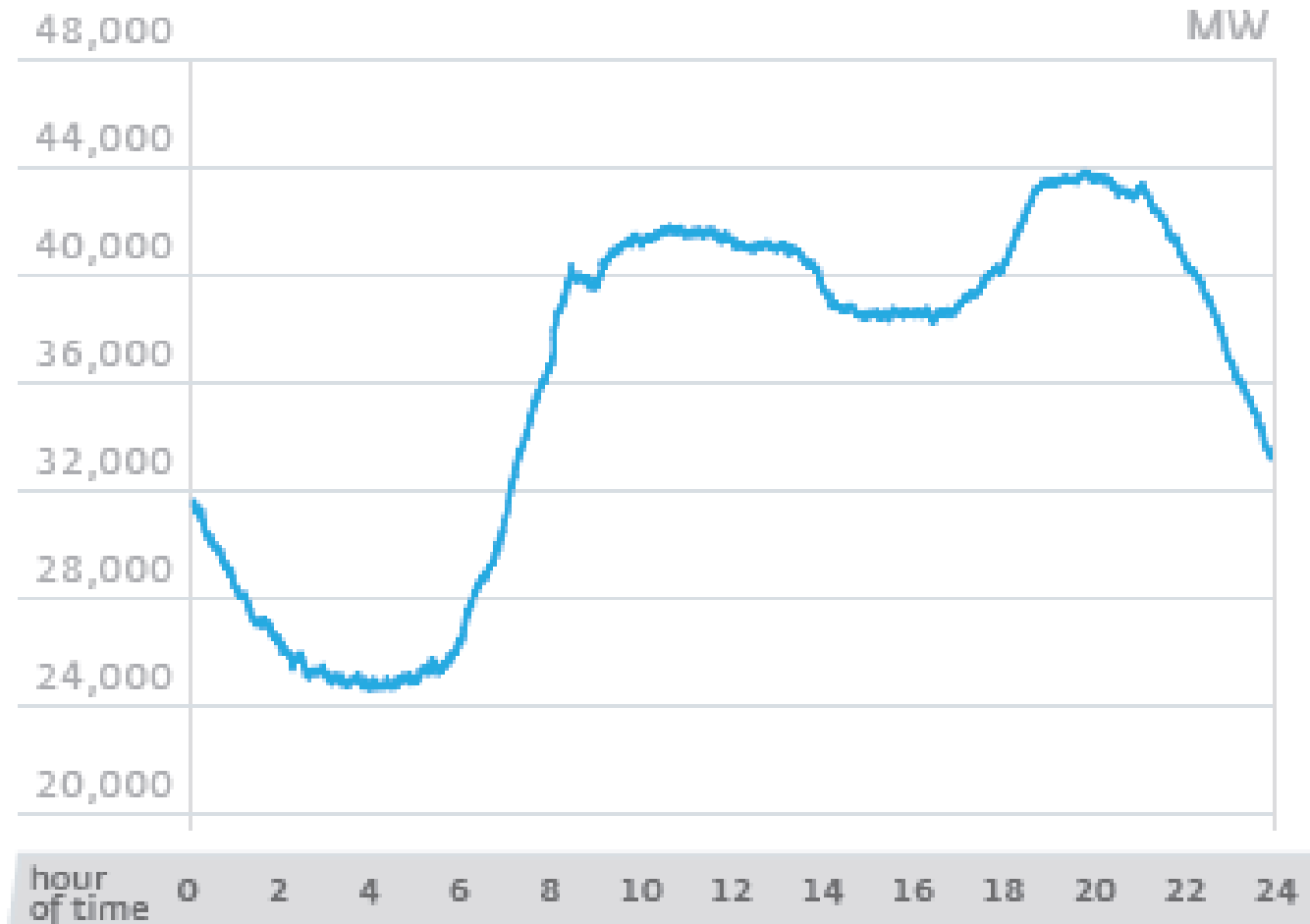
Regional ECREEE Workshop: Training for National Renewable Energy Policy and Incentive Schemes & Global Energy Transformation Pathways and Policy Tools - 09<sup>th</sup> and 11<sup>th</sup> of April 2012, Praia, Cape Verde




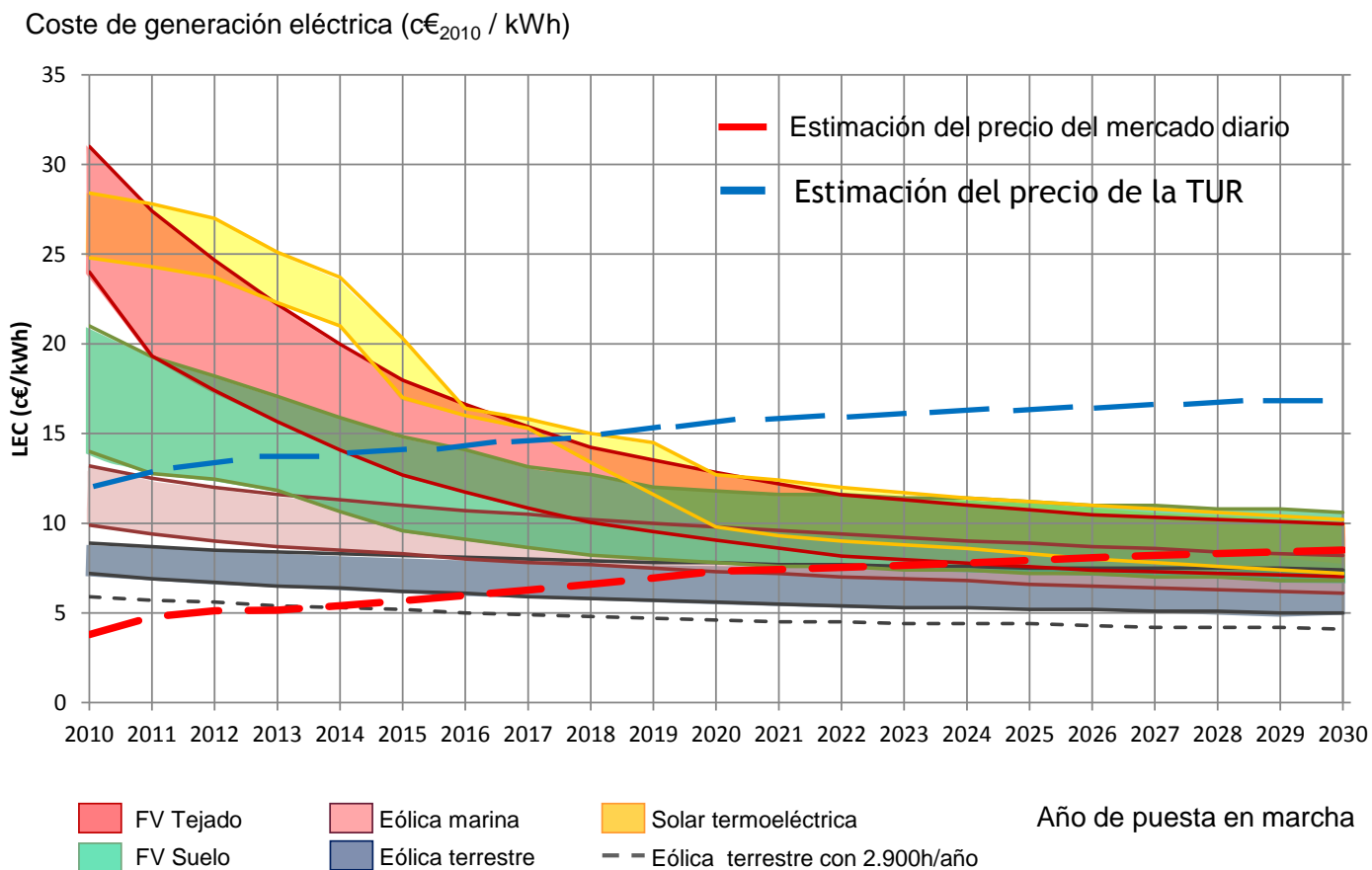
Spanish **energy policy** has been developed around **three axis**:

- ✓ **SECURITY** of supply
- ✓ Increase **COMPETITIVENESS** of our economy
- ✓ Improvement of **SUSTAINABILITY**, according to economic, social and environmental aspects





The reduction of costs and the constant increase of the electricity prices get us closer to the grid parity  Some users may prefer to produce part of their consumption instead of buying this energy to a third party



## SELF-CONSUMPTION: CONTRIBUTION TO THE ENERGY CHALLENGES

### **ADVANTAGES FOR THE CONSUMER**

- Bill savings
- Use of new and cutting-edges technologies
- Responsible and environmentally behaviour
- More personal independence

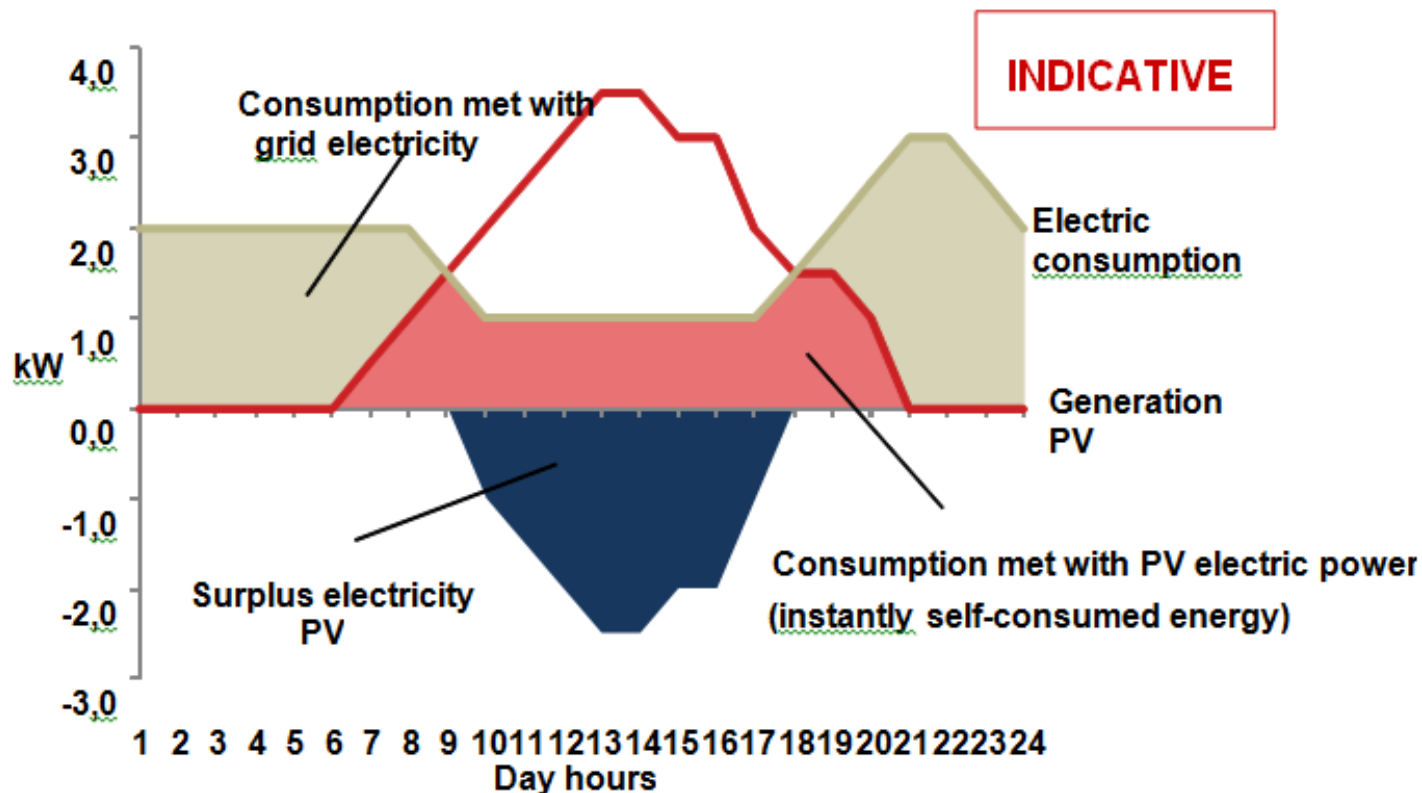
### **ADVANTAGES FOR THE ELECTRICITY SYSTEM**

- Savings by avoiding transmission and distribution losses
- Savings due to less network infrastructures needs
- Savings energy imports (lower external deficit)

### **ADVANTAGES FOR SOCIETY**

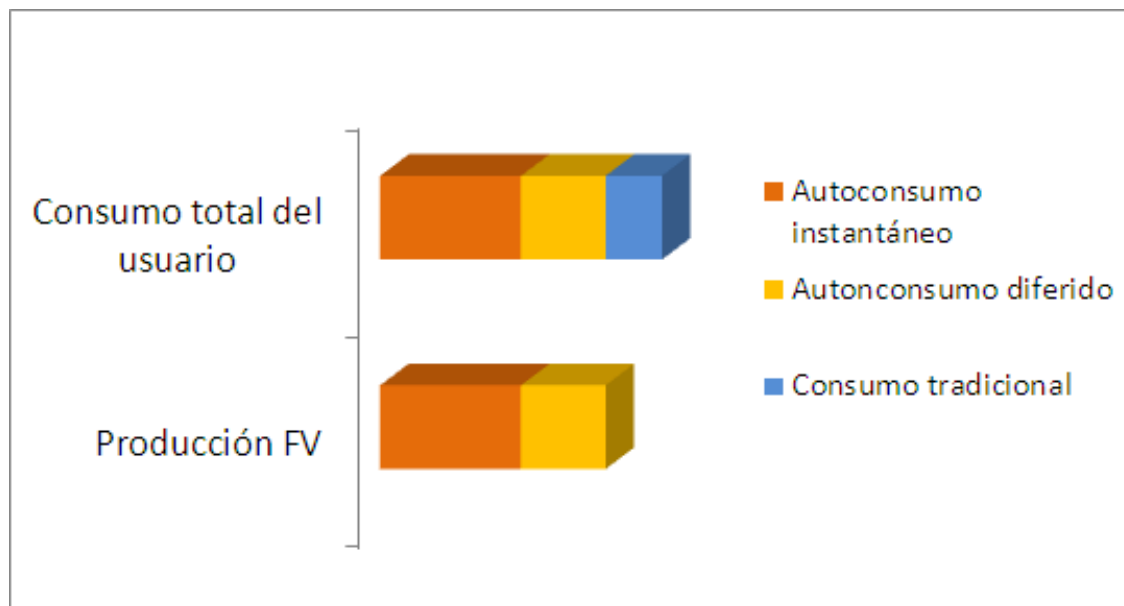
- Creation of national economy and industrial activity
- Creation of jobs
- Local development
- Contribution to the national R&D
- Easier achievement to the national environmental objectives

Compensation procedure of the electricity balances for production installations devoted to self-consumption, either instantly or deferred, off the electric power production legal system, and also focusing on the consumer



Source: IDAE; Analysis by Eclareon

- **Instantaneous self-consumption:** electricity that will cover the consumption of the user at the moment of generation. This consumption will be "invisible" to the electrical system, isn't recorded by the counters and will be seen as a demand reduction.
- **Deferred self-consumption:** grid consumption paid with credits of the surplus of the electricity generated by our system.
- **Usual consumption:** grid consumption that exceeds the deferred self-consumption and therefore the user will be paid to the electricity company.

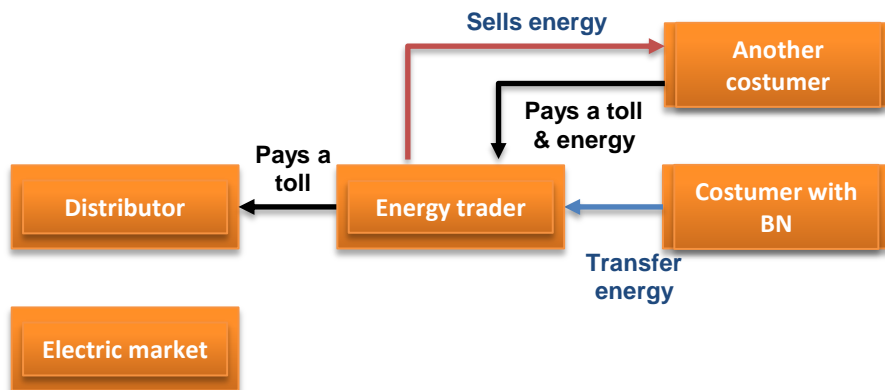




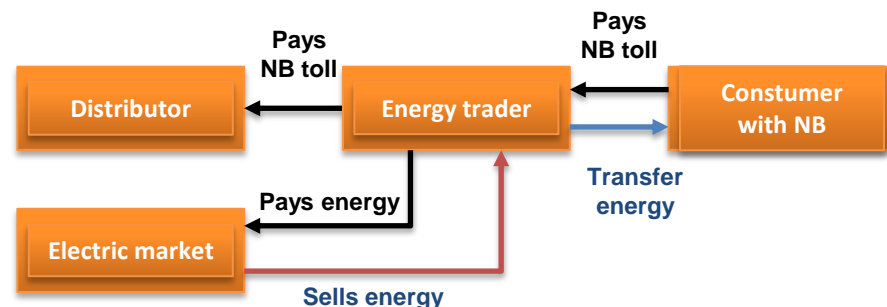
# NET METERING

# A proposal of net balance

## Transfer of surplus electricity: Rights of deferred self-consumption

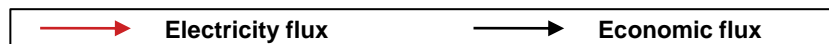


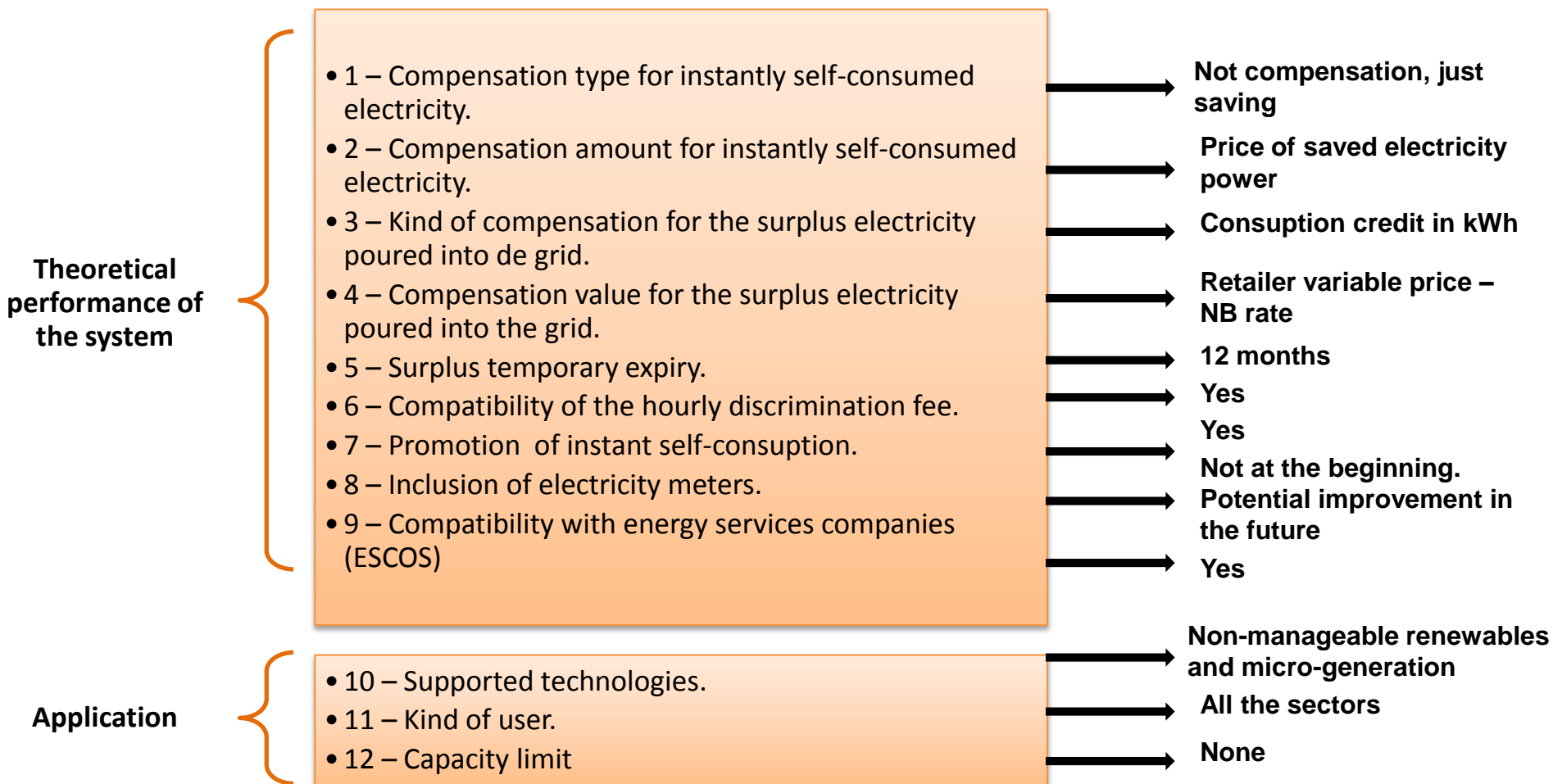
## Return of deferred self-consumption



- When the NB user has a generation surplus, they transfer energy to the trader at no cost.
- This electricity is sold by the trader to another customer.

- When the NB user needs electricity because the renewable installation not produce energy, it gets back the same electricity formerly transferred (compensation).
- This electricity is paid at a reduced price (which is called NB rate), which includes NB tolls (to be created) and the margin for the trader.





The European Union (EU): an economic and political union or confederation of 27 member states which are located primarily in Europe.

The EU operates through a system of supranational independent institutions and intergovernmental negotiated decisions by the member states. Important institutions of the EU include the European Commission, the Council of the European Union, the European Council, the Court of Justice of the European Union, and the European Central Bank. The European Parliament is elected every five years by EU citizens.



A directive is a legislative act of the European Union, which requires member states to achieve a particular result without dictating the means of achieving that result. It can be distinguished from regulations which are self-executing and do not require any implementing measures. Directives normally leave member states with a certain amount of leeway as to the exact rules to be adopted. Directives can be adopted by means of a variety of legislative procedures depending on their subject matter.

- **DIRECTIVE 2009/28/EC: promotion of the use of energy from renewable sources**
- **DIRECTIVE 2010/31/EU: on the energy performance of buildings**

## BEFORE THE APPLICATION OF THE TECHNICAL BUILDING CODE

### TEN YEARS OF SOLAR NORMS IN SEVERAL CITIES.

- The Barcelona Solar Norm begins in 2001.
- The Madrid Solar Norm begins in 2003.

THERE WERE 80 CITY NORMS BEFORE THE TBC APPLICATION



City Norms **HAVE BEEN THE KEY** to prepare the ground for future legislation

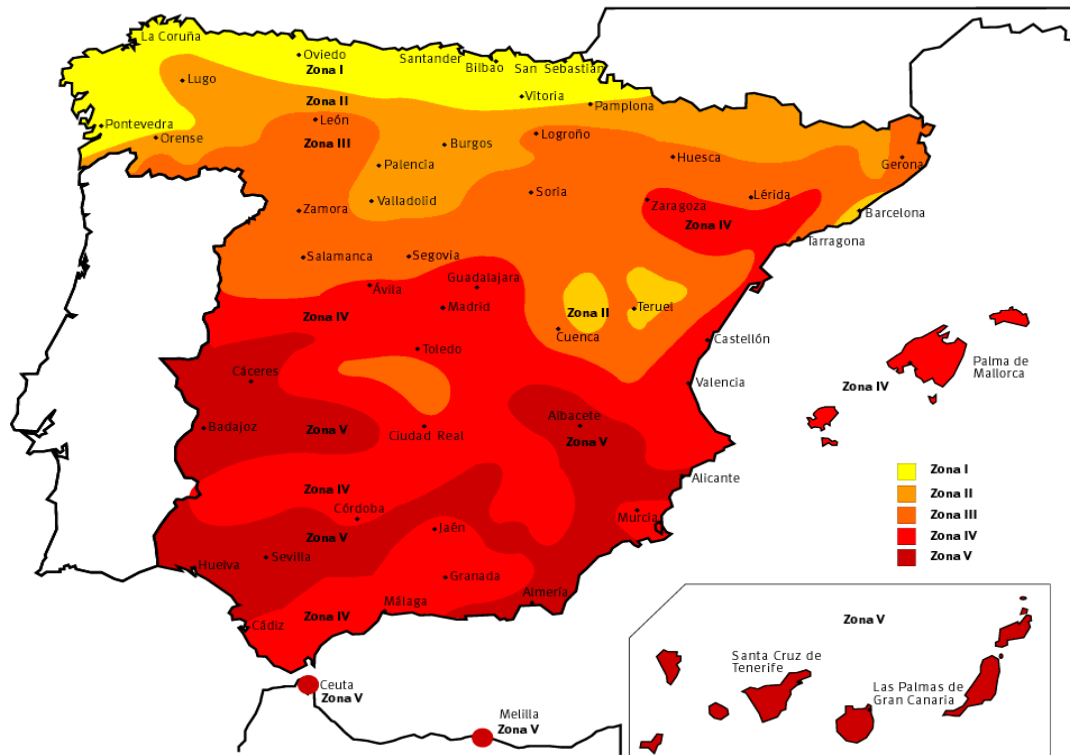
## What is the Technical Building Code?

The Technical Building Code is the existing regulatory framework that establishes the requirements that must be fulfilled by the buildings in relation with the basic requirements of safety and habitability established in the Law of Building.

### Requirements

- Limit energy demand
- Increase efficiency of the heating equipment
- Increase efficiency of the lighting equipment
- Introduce solar thermal
- Introduce photovoltaic

## Climatic zones considered



Zona I:  $H < 3,8$   
 Zona 2:  $3,8 \leq H < 4,2$   
 Zona 3:  $4,2 \leq H < 4,6$   
 Zona 4:  $4,6 \leq H < 5,0$   
 Zona 5:  $H \geq 5,0$   
 $H = \text{kWh/m}^2$

## THE TECHNICAL BUILDING CODE

**IN MARCH 2006 THE SPANISH GOVERNMENT ADOPTED A NEW CODE.**

It established a new regulatory framework for buildings and defined basic requirements of quality, security and living conditions.

## **THE TBC ESTABLISHES SIX BASIC QUALITY REQUIREMENTS FOR BUILDINGS:**

DB-SE: Structural Safety

DB-SI : Safety in case of fire

DB-SU: Safety of use

DB-HS: Hygiene, Health and Protection of the environment

DB-HS: Protection against noise

DB-HE: Energy Saving and thermal isolation



## THE DB-HE DEFINES FIVE BASIC REQUIREMENTS FOR ENERGY SAVING

Basic Requirements HE1: Limitation of energy demand

Basic Requirements HE2: Efficiency of thermal installations

Basic Requirements HE3: Energy Efficiency of lighting installation

Basic Requirements HE4: Minimal solar contribution for sanitary hot water

Basic Requirements HE5: Minimal photovoltaic contribution for electric power

**HE4 ESTABLISHES THE OBLIGATION TO COVER 30 – 70 % OF THE DOMESTIC HOT WATER REQUIREMENT USING SOLAR THERMAL ENERGY.**



# INSTITUTE FOR THE DIVERSIFICATION AND SAVING OF ENERGY

## THANK YOU

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