

# Making energy efficiency happen in Europe



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**IBERDROLA**

- **Energy efficiency (EE)** is one of the **priorities** of the **EU energy policy**: 20% EE improvement (target 2020); 27% (target 2030)
  - Benefits in terms of competitiveness, climate change mitigation, security of supply, industrial development...
- Despite EU **progress**, energy efficiency investments (specially private) remain **lower than expected and needed**, often due to noneconomic barriers
- European Commission highlights that:
  - *“EU will **achieve energy savings of around 18-19% in 2020**”* \* (but 1/3 due to economic crisis)
  - The efforts required to achieve 2030 target should not be underestimated.
- Energy efficiency **policies** are extremely **complex**:
  - Its effective and efficient implementation presents important **challenges**
  - There has been plenty of research and policy proposals but experiences show difficulties to tackle barriers and market failures

# Why progress in energy efficiency is lower than expected?

## Crosscutting elements

- **Prices** that do not internalize all costs
- Imperfect **information**, transaction cost
- Low **awareness**
- **Financing** problems
- EU **mechanisms** are primarily **targeted** at **large scale** projects while small scale investments are also needed (e.g. at the residential level)

## Sectoral barriers

### **Buildings** (40% EU final energy consumption):

- Behavioral barriers (residential)
- Difficulties to finance retrofits (specially for residential)
- Long life of buildings

### **Transport** (30% EU final energy consumption):

- Low share of energy bill on personal income, cultural aspects and image...
- Need of high capital intensive infrastructures to tackle modal change (e.g. rail)

### **Industry**

- Awareness about EE impact on competitiveness but financing needs jeopardize improvements

Overcoming barriers and market failures is a key element to cover EE investment gaps

### Energy price signal

- **Price signal** is a key issue to rationalize energy consumption
- An **Environmental Tax Reform** (based on polluter pays principle) could improve price signal (eliminating distortions between consumers) and (very important) raise funds to finance energy or climate change policies (Res, EE, etc.)
  - European Commission has highlighted the need of public funds to achieve EU goals in this field
- All **costs should be internalized** (including environmental cost at right level), aligning policies in the fields of energy, economy and environment
  - Non ETS sectors have to face an equivalent CO<sub>2</sub> cost signal to those covered by ETS in order to avoid distortions based on artificial competitive advantages \*

### EE potential and cost

- A thorough **assessment** on potential **measures** and their cost should be developed to identify the best approach taking into account the characteristics and differences of each MMSS economy
- This assessment is **essential** to prioritize **EE policies** and to **allocate** efficiently efforts and sources (e.g. **subsidies**, cost-benefit analysis)

\* See ANNEX.

## Policy proposals to meet energy efficiency goals (II)

### Command and control

- In **sectors** that are **not subject to CO<sub>2</sub> cost schemes**, **energy efficiency standards** should be developed to provide incentives for reducing emissions
- For those **sectors** in which the **energy cost represents a low share** on total cost, additional instruments, such as **standards** can provide **important improvements** (e.g. standby regulations, vehicle emissions thresholds, building codes,...).

### R & D & i

- **Funds** for R&D in EE should be reinforced and **allocated taking into account its positive** impact on **competitiveness** and climate change mitigation
- Resources from CO<sub>2</sub> tax revenues or ETS auctions can play a key role

## Policy proposals to meet energy efficiency goals (III)

### Information & awareness

- Information and awareness measures are very important in making progress in the field of **sustainable consumption** of all resources, particularly energy resources... May be the most effective policy in the long term!

### Financing burden

- Energy efficiency **policy cost** should be **distributed on a balanced basis among all energy consumers** (natural gas, fuels,...) so as to send the right price signals to energy consumers and avoid negative distortions
- When allocating the cost of the policies, it is important to bear in mind the **"polluter pays" principle**, removing subsidies to emitters and reducing the taxes that apply to non-emitting technologies
- Side effects of financing policies, such as the promotion of EU industrial development, should be taken into account \*
- **Subsidies** should be **based on** a previous analysis in terms of **potential and cost-benefit** results for each measure

\* "European climate finance: securing the best return". Bruegel. September 2015.

- **Energy efficiency** improvement is and should be a **priority** of EU energy model
- Energy efficiency **investments** (specially private) remain **lower than expected and needed**, often due to non economic barriers
- It is **difficult** to find a solution to “the **energy efficiency gap**” since there are a wide range of barriers, market failures...
- Our **proposals** focus on the following aspects:
  - An **Environmental Tax Reform** to deliver a strong CO<sub>2</sub> price signal to all energy users, which could also be useful to fund energy policies (RES, EE...)
  - A **thorough assessment** of potential and costs of different EE measures (taking into account differences between countries and sectors) to prioritize public policies
  - In **sectors not subject to CO<sub>2</sub> cost** and where energy bill represents a low share of their costs, **price signal** should be **complemented** by **standards** and **financing** measures
  - For all sectors, **education and awareness should be a priority** and may be the most effective policy in the long run
  - Within the **power sector**, fuel switching and smart grids will be key elements to achieve EE goals
  - **Smart R&D policy** to align EE with competitiveness and climate change mitigation

An intelligent energy efficiency policy could be an industrial opportunity for the EU

# Example on energy taxes in Europe (CO2, RES costs) not applying the “polluter pays” principle

**Electric train**



|                 |
|-----------------|
| CO <sub>2</sub> |
| (RES subsidies) |
| Other taxes     |
| VAT             |

**Electricity**  
(low environmental impact)

**Fossil fuel train**



|             |
|-------------|
| Other costs |
| Other taxes |
| VAT         |

**Diesel**  
(high environmental impact)

**Consumers do not receive the right price signal**