



TAXATION AND GREEN GROWTH

GBE/IDDRI conference
Green taxation as key for sustainable fiscal
reform

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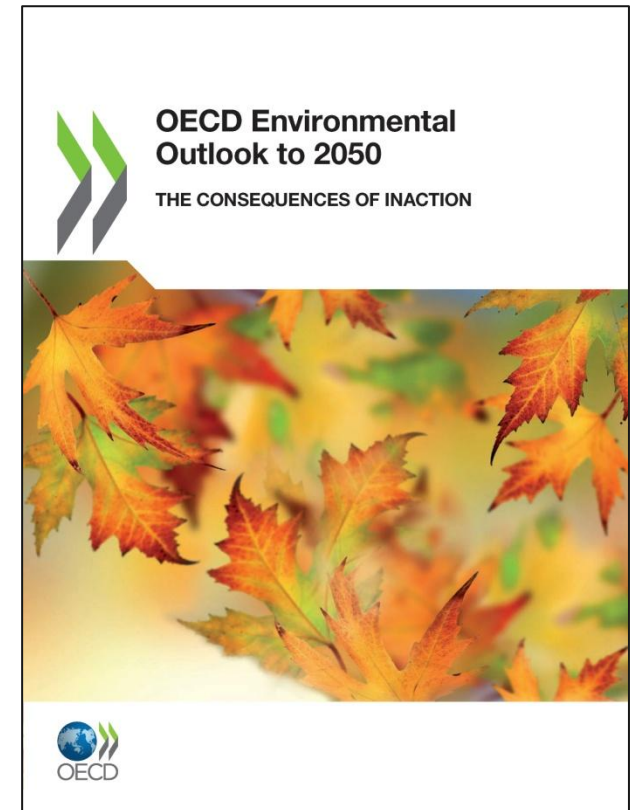
Outline

- The challenge – Environmental Outlook
- The framework – Green Growth Strategy
- The potential role of taxation:
 - Reform of fossil fuel support (including tax expenditures)
 - Environmentally motivated tax preferences
 - Environmental taxation
 - Role and use in OECD
 - Taxing Energy Use profiles



Environmental outlook to 2050

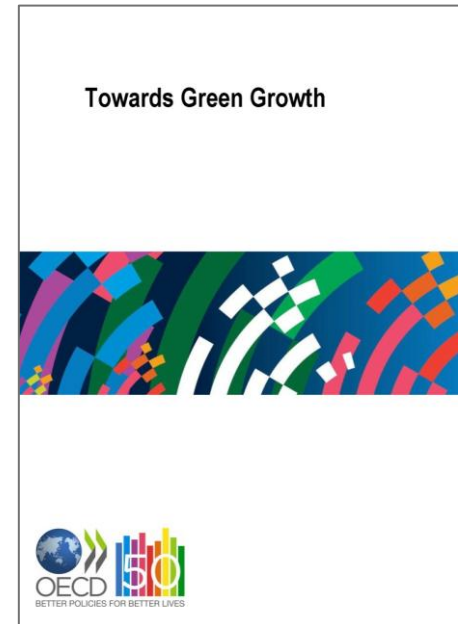
- From now to 2050, global population will increase from 7 billion to more than 9 billion; world economy will nearly quadruple
 - Ever growing demand for energy, food and natural resources – and more pollution.
- Economic and demographic growth happening faster than reductions in environmental harm
- Without new policies, the costs and consequences of inaction could be colossal, in both economic and human terms ...





The Framework – Green Growth Strategy

- OECD members adopted a Green Growth Strategy in May 2011
- Practical framework to help countries foster economic growth while preserving the environmental assets on which our well-being relies
- Strategy includes two cost-effective policy avenues of special relevance when fiscal resources are stretched:
 - Reform of environmentally harmful subsidies
 - Use of environmentally related taxes to incorporate the cost of environmental damage into market prices



www.oecd.org/greengrowth



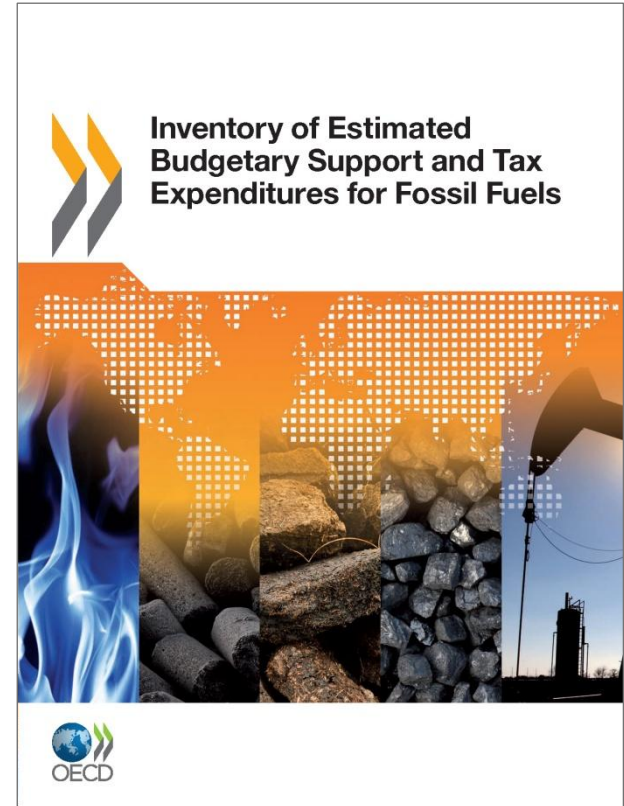
Environmentally harmful subsidies

- Addressing environmental challenges requires reform of existing policies that move us in the wrong direction
- September 2009 G20 leaders committed to “*rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption*”
- Reform offers opportunity for three “wins”:
 - **Improve environmental outcomes**
 - **Increase economic efficiency**
 - **Improve fiscal balance**
- IEA estimates value of consumer price supports for fossil fuels in developing countries - USD 409 billion in 2010 [*World Energy Outlook 2011*]
- Until recently, no consolidated data for OECD countries.



OECD inventory of fossil fuel support

- Support in developed countries often in more subtle forms such as tax concessions
- OECD *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels* released October 2011
 - 250 reported tax expenditures and budgetary transfers that support consumption and production of fossil fuels in 24 OECD countries
 - Aggregate value (2005-2010): USD 45-75 billion per year
 - Next edition covering all 34 countries to be released January 2013: 550 measures, 2/3rds are tax expenditures
- Support may be absolute (e.g. cash grants) or relative (targeted tax expenditures)
 - Tax expenditure values not comparable across countries because based on different benchmark “normal” levels of taxation



www.oecd.org/g20/fossilfuelsubsidies

www.oecd.org/iea-oecd-ffss



Company car benefits

- Taxation of employees re company car benefits and commuting expenses
 - Determining whether current tax settings may be encouraging greater car use or favouring more environmentally costly forms of transportation
 - Preliminary results: most countries systematically under-taxing the benefit received by employees with a company car
 - On scenarios we've modelled, total fiscal cost could exceed EUR 30 billion for the 25 countries examined
 - Many systems result in employees facing zero marginal cost of driving , leading to ... more driving and fuel use.





Tax preferences for the environment



- Often politically attractive to offer tax preferences or other subsidies for “green” goods or practices (the “carrot” approach)
- Challenges of using tax preferences (in comparison with taxing environmental “bads” – the “stick” approach):
 - Government tries to “pick winners” - can distort markets and increase costs
 - Government support can increase production or consumption ... and increase pollution
 - Difficult to prevent windfalls (by those who would have carried out the targeted activity, even without a subsidy)
 - Funding tax preferences is costly
 - Cost of tax preferences often less transparent and less scrutinized
 - Not useful to non-taxable entities



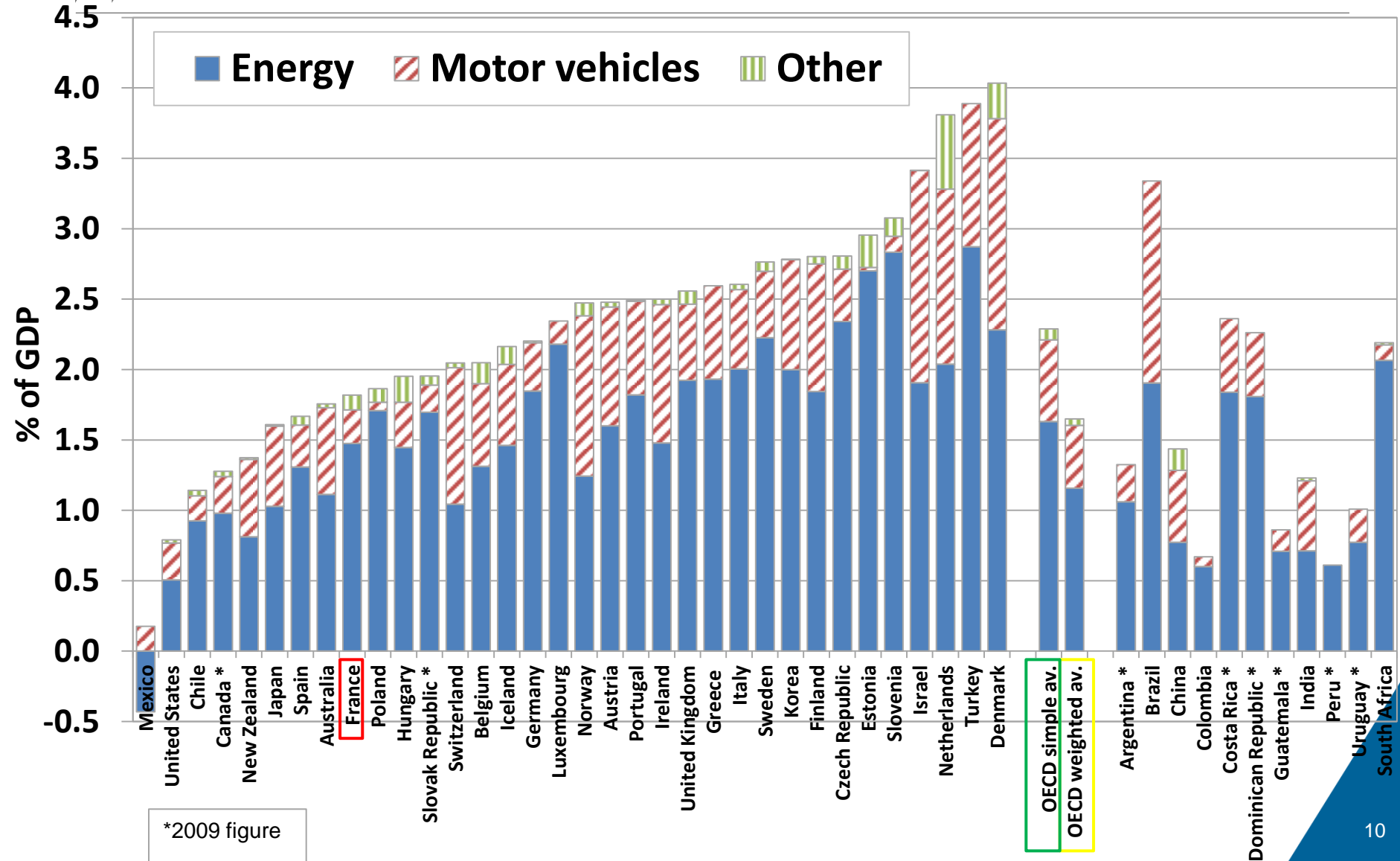
Environmental taxes - benefits

- “Taxing the bad” leaves consumers and businesses with flexibility to determine the least-cost way to reduce environmental damage
 - Ongoing incentive to reduce emissions
 - Strong incentive to innovate
 - Improves competitiveness of low-emission alternatives
- Environmental taxation is cost-effective: critical when environmental challenges are large, government budgets are strained and economic growth is weak
- Revenues raised can be used to reduce other distortionary taxes or assist fiscal consolidation
- Certainty of costs for businesses and consumers (though not re environmental results) – provided tax plan is clear and credible!



Revenues from environmentally related taxes

In per cent of GDP, 2010





Taxing Energy Use: A Graphical Profile

- Energy use is central to living standards and a leading pressure point on the environment
- Energy taxation is:
 - Source of many explicit and implicit fossil fuel tax expenditures
 - Tool to influence energy use & thus climate change, air pollution, social cost of vehicles use ...
 - Important source of government revenue
- A graphical and statistical profile of energy use and taxation in each of the 34 OECD countries
 - Work-in-progress still being reviewed by members: not for citation
- Final report to be published early 2013

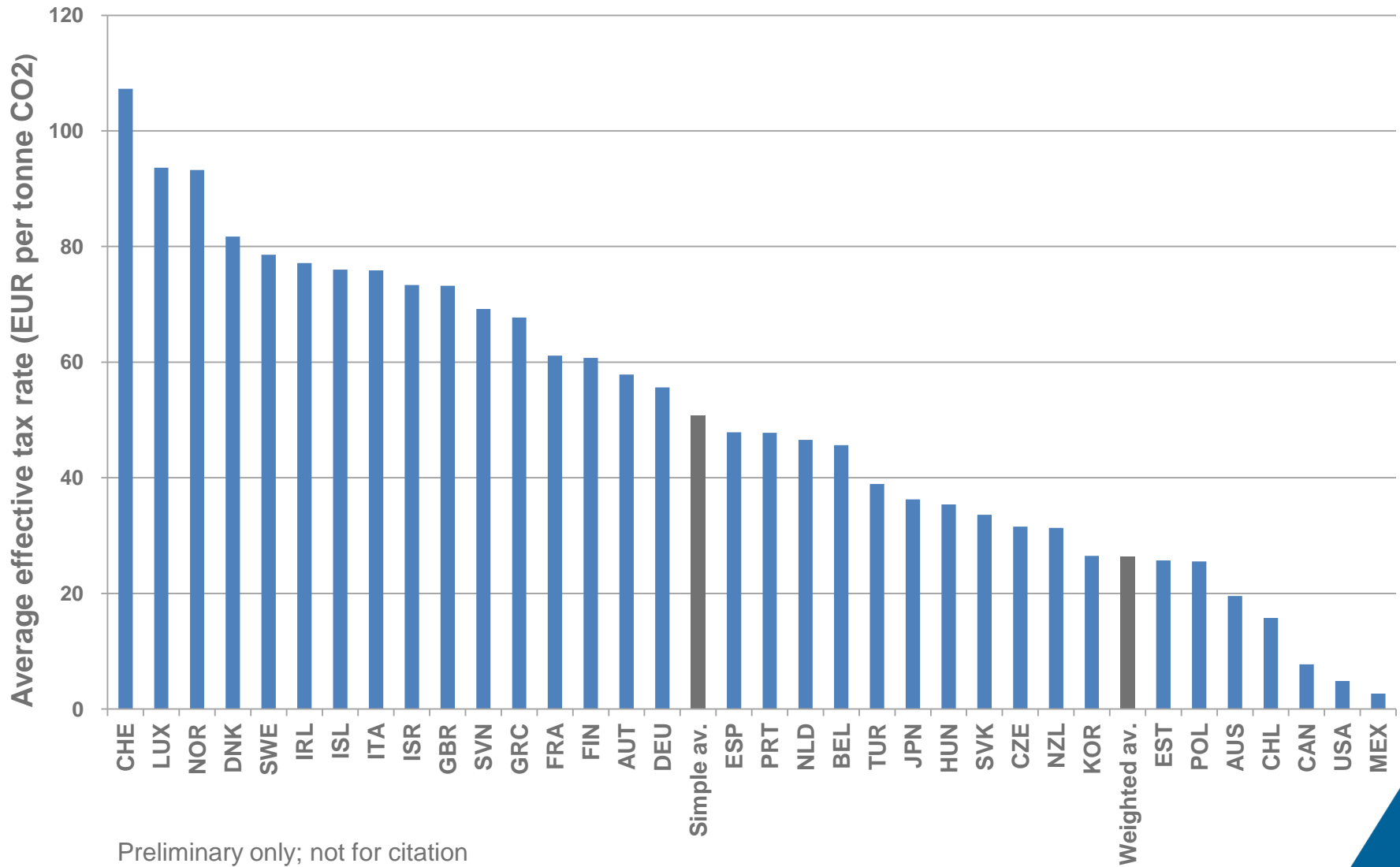


Objectives of energy tax profiles

- Understand the composition of energy use and related CO2 emissions
- Illustrate the structure of energy taxation
 - Calculate implicit tax rates on an energy and carbon basis
 - Highlight price signals sent by current taxes for different fuels and uses, comparing within and across countries
 - Put reported tax expenditures in context
- Establish a foundation for discussion of the rationale for and impact of tax settings on different types, users and uses of energy
 - To encourage a transition to low-carbon energy, fuel taxation needs to provide consistent signals in carbon terms (subject to other externalities)
- Help identify reform opportunities



Average effective tax rate on carbon – all uses





Preliminary effective tax rates – macro categories

Simple average – OECD 34	Transport	Heating & process use	Electricity	All fuels
EUR/GJ	11.5	0.8	0.7	3.2
EUR/tonne CO₂	160	11	10	51

Preliminary only; not for citation



Map structure – tax base

- Horizontal axis is the potential tax base – energy use
- Expressed in common units – alternately, energy content and carbon emissions
- Energy use divided in three macro categories
 - Transport
 - Heating and process use
 - Electricity
- Subcategories reflect products and uses actually taxed in each country



Map structure – effective tax rates

- Vertical axis shows the effective rate of tax
- Tax rates (e.g. EUR/L or EUR/KG) are re-expressed using standard physical conversion factors as effective rates in terms of, alternately
 - Energy content: EUR/GJ (gigajoule – a measure of energy value)
 - CO₂ emissions: EUR/tonne of CO₂
- Area of bars is an approximation of the revenue raised
- Also shown:
 - Reported tax expenditures – in context of each country's tax system, with normal benchmark rate and concessionary rate
 - Interaction with emission trading systems
 - Selected sub-national tax rates in federal countries



Transport fuel focus

Example – New Zealand

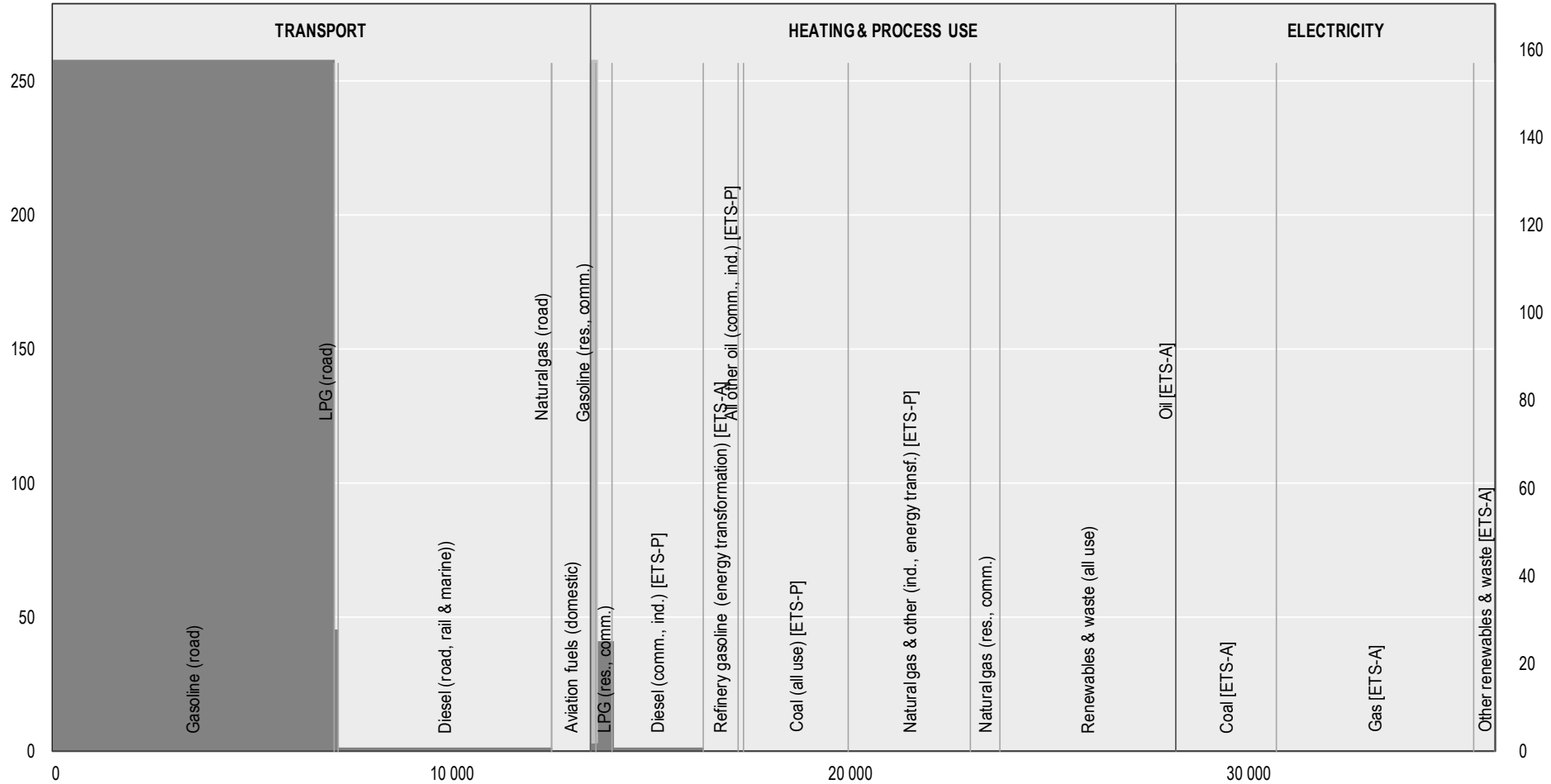
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NZL



Tax rate expressed in NZD per tonne of CO2

Tax rate expressed in EUR per tonne of CO2



[ETS-A] = all subject to the ETS
 [ETS-P] = partially subject to the ETS

Tax base – energy use – expressed in thousands of tonnes of CO2



Explicit CO₂ component

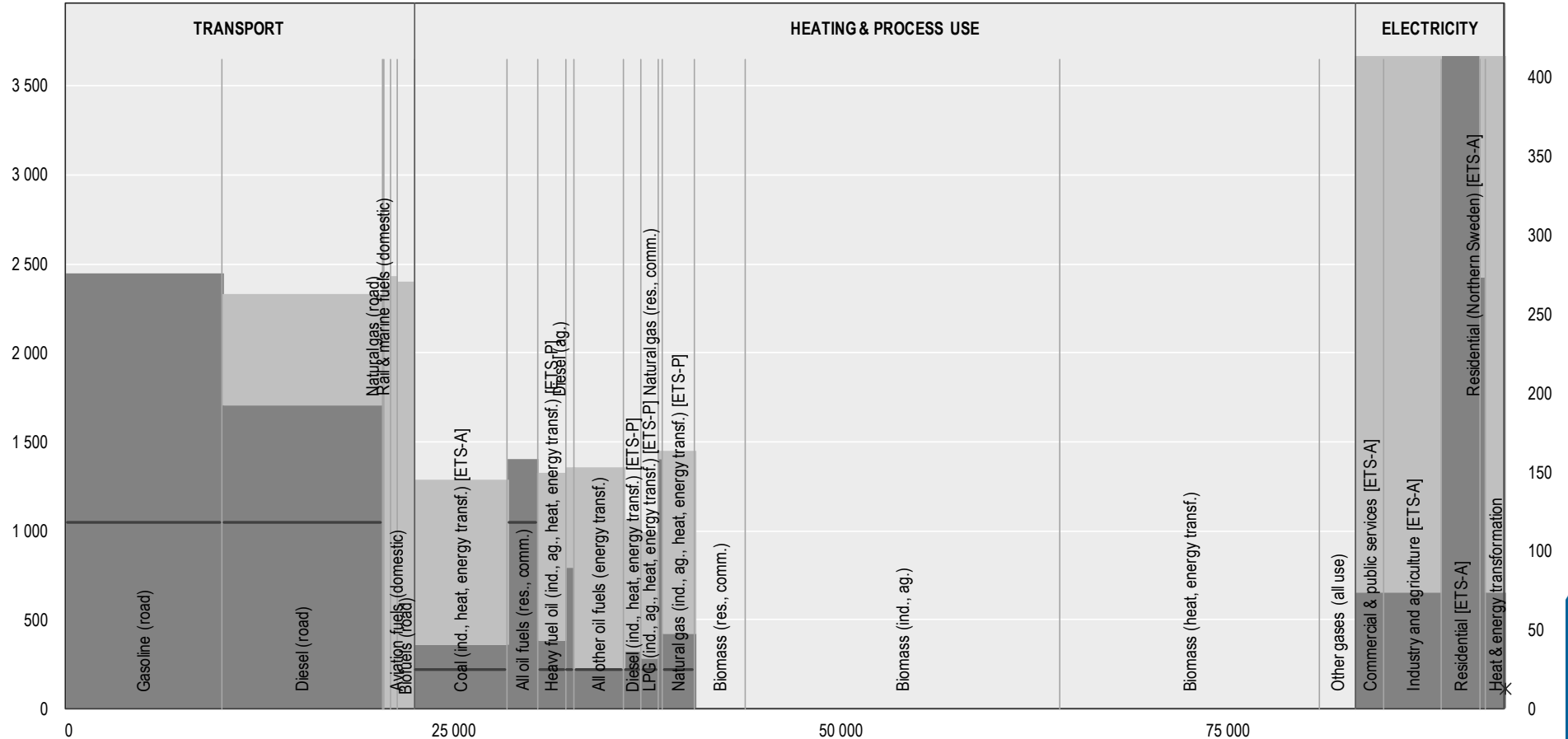
Example - Sweden

Preliminary only; not for citation

Tax
 Fuel tax credit or tax expenditure
 — CO2 taxes shown below; other taxes above
✕ Average 2010-11 ETS price
SWE

Tax rate expressed in SEK per tonne of CO₂

Tax rate expressed in EUR per tonne of CO₂



[ETS-A] = all subject to the ETS
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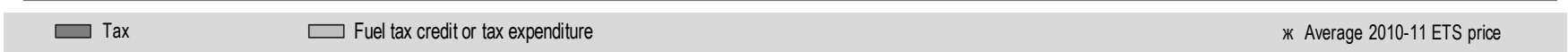
Tax base – energy use – expressed in thousands of tonnes of CO₂



EU Energy Tax Directive influenced

Example – France

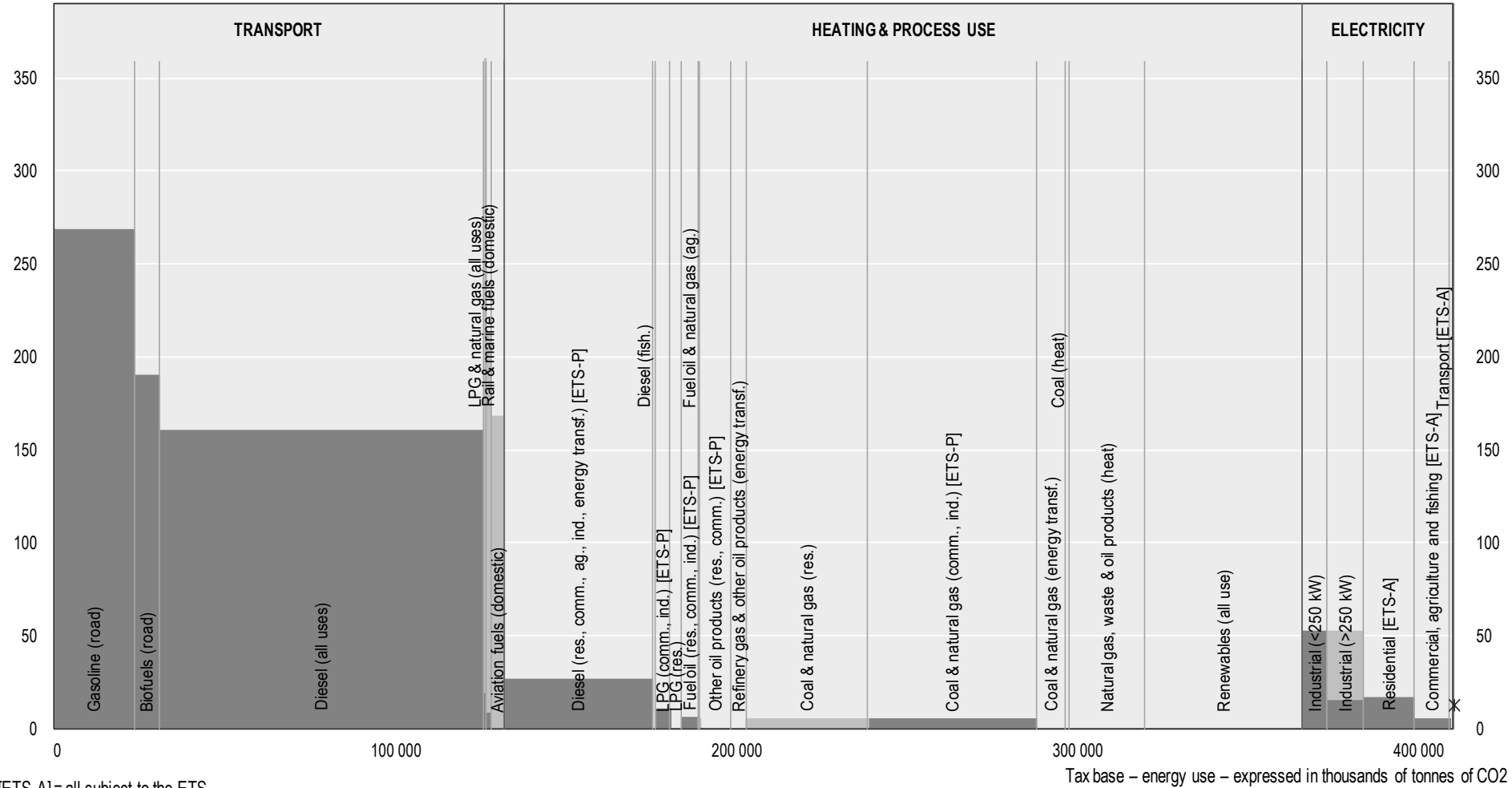
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FRA

Taxrate expressed in EUR per tonne of CO2

Taxrate expressed in EUR per tonne of CO2

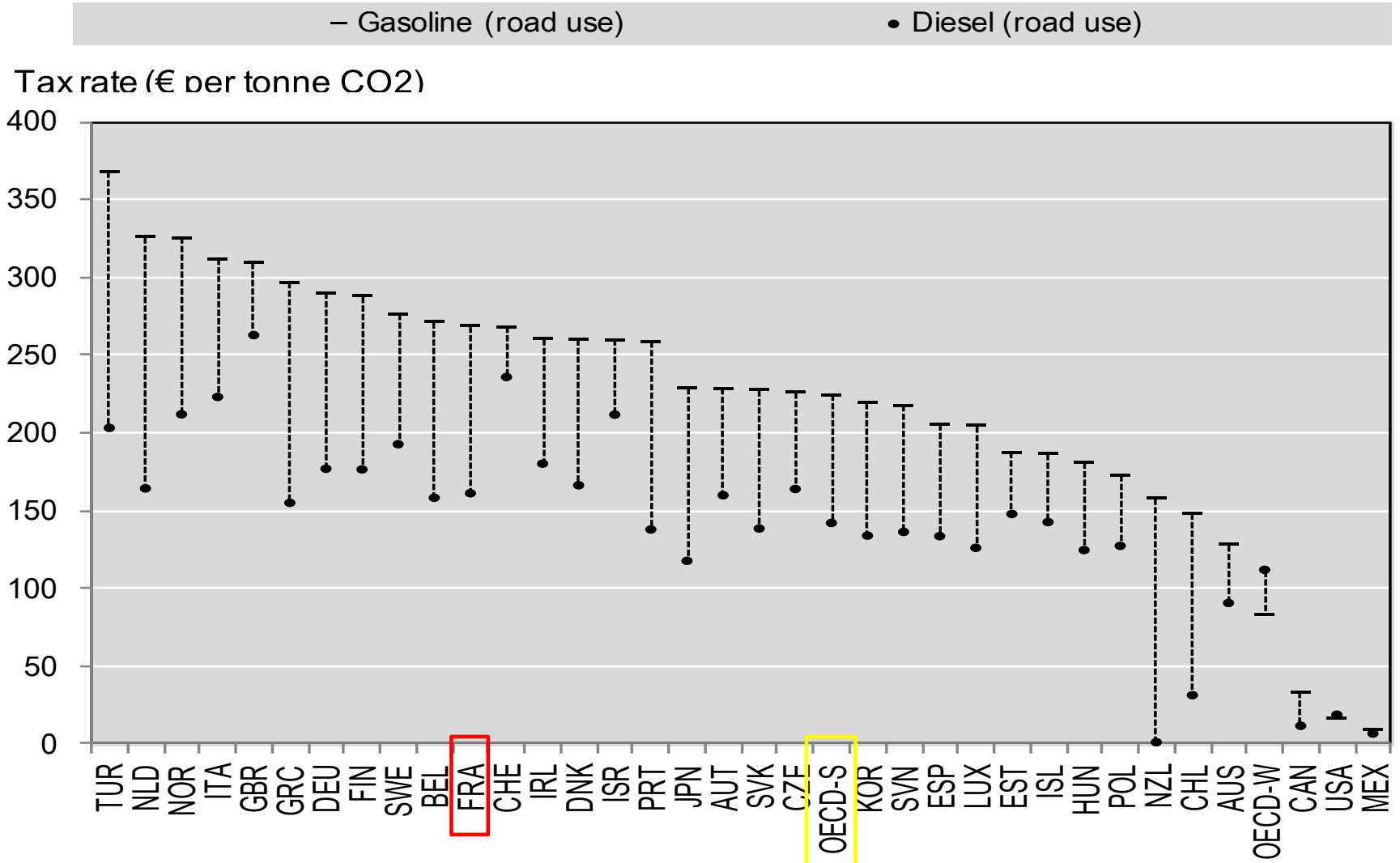


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Tax base – energy use – expressed in thousands of tonnes of CO2



Gasoline and diesel (road) - effective tax rate on carbon



Preliminary only; not for citation



Heat and process fuels - average effective tax rates

Simple average – OECD 34	Diesel	Fuel oil	Natural gas	Coal	All fuels
EUR/GJ	3.4	1.3	0.6	0.6	0.8
EUR/tonne CO ₂	46	17	11	5	11

- Very different signals via effective tax rates on carbon in oil products (highest), natural gas (mid) and coal (lowest – 1/5th the diesel rate)
- Many fuels and uses in this category not taxed; may reflect distributional concerns re households and competitiveness concerns re industry
 - Usually better to preserve the price signal via taxing and address other impacts by more direct means (e.g. general grants, transition or ongoing) that do not implicitly subsidize energy use
- Implicit price signal sent by EU ETS to large industrial emitters not covered in these stats, but illustrated in the maps: very modest recently – EUR 7 to 8

Preliminary only; not for citation



Conclusions



- Across countries, widely varying levels of effective tax rates on carbon energy; within countries, substantial non-neutralities in the effective tax rate on carbon for different fuels, users and uses
 - Uneven (and often inadequate) price signal means foregoing some of the lowest cost emission reduction opportunities
- Tax preferences and rates mean many sectors don't face an adequate price signal – little incentive to adopt low-carbon approaches
 - Company car benefits often under-taxed; zero marginal cost to driving
 - Road fuel: substantial tax preference for diesel relative to gasoline
 - Aviation, rail and marine fuel concessions common
 - Fuel used in agriculture, fishing and forestry often exempt
 - Among heating and process fuels: often low or zero tax on coal despite significant environmental impact; natural gas often under-taxed relative to oil products
 - Low rates and concessions often driven by distributional and competitiveness concerns, but often less environmentally damaging ways of addressing these goals
- Is your energy tax structure consistent with your environmental, social and economic goals?



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