



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)”

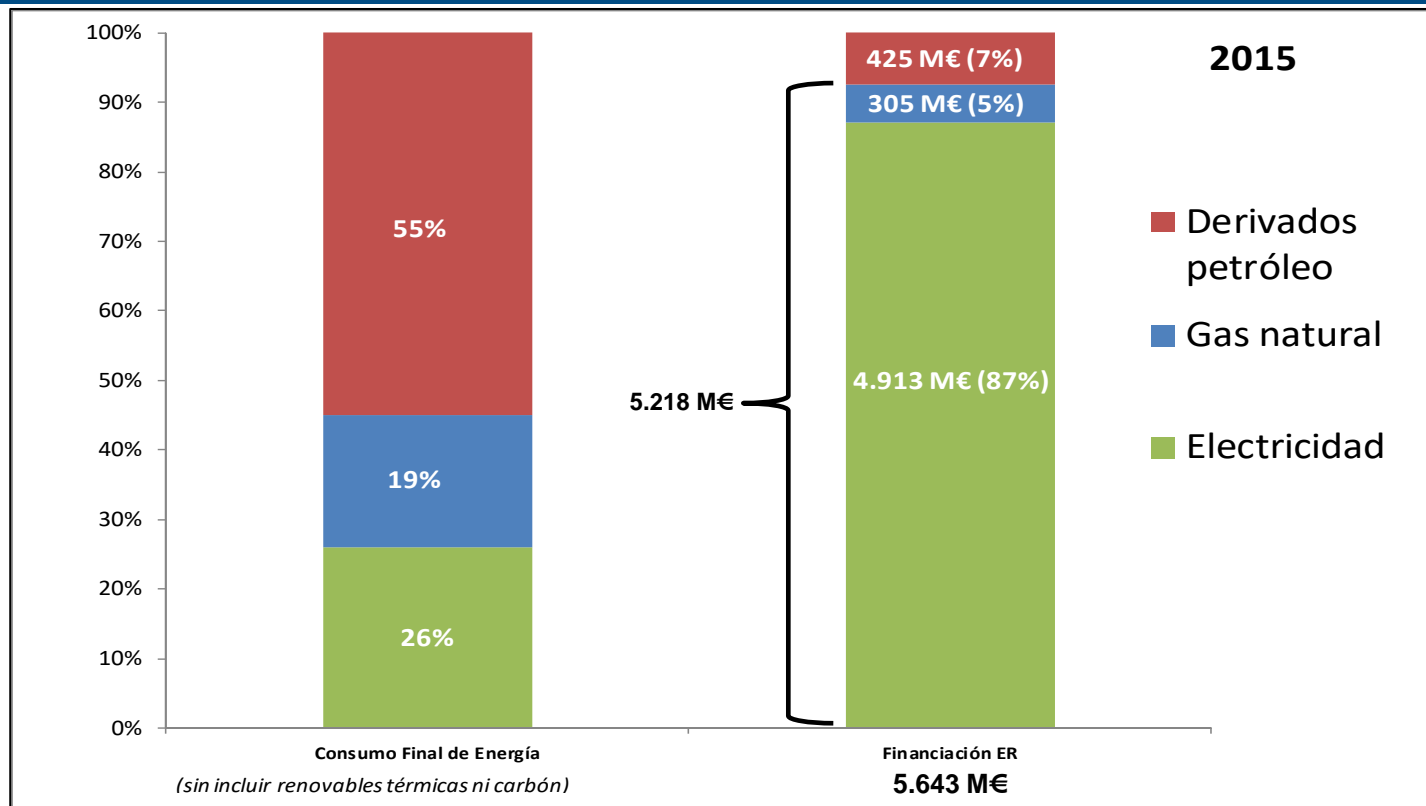
Guidelines for an efficient and environmentally-oriented fiscal reform in the energy sector

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 the 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
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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