



A Proposal for a Fiscal Reform in the Energy Sector

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Current taxes on energy are not environmentally oriented

- Current taxes on energy are not environmentally oriented.
 - Eg. Special Tax (5.1%) on final electricity consumption
 - Eg. Special Tax (7%) on sales of electricity paid by generators

None of them take into account GHG, SO₂, NO_x or particles emissions

- Only the Special Tax (created by Law 15/2012) on coal and natural gas used to produce electricity is somehow environmentally oriented. As 0.65 €/Gj becomes 4.68 €/MWh_e when electricity is produced with natural gas and 6.32 €/MWh_e when produced with coal. The tax overlaps with ETS. There is no damage internalization.
- Regional Governments have their own taxes on SO₂ generating distortions

References to international organisms and fiscal reports with recommendations for Spain

- Multiple international organisms warn that current environmental taxes in Spain are too low, specially for diesel: OECD, European Council and IMF
- Several reports produced by experts on fiscal affairs claim for a fiscal reform oriented to environmental taxes: “Informe Lagares (2014)” and “Informe de la Fuente (2017)”

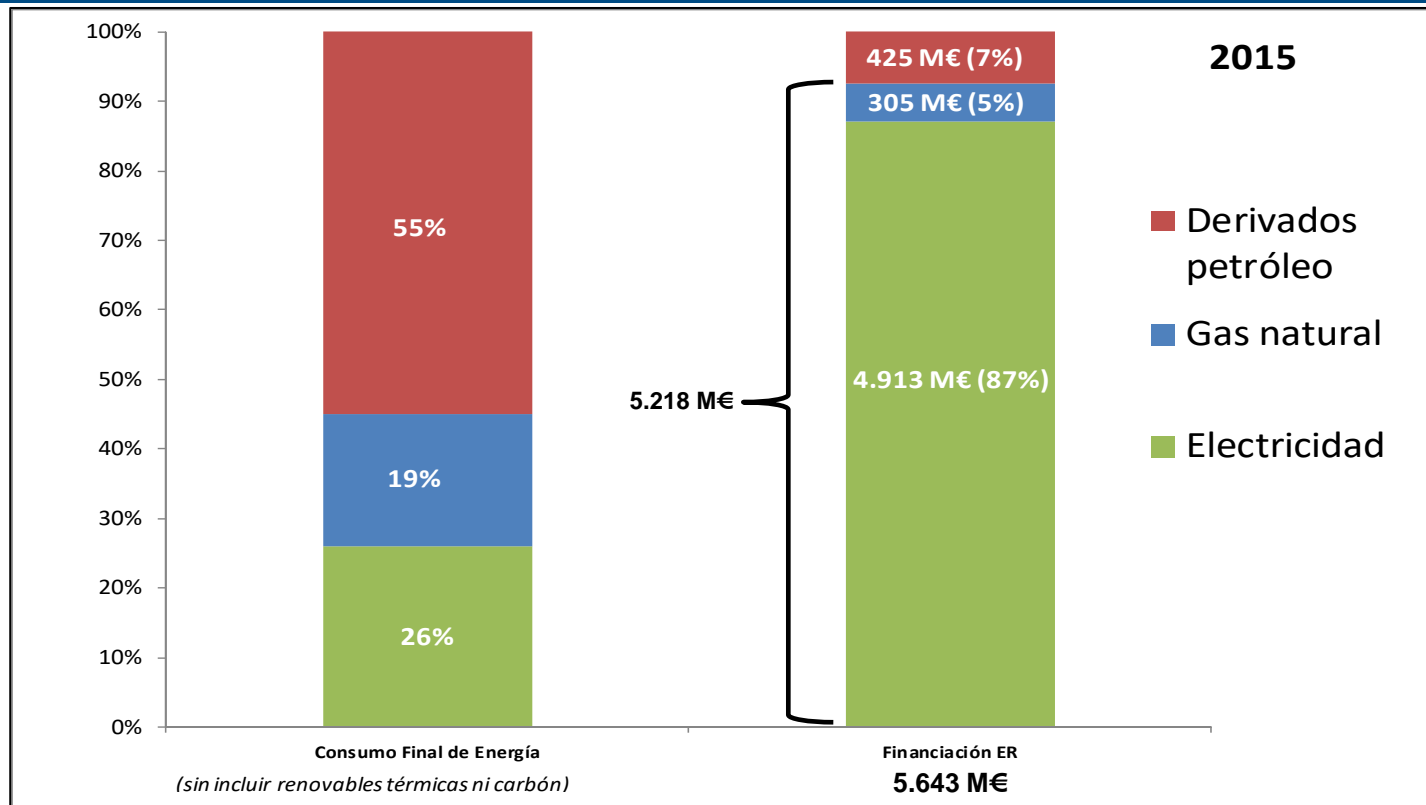
Guidelines for an efficient and environmentally-oriented fiscal reform in the energy sector

1. Substitution of current taxes (aimed to collect revenues) for new taxes **internalizing 100% of the environmental damage** when consuming energy
2. Efficient mechanism to finance **renewable energies**
3. Vehicle users have to **pay for the roads** they use
4. **Political restrictions**

¿Why should be eliminate current taxes?

- **Because they do not internalize environmental externalities** (current taxes are aimed at collecting revenues)
- **Double taxing problems**
 - Eg.: special taxes on coal and natural gas to produce electricity (0.65 €/Gj), special tax on final consumption of electricity (5.1%) and special tax on sales of electricity (7%) overlap with each other
- **Lack of uniformity among regions when taxing SO₂**

¿Why should we change the current way to finance renewable energies?



It is efficient to promote Wind Power and Photovoltaic Plants because they are the most efficient renewable options right now; but it is not efficient that 90% of the effort is charged to the electricity sector

The current renewable target in Spain (20% of final energy demand in 2020) means that all final energy vectors have contributed to induce investments in renewable energies

¿Why vehicle users have to pay for the roads they use?

- Different calculations of the annual cost of primary and secondary roads in Spain point to 12.5 billion euros/year (amortization + interests included)
- 12.5 billion euros/year is roughly the revenues collected by the current Special Tax on gasoline and A diesel consumption
- That means vehicle users would NOT be paying environmental damages at all
- Options to internalize the use of roads:
 - The vignette approach: annual payment to have the option to use primary or secondary roads (Switzerland, Austria, Check Republic, etc.)
 - Specific Tax component included in the Special Tax on gasoline and A diesel consumption
- The second option is better in the short-run as there is an absolute correlation between fuel consumption and Km of roads used; also, the administrative procedure to collect taxes on oil derivatives is very efficient
- The first option is better in the mid-term as electrical vehicles become more important in Spain

¿What political restrictions?

- 1. Compensation to Public Administrations** for the revenues lost after eliminating current taxes
- 2. Compensations to vulnerable consumers:**
 - industries exposed to international competitions should not pay CO2 tax or renewables
 - Professional drivers (trucks and taxis): freeze current tax level
 - B Diesel consumers (agriculture and fishing): freeze current tax level
- 3. Not to raise current fiscal pressure** (that is, Public Expenditure)

Assumptions for the simulations

- Tax rates for **CO₂** at 15, 20 25 y 30 €/t + compensations to ETS sectors
- Tax rates for **SO₂, NO_x and particles** from the European Commission (CASES y ExterE projects)
- Special Tax component on gasoline and A diesel **to finance primary and secondary roads** (not vignettes)
- Special tax (%) on the value of any final energy consumption (electricity + natural gas + oil derivatives) **to finance renewable energies**

Simulation at 15 €/t CO2

Use of resources (M€)

Use of resources (in M€)

| | |
|--|---------------|
| Compensación pérdida de ingresos AAPP | 13.897 |
| Impuesto Especial de Electricidad | 1.372 |
| Impuesto Especial Hidrocarburos (*) | 12.325 |
| Impuestos ambientales CCAA | 200 |
| Fondo Financiación de Renovables | 5.011 |
| Sobrecostes Renovables Eléctricas | 4.586 |
| Sobrecostes Biocombustibles | 425 |
| TOTAL USOS DE LA RECAUDACIÓN | 18.908 |

(*) No se incluyen los de la Ley 15/2012, pues éstos se destinan al Fondo de liquidaciones de la CNMC

Simulation at 15 €/t CO2

Resources (M€)

Estimations of revenues (gross and net of compensations) from the new taxes (in M€)

| | |
|---|---------------|
| Impuesto Emisiones de CO2 | 2.439 |
| Impuesto otras Emisiones Contaminantes | 3.037 |
| Recargo Renovables | 2.193 |
| Recargo Carreteras | 12.597 |
| Subastas de CO2 | 343 |
| Total Recaudación Bruta | 20.610 |
| Exenciones a la Industria | -554 |
| Exenciones a Profesionales del Transporte | -653 |
| Exenciones a Consumidores de Gasóleo B | -494 |
| Total Exenciones | -1.702 |
| TOTAL RECAUDACIÓN NETA DE EXENCIONES | 18.908 |

The special tax to finance renewables would be 3,54%

Simulation con 15 €/t CO2

Impact on energy prices

| | Variación en el Precio (%) | | Energía Eximida (%) |
|----------------------------------|----------------------------|------------------------|---------------------|
| | Colectivos NO Eximidos | Colectivos Sí Eximidos | |
| Electricidad Baja Tensión | -6,8% | | 0% |
| Electricidad Media Tensión | -5,6% | -12,6% | 41% |
| Electricidad Alta Tensión | -0,7% | -9,7% | 82% |
| Gas Natural Grupo 3 | 5,8% | | 0% |
| Gas Natural Grupo 2 (No ETS) | 13,0% | -1,5% | 84% |
| Gas Natural Grupo 2 (ETS) | 7,3% | -1,5% | |
| Gasolina | 1,8% | | 0% |
| Gasóleo A | 28,6% | 0,0% | 12% |
| Gasóleo B | 0,0% | 0,0% | 100% |
| Gasóleo C | -4,1% | | 0% |
| Fuelóleo uso industrial (No ETS) | 15,9% | -4,2% | 50% |
| Fuelóleo uso industrial (ETS) | 7,3% | -4,2% | |
| GLP | 2,6% | | 0% |

The wholesale price of electricity increases 1,1 €/MWh

The Fiscal Reform reduces final electricity tariffs and raises natural gas and oil derivatives' prices

Simulation at 15 €/t CO2

Impact on industries

| Sector | VAB/PIB | Peso del gasto en gas sobre VAB | Peso del gasto en electricidad sobre VAB | Incremento del coste medio |
|--------|---------|---------------------------------|--|----------------------------|
| 1 | 0,0% | 0,0% | 3,4% | -9,7% |
| 2 | 0,2% | 1,7% | 14,6% | -8,9% |
| 3 | 0,8% | 2,2% | 5,4% | -9,5% |
| 4 | 0,3% | 0,7% | 8,2% | -11,7% |
| 5 | 0,2% | 2,6% | 6,0% | -9,3% |
| 6 | 0,2% | 0,8% | 2,3% | -9,8% |
| 7 | 0,3% | 0,3% | 7,8% | -12,2% |
| 8 | 0,3% | 6,0% | 14,3% | -9,3% |
| 9 | 1,0% | 3,4% | 6,8% | -7,0% |
| 10 | 0,5% | 1,8% | 10,4% | -8,5% |
| 11 | 0,2% | 1,0% | 13,0% | -9,2% |
| 12 | 0,1% | 7,5% | 7,2% | -5,6% |
| 13 | 0,2% | 12,2% | 5,9% | -4,2% |
| 14 | 0,4% | 1,3% | 12,2% | -8,9% |
| 15 | 0,7% | 3,6% | 11,5% | -7,8% |
| 16 | 0,3% | 0,3% | 8,5% | -12,3% |
| 17 | 0,1% | 0,2% | 6,2% | -12,3% |
| 18 | 0,1% | 0,1% | 2,9% | -12,2% |
| 19 | 0,0% | 0,0% | 11,2% | -12,6% |
| 20 | 2,0% | 0,0% | 2,1% | -6,1% |
| 21 | 0,1% | 0,0% | 0,0% | 0,0% |
| 22 | 0,1% | 0,7% | 0,3% | 6,2% |
| 23 | 0,2% | 0,2% | 5,0% | -6,9% |
| 24 | 0,4% | 0,8% | 4,9% | -3,4% |
| 25 | 0,1% | 3,0% | 8,8% | -1,4% |
| 26 | 0,0% | 0,1% | 2,1% | -5,0% |
| 27 | 0,1% | 0,3% | 4,7% | -5,1% |
| 28 | 0,7% | 0,3% | 3,7% | -4,6% |
| 29 | 1,2% | 0,5% | 5,7% | -0,6% |
| 30 | 0,8% | 0,2% | 3,6% | -5,0% |
| 31 | 0,1% | 0,3% | 2,5% | -4,1% |
| 32 | 0,9% | 0,8% | 6,3% | -4,0% |
| 33 | 0,3% | 0,4% | 3,7% | -4,4% |
| 34 | 0,5% | 0,1% | 1,9% | -5,2% |
| 35 | 8,4% | 0,0% | 0,6% | -5,4% |

Industries with compensations

Industries without Compensations

Simulation at 15 €/t CO2

Impact on macroeconomic variables

| | Variación | |
|-----------------------------------|-----------|-------|
| | (#) | (%) |
| Empleo (miles) | 280 | 1,6% |
| Parados (miles) | -280 | -3,1% |
| Tasa paro (%) | | -1,2% |
| PIB nominal (M€) | | 1,3% |
| Variación índice precios | | 0,5% |
| PIB real (M€) | | 0,8% |
| Recaudación impuestos (M€) | 941 | 0,2% |

Real GDP and Employment grow

More revenues collected from VAT and Personal Income Tax

Simulation at 15 €/t CO2

Impact on disposable income of households

| | Impacto sobre la Renta Disponible | | | | | | IMPACTO FINAL | |
|--------------------|-----------------------------------|--|--|--|---|---|-----------------|-------------|
| | Ingresos del hogar medio | ... a través del gasto vía incremento de precios energéticos | ... a través del gasto vía incremento de otros precios | ... a través del gasto vía incremento de precios (TOTAL) | ... a través de la renta vía incremento del PIB | ... a través de la renta vía devolución del incremento de recaudación | | |
| | (€/año) | (€/año) | (€/año) | (€/año) | (€/año) | (€/año) | (€/año) | (%) |
| | [1] | [2] | [3] | [4]=[2]+[3] | [5]=[1]×1,7% | [6] | [7]=[4]+[5]+[6] | [8]=[7]/[1] |
| Hogar Medio | 22.383 | -207 | -65 | -272 | 297 | 51 | 76 | 0,3% |
| 1 | 5.333 | -52 | -28 | -80 | 71 | 51 | 42 | 0,8% |
| 2 | 9.371 | -57 | -34 | -91 | 124 | 51 | 84 | 0,9% |
| 3 | 11.983 | -110 | -44 | -153 | 159 | 51 | 57 | 0,5% |
| 4 | 14.710 | -152 | -50 | -203 | 195 | 51 | 44 | 0,3% |
| 5 | 17.191 | -170 | -55 | -226 | 228 | 51 | 54 | 0,3% |
| 6 | 20.698 | -222 | -65 | -287 | 274 | 51 | 39 | 0,2% |
| 7 | 24.821 | -246 | -70 | -316 | 329 | 51 | 64 | 0,3% |
| 8 | 28.939 | -280 | -79 | -359 | 384 | 51 | 76 | 0,3% |
| 9 | 35.325 | -351 | -97 | -449 | 468 | 51 | 71 | 0,2% |
| 10 | 55.463 | -426 | -130 | -556 | 735 | 51 | 231 | 0,4% |

Disposable income of households could rise if GDP grows and if the increase of revenues collected by the Government from VAT and Income Tax is distributed to families and is not used to increase public expenditure

Simulation at 15 €/t CO2

Impact on fiscal pressure

INCREMENTO DE LA RECAUDACIÓN (M€)

| | |
|--|---------------|
| Impuesto Emisiones de CO2 | 2.439 |
| Impuesto otras emisiones contaminantes | 3.037 |
| Recargo para financiación de Renovables | 2.193 |
| Recargo para financiación de Carreteras | 12.597 |
| Incremento antes de Exenciones/bonificaciones | 20.266 |
| Exenciones/bonificaciones | -1.702 |
| Incremento Total | 18.565 |

REDUCCIÓN DE LA RECAUDACIÓN (M€)

| | |
|---------------------------------------|---------------|
| Impuesto Especial de Electricidad | 1.372 |
| Impuestos CCAA | 200 |
| Impuestos Ley 15/2012 | 2.298 |
| 7% Generación | 1.652 |
| IE carbón | 252 |
| IE gas natural uso convencional (est) | 248 |
| IE gas natural uso eléctrico (est) | 147 |
| Peajes de Acceso eléctricos | 2.322 |
| Impuesto Especial Hidrocarburos | 12.325 |
| Obligación mezcla biocombustibles | 425 |
| Reducción Total | 18.943 |

| | |
|--|------------|
| SALDO: REDUCCIÓN PRESIÓN FISCAL | 379 |
|--|------------|

Fiscal Pressure does not change

Simulation at 15 €/t CO2

Environmental impacts

| | CO2 | NOx | SO2 | Partículas |
|-------------------------------------|--------|-------|-------|------------|
| Por cambio precios energéticos (kt) | -6.791 | -42 | -3 | -3 |
| Por subida del PIB (kt) (*) | 1.946 | 7 | 2 | 2 |
| Total (kt) | -4.845 | -36 | -1 | -1 |
| Total (% sobre emisiones España) | -2,0% | -4,5% | -0,4% | -0,6% |

The Fiscal Reform reduces polluting emissions to the atmosphere