

Presidenza Italiana
del Consiglio
dell'Unione Europea



LCS-RNet 6th Annual Meeting

Transition and Global Challenges towards Low Carbon Societies

Roma, 2 October 2014

Plenary 3: Make low-carbon and resilient investments as
leverage to renovate economy in crisis

"Environmental Fiscal Reform for promoting Low Carbon Economies"

Aldo Ravazzi Douvan

Economist, Senior Adviser on Sustainable Development. Green Growth and Green Tax Reform
at the Italian Ministry of Environment, Land & Sea

President OECD Committee Environmental(-Economic) Performance Country Reviews

Past President OECD Committee Taxation & Environment

Past President OECD Committee on the Integration of Environmental & Economic Policies

Past President OECD Committee for Biodiversity, Water & Ecosystems

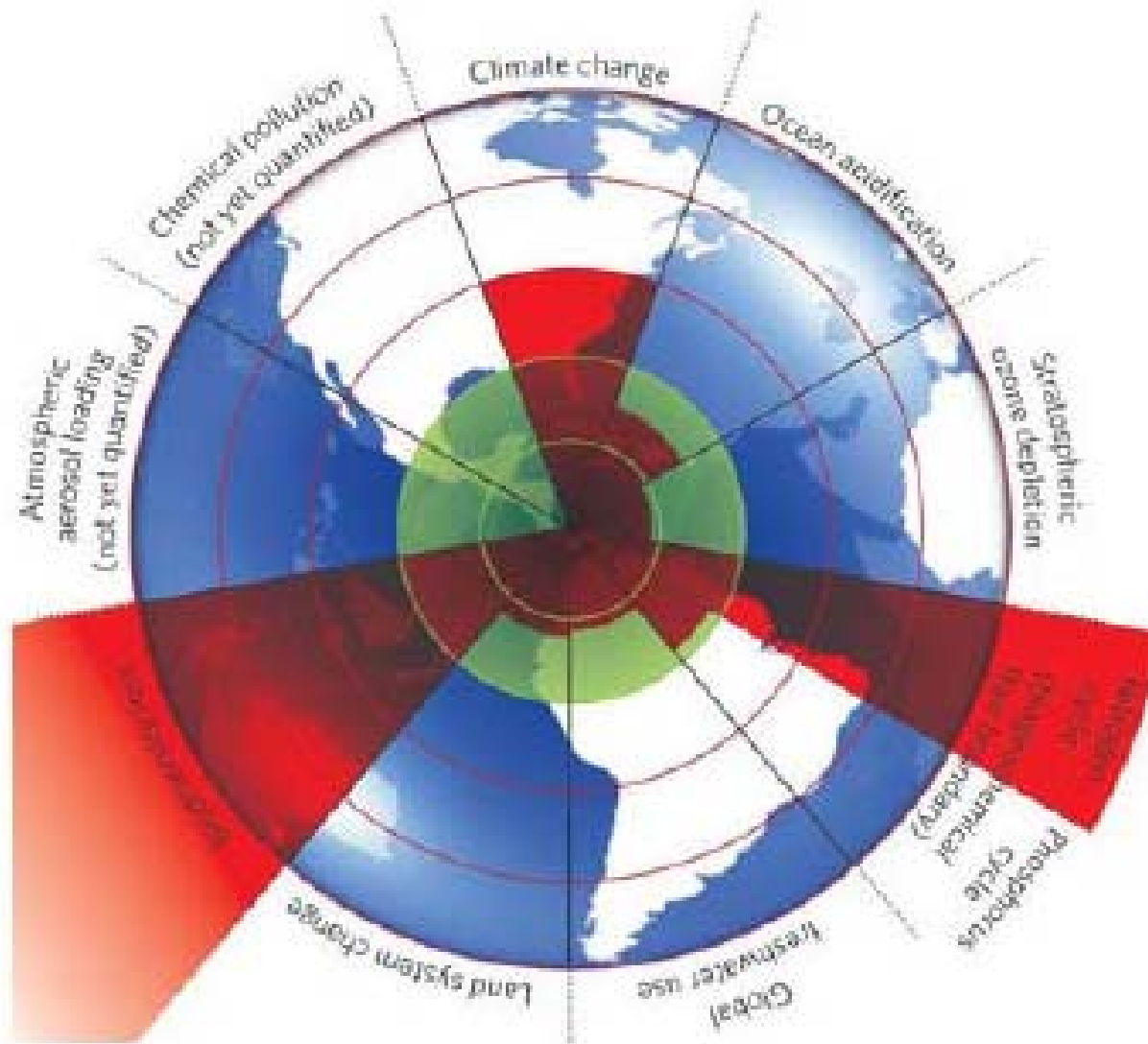
Vice-President GREEN BUDGET EUROPE

Vice-President PLAN BLEU for environment & development in Mediterranean (UNEP-MAP)

Italian Delegation to Rio+20, Climate and Biodiversity negotiations

Professor of Sustainable Development, University Roma Luiss

PLANETARY BOUNDARIES - start from science

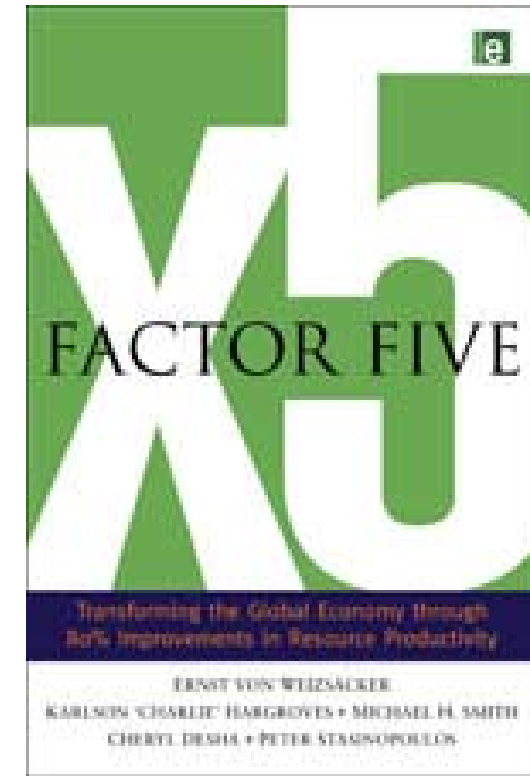
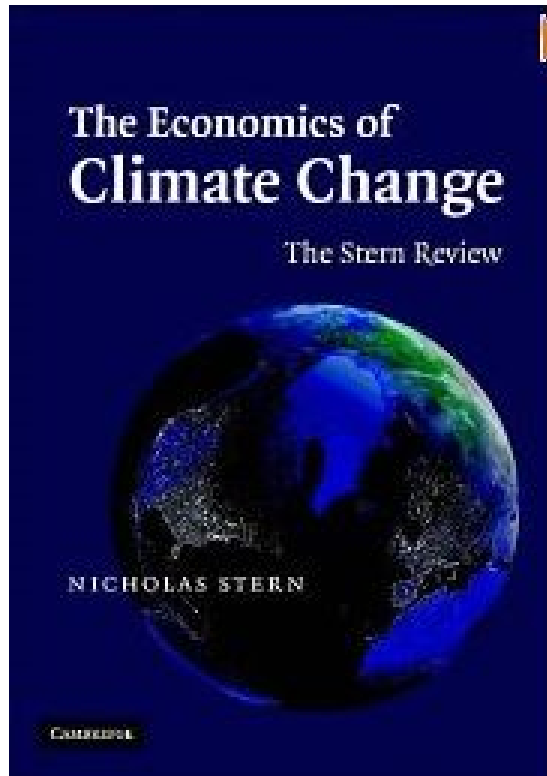


Source: Rockstrom et al (2009)

10 Planet Ecosystems to be kept under control:

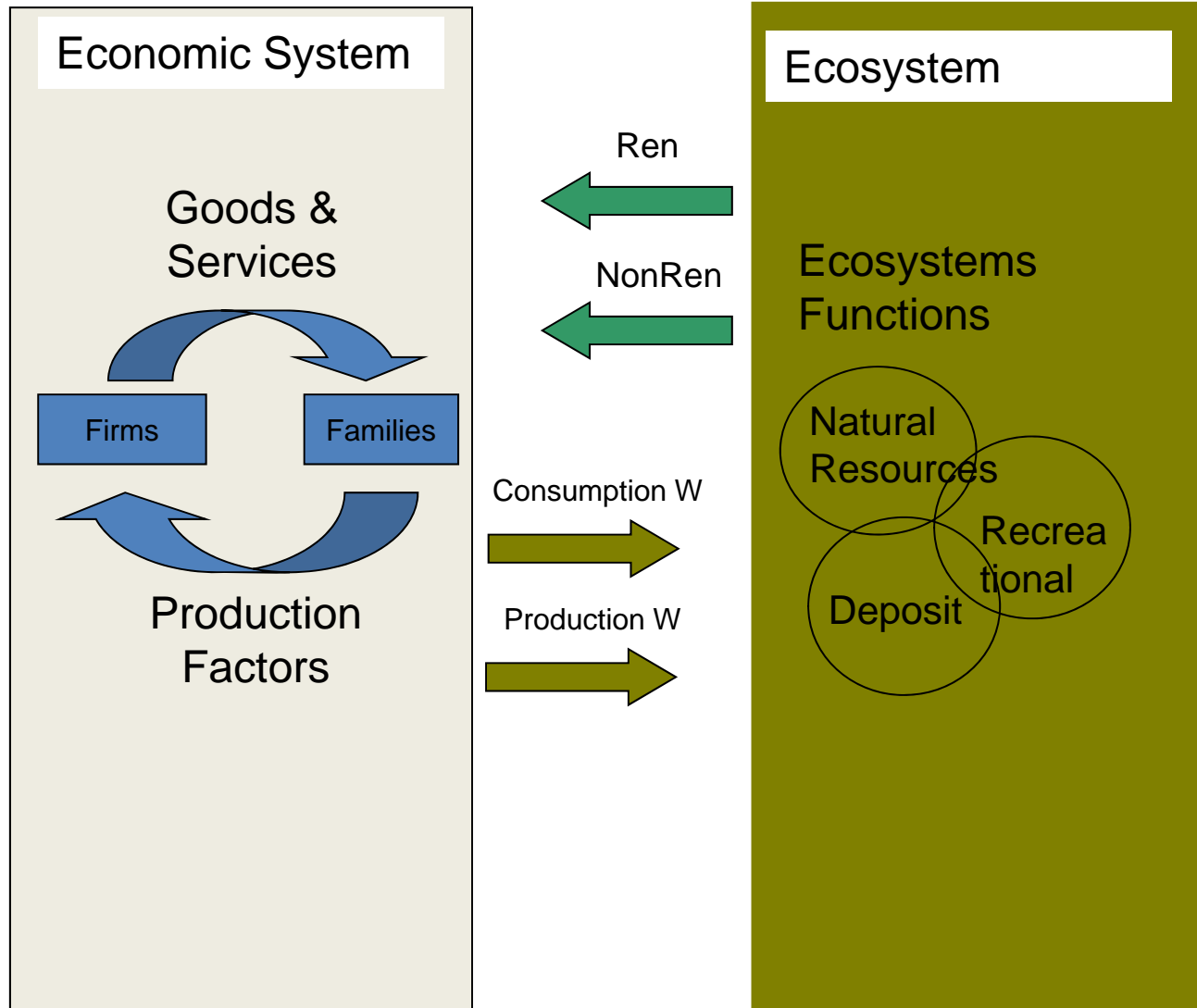
1. Climate change
2. Biodiversity loss
3. Nitrogen cycle
4. Phosphorus cycle
5. Stratospheric ozone depletion
6. Ocean acidification
7. Global freshwater use
8. Land system change
9. Atmospheric aerosol loading
10. Chemical pollution

Economics of Sustainable Development

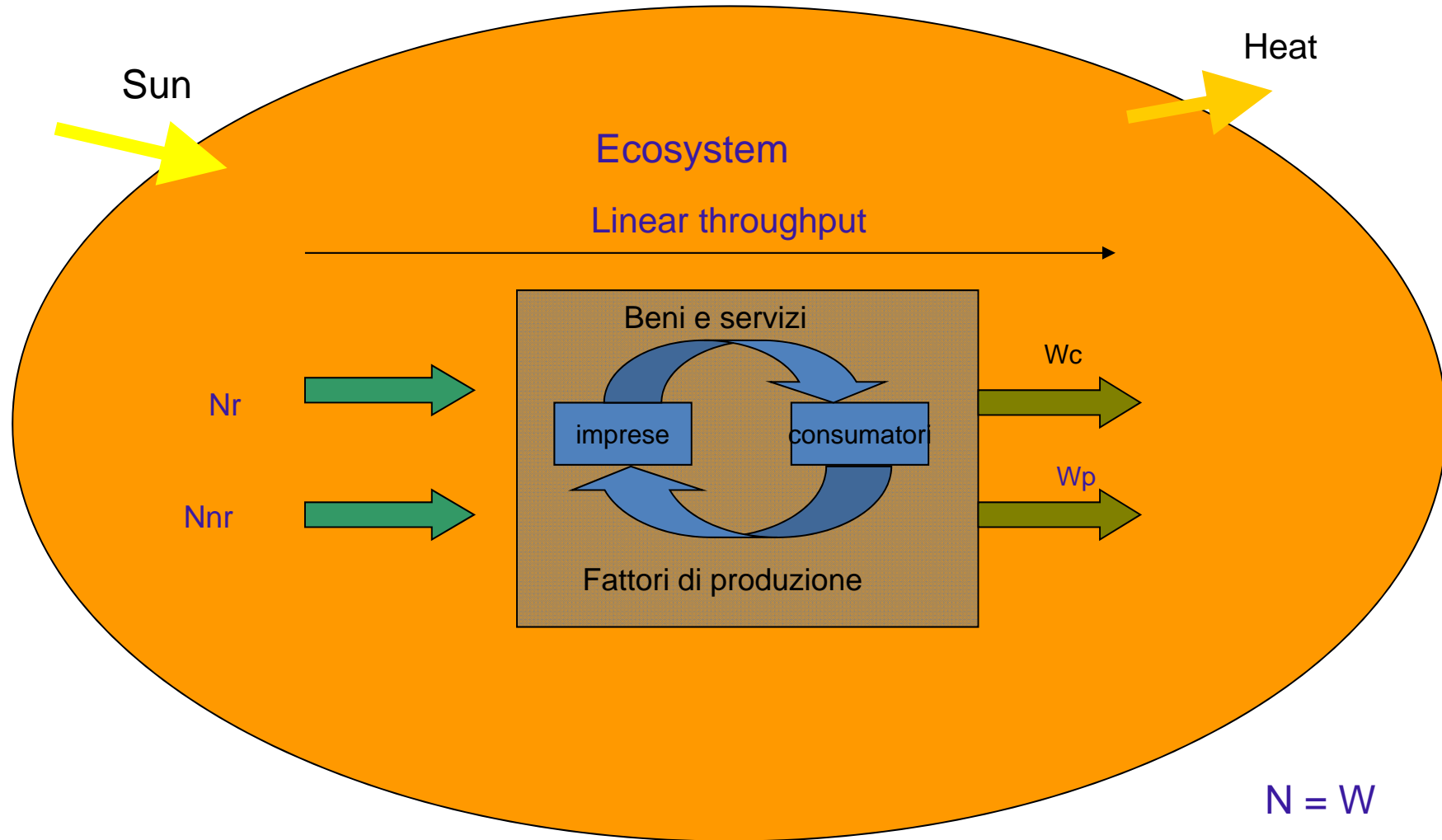


- Nicholas **Stern** (2006), "**The Economics of Climate Change** - The Stern Review ", HM Treasury, London
- Nicholas Stern and James Adams (2009), "The Global Deal: Climate Change and the Creation of a New Era of Progress and Prosperity", Library Edition
- Pavan **Sukhdev** ed. (2010 e 2011), "TEEB - **The Economics of Ecosystems and Biodiversity**", vol.1 "TEEB: Ecological and Economic Foundations , vol.2 "TEEB in National and International Policy Making", Earthscan, London
- E. **Von Weizsaecker** et al. (2009), "A Long-Term Ecological Tax Reform", ch.7 in "**Factor 5** - Transforming the Global Economy through 80% Improvements in Resource Productivity", Earthscan, London (following 1999 Factor 4 – Halving Resources Doubling Productivity with Amory Lovins)

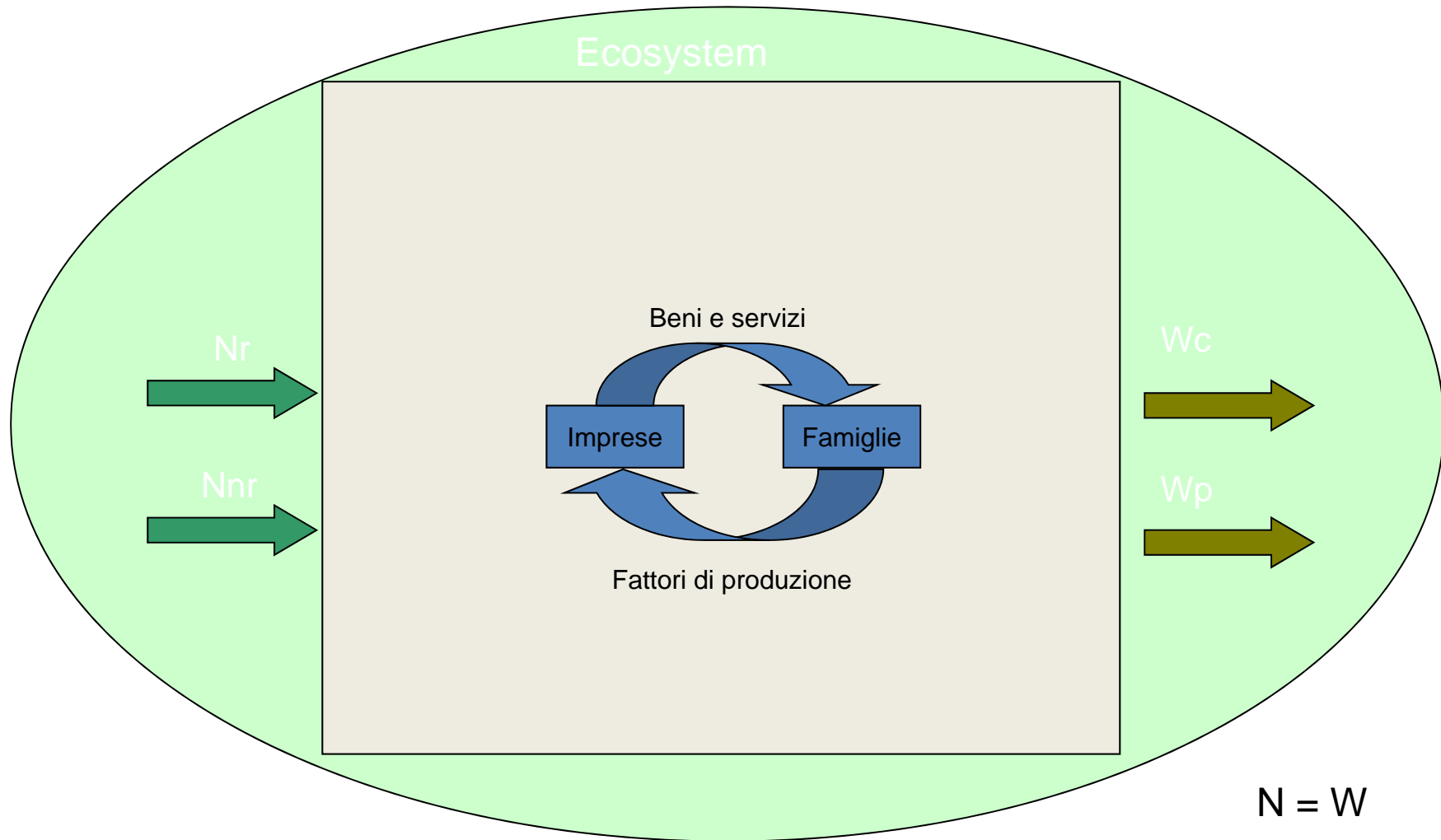
Traditional relationship between economic and ecological system



Sustainability economics - Empty world



Sustainability economics - Full world



POLICY INSTRUMENTS FOR ENVIRONMENTAL POLICY, LOW-CARBON ECONOMY AND ENERGY TRANSITION

OECD classification 1

- **Command & Control Instruments**
(Standards, Limits, Prohibitions, ...)
 - **Voluntary Instruments**
(Agreements, Covenants, Codes of conduct, ...)
 - **Economic Instruments**
(Market-based instruments)
- + Environmental Assessment Instruments**
(EIA, SEA, CBA, LCA, IA-RIA-SDIA, etc.)
- *Instrument Mixes*

ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL POLICY, LOW-CARBON ECONOMY AND ENERGY TRANSITION

OECD Classification 2:

- 1. Taxes**
- 2. Charges/Fees/Tariffs**
- 3. Subsidies** (incentives, aid, exemptions, tax credits, ...)
 - environmentally friendly subs. - EFSs
 - environmentally harmful subs. - EHSs
- 4. Market Creation** (trading schemes for emissions in air, water, fisheries, etc.; insurance; white/green certificates; FIT)
- 5. Sanctions** (fines, penalties, ...)

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

OECD database (34 OECD + 20 non-OECD countries):

2.300 economic instruments [March 2013]

• Taxes:	680 + 110
• Tariffs:	286 + 208
• Tradable permits:	67 + 0
• Deposit schemes:	50 + 14
• Environmental subsidies (EFSs):	743 + 23
• Voluntary instruments:	117 + 3

	1.943 + 358

www.oecd.org/env/policies/database

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Objectives of economic instruments:

1. Improve the environmental conditions
2. Internalize externalities
3. Correct market failures
4. Influence consumers and producer production
(orientate investment decisions)
5. Remunerate an environmental service
6. Give a value to the environment
7. Create a market where it does not exist
8. Minimize prohibitions
9. Let the market make the right choice
10. ...

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Objectives of environmentally friendly (motivated) subsidies (EFSs):

1. Encourage an environmentally friendly (low environmental impact) product
2. Encourage an environmentally friendly (low environmental impact) investment
3. Encourage an environmentally friendly (low environmental impact) sector/industry
4. Encourage eco-innovation
5. Encourage low-carbon technologies
6. ...

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Avoiding misunderstandings:

- Environmentally-related taxes (impact)
- Taxes (unrequited payments to the State)
vs Tariffs (in exchange for a service)
- Taxes, duties, contributions, surcharge, ...
The name is not a sufficient criteria
- The official motivation is not a sufficient criteria
- « Earmarking » is not essential for defining an
environmental tax as environmental

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Avoiding misunderstandings:

- need for
 - economic analysis
 - environmental assessment
 - considering transition

GREEN TAX REFORMS FOR EP, LCS, ET

**(green tax reform,
environmental tax reform,
ecological tax reform)**

(tax reform / fiscal reform)

**GREEN/ENVIRONMENTAL/ECOLOGICAL
FISCAL/TAX REFORMS
SUPPORTING LOW-CARBON ECONOMY
Policy Options**

- a) New taxes/fees/mechanisms
- b) Modify existing taxes/fees/mechanisms
- c) Set up new markets
- d) Remove EHSs (env. harmful subsidies)
- e) Introduce EFSs (env. friendly subsidies)

Reference:

Global Subsidies to Fossil Fuels: 540 B\$/y (Iea)

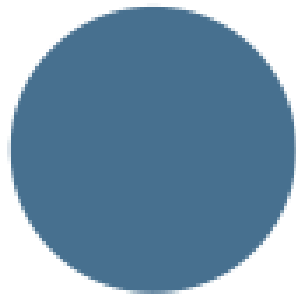
Global Subsidies to Renewables: 110 B\$/y

Energy Efficiency (Resource Efficiency - Factor 4 Von Weizsaecker)

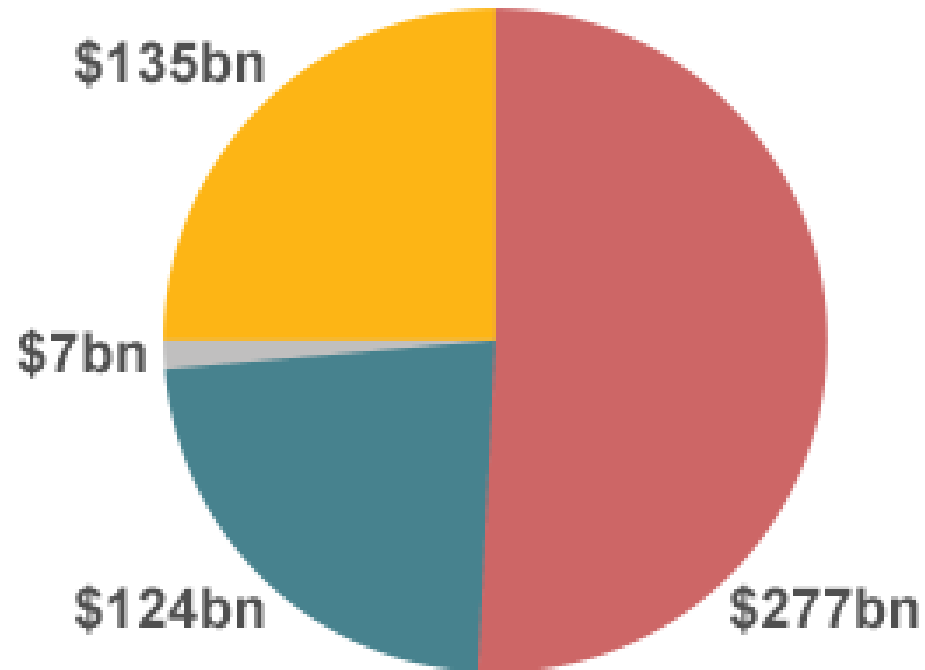
Global Consumption Fossil Fuel Subsidies (IEA, 2012)

Global fuel subsidies, 2012

- Oil
- Electricity*
- Natural Gas
- Coal



Global renewable subsidies
\$101bn



Global fossil fuel subsidies
\$544bn

*Fossil fuels used to generate electricity

Source: IEA

GREEN TAX REFORMS: experiences

- Overall in EU Countries (pb: unanimity rule)
- The first wave: Finland (1990); Norway (1991); Sweden (1991); Denmark (1992); Netherlands (1992);
- A second wave: Gbr (from 1993); Germany (from 1999)
- Incomplete attempts: Italy (1999), France (1999-2000)
- Recent developments: France (2008, 2014), Ireland, Sweden, China, S. Korea, Turkey

Common characteristics: fiscal neutrality, in the sense of:

- **New taxes**
AND AT THE SAME TIME
- **Reduction of labour taxation**
 - **Reduction of other taxes**
(companies, investment, saving, ...)

GREEN TAX REFORMS: benefits

Systematic revision of the fiscal system in an environmentally sustainable way:

Hypothesis of Double Dividend:

- Improvement of the environment**
- Higher efficiency of the economy (starting from the fiscal system)**

Some experts talk of a Triple Dividend:

- Improvement of employment**

Some even of a Quadruple Dividend:

- Innovation and competitiveness**

GREEN FISCAL REFORMS: fiscally neutral...

**Until nowadays they have been proposed in the form of : “fiscally neutral manoeuvre”
(from the revenue point of view,
not from the distribution point of view)**

- * Elimination of EHSs
(Environmentally Harmful Subsidies)
as an elimination of privileges & distortions**
- * Restructuring (neutrally) existing taxes**
- * Introduction of new taxes compensated with:
 - reduction of other taxes, e.g. Labour, companies**
 - reduction of parafiscal contributions (labour)**
 - subsidies to innovations of the hit sector****

GREEN TAX REFORMS...

and in times of fiscal consolidation?

But what happens in times of financial-economic crisis?

- increase of (yearly) public expenditure and deficit**
- and/or of (accumulated) Public Debt**

Alternative uses, political choice:

- Reduce Public Debt;**
- Reduce other Taxes (e.g. Labour and Companies);**
- Finance investments and jobs (possibly green)**
- Finance Eco-Innovation, Low-Carbon Innovation**

Dynamic version of fiscal neutrality

- * Valid also in periods of increasing fiscal burden**
- * Valid also in periods of decreasing fiscal burden)**
- * Valid also in periods of incoming fiscal federalism**

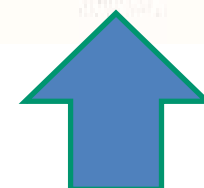
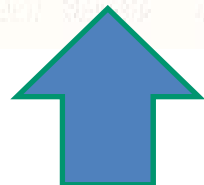
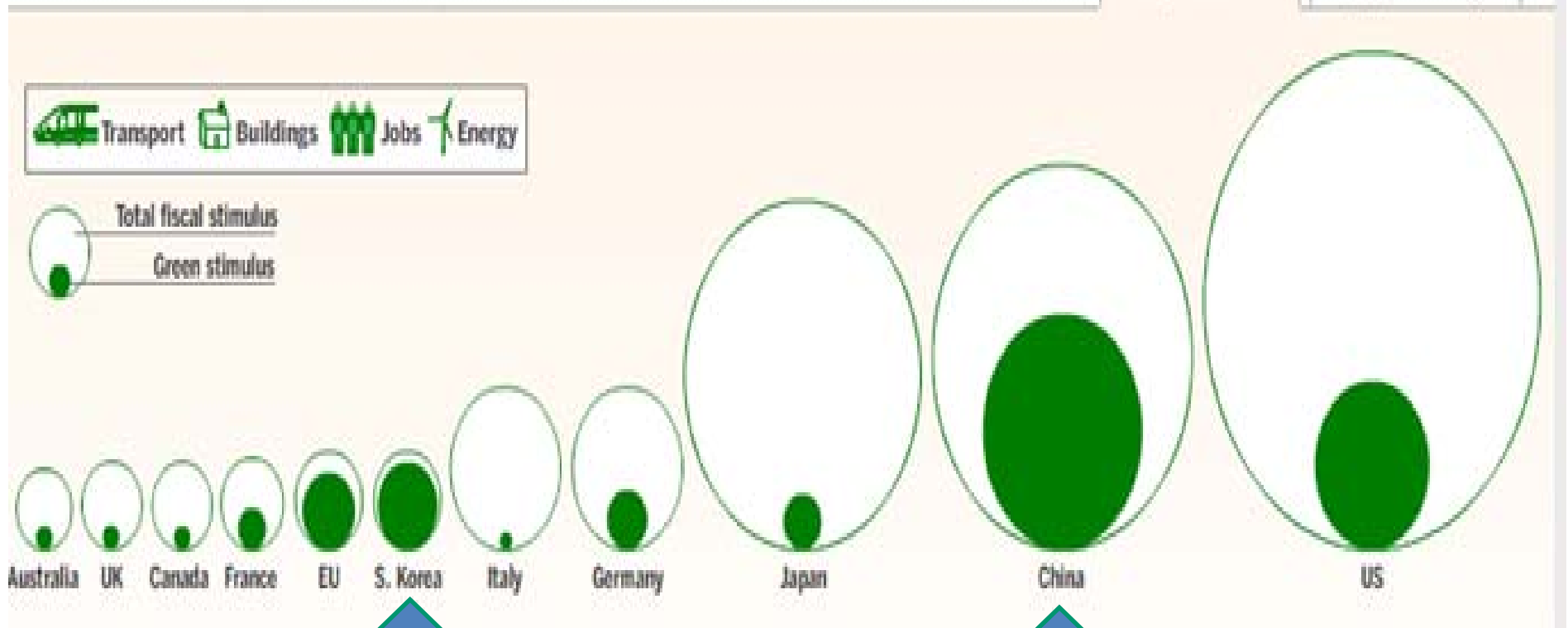
EFR and Stimulus Packages and Green Growth 2008-09

Two Asian Countries have made very green choices (not only EFR)

Which country has the greenest bail-out?

By volume

By percentage



Source: DIE, German Institute for Development

ONGOING EFRs - GREEN FISCAL COMMISSIONS

Historically EFRs and GFCs in Nordic-Neth-Ger

- a) IRELAND (General) Tax Reform
Commission (Convery; CO2 - Water fees)
- b) UK Green Fiscal Commission
- c) FRANCE Comité Fiscalité Ecologique
- d) PORTUGAL Green Tax Commission
- e) NORWAY 3rd round of EFR
- f) ITALY Delega Fiscale (EFR as part of a
General Tax Reform)



Our Pledge

**“We’ll immediately
legislate to scrap
the Carbon Tax.”**

Tony Abbott.

www.realsolutions.org.au

AUSTRALIA

- “Carbon tax is out!” first words of the Australian 2013 elections winner Tony Abbott



- In the programme: repealing the mining and carbon taxes; abandoning ETS

AUSTRALIA

- Climate Change: what is the problem
- Climate Change: are there solutions?
- Better use economic instruments, regulatory instruments or voluntary instruments?
- Better a carbon tax, creating a market (e.g. an emissions trading scheme) or put standards?
- International agreement or national policy?





MOROCCO



Morocco: petrol products subsidies

	Dirham Billion	Euro Billion	GDP %
2006	7,4	0,7	1,3
2007	10,7	1,1	1,7
2008	24,2	2,4	3,5
2009	7,2	0,7	1,0
2010	23,7	2,4	3,1
2011	44,5	4,5	5,5

Abdel
Benkiran,
1st Minister

ex.	gasoil	-21%
2011	diesel	-35%
	some fuel oils	-60%
	gaz butane	-68%

Estimates by Caisse de compensation

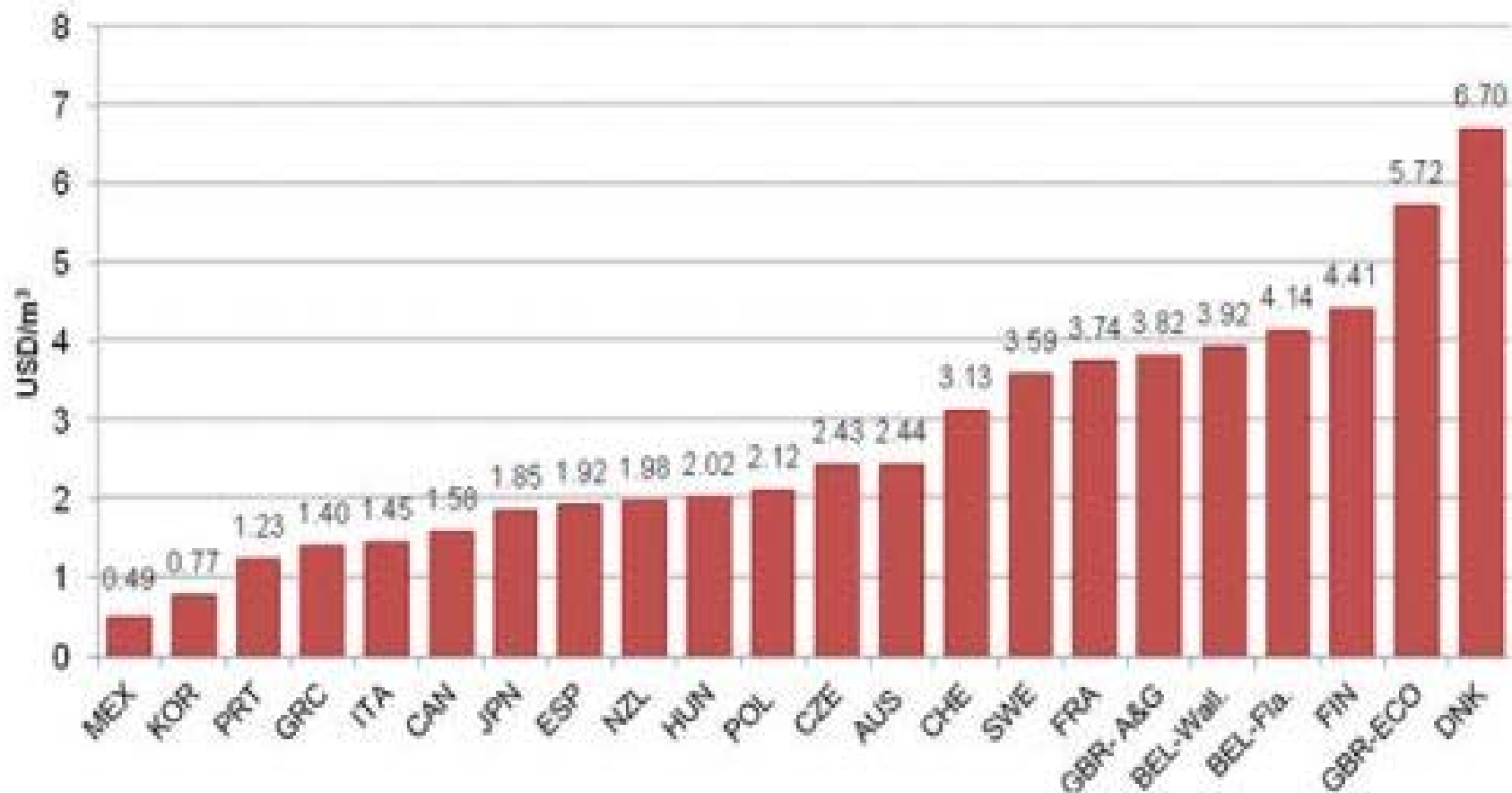
MOROCCO

- Are fossil fuel subsidies in Morocco an exception?
- Subsidies to fuels: is this the best way to guarantee sustainable development?
- In economic, environmental, social terms?
- Are there better social policies?
- Are subsidies only for consumers?
- What about producers?
- How do we measure and compare?
- Any space for international action?



IRELAND

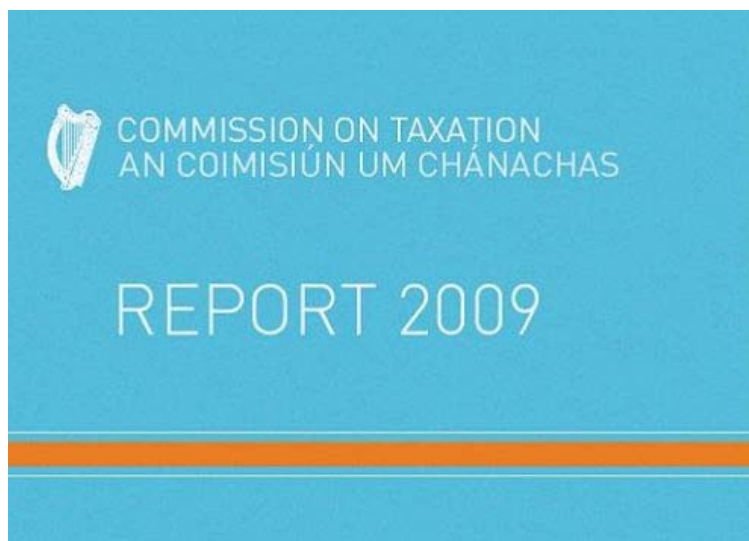
Figure 2. Unit price of water supply and sanitation services to households, incl. taxes (USD/m³)



Source: OECD estimates based on country replies to the 2007-08 survey when available, or public sources validated by the countries

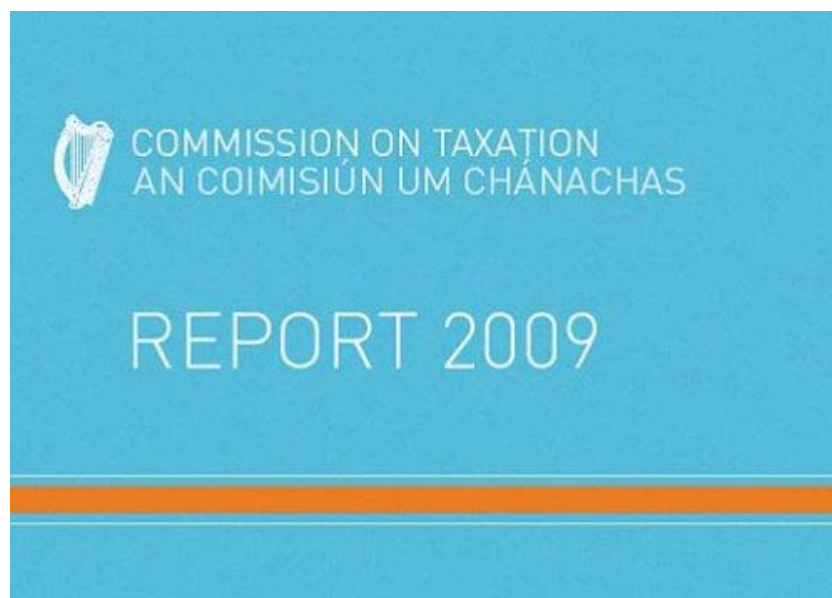
IRELAND

- Ireland last country in EU and OECD to not pay water charges - free water
- Consequences:
 - waste by consumers and producers
 - worsening of urban water quality
 - worsening of underground waters
 - difficulties for financing new infrastructures
 - South Africa uses low first low consumption brackets (progressive)



IRELAND

- The Commission on Taxation (for a general tax reform) has proposed i.a. (Frank Convery):
 - CO2 tax
 - Water charges (from 1.1.2015)
- Media, politicians, consumers against:
 - the introduction of water tariffs (100%) first;
 - the recent discovery of the VAT application (13,5%)



TRUE AND FALSE OBSTACLES TO GREEN FISCAL REFORMS

- Firm/Sector/Country competitiveness
- A new element of competition
- Inflation
- Redistribution (Regressivity-Compensation)
- Communication - Acceptability
- Environment has no price

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Environment is priceless...

The economist point of view



The public finance point of view



The scientific environmentalist point of view



The political scientist point of view



The company manager point of view



The trade union leader point of view



ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Environment is priceless...

The economist point of view

- Give a price, give a value to the environment
- Make the environment convenient
- Distribution - competitiveness - employment

The public finance point of view

- Create revenue for financing expenditure
- Maintain fiscal stability - financial sustainability
- Cost of collecting revenue

The scientific environmentalist point of view

- Climate change, biodiversity, water, waste, ...
- Change of paradigm - Limits of growth (Club of Rome)
- Environmental sustainability of development

ECONOMIC INSTRUMENTS FOR EP-LCS-ET

Environment is priceless ...

The company CEO point of view

- Sector competitiveness
- International competitiveness
- Profitability

The trade union leader point of view

- Employment
- Purchasing capacity
- Industrial competitiveness

The political scientist point of view

- Political acceptability
- Communication
- Compensation policy

Competitiveness: European Countries can/should move together (1)

- Unanimity rule in fiscal matters: we must work at the governance-constitutional level in the Treaties
- CO2 Energy Tax (Delors-Majocchi-Convery- etc.) was ready for Rio92
- ETS not considered a fiscal measure (even if it is an economic market-based instrument) but considered an environmental measure (majority rule)
- It is possible to work to overcome the fiscal unanimity rule but many measures can be taken autonomously

Competitiveness: European Countries can/should move together (2)

- Can exploit margins offered by the institutional mechanism of Enhanced Cooperation (Schengen or Euro model, minimum 9 Countries)
- Or simply voluntary action by Available Countries (Coalition of the Willing or Like-Minded Countries) outside EU rules
- Four possible areas to be explored as examples:
 - A) aviation (kerosene tax exemption form international flights and transport; ticket taxes/contributions; VAT exemption on international flights); e.g. UK-GER-NETH-FRA-ITA
 - B) tourism (internalisation of the contribution to the peak demand of water, waste, public transport, nature, ...); e.g. FRA-ESP-POR-GRE-ITA
 - C) excessive use of fertilisers/pesticides; DK-GER-FRA-NL-ITA
 - D) CO2 taxation on non-ETS sectors; UK-FRA-GER-SVE-ITA

REDISTRIBUTION EFFECTS - REGRESSIVITY
COMPENSATION IS POSSIBLE IF THERE IS A POLITICAL WILL

- **Often over-estimated**
- **Well-designed Green Fiscal Reforms can compensate most kinds of distribution and competition issues**
- **Examples**
 - **reductions in personal income tax**
 - **green checks (Indonesia case for fuel subsidies)**
 - **incentives to eco-innovation for consumption**
 - **progressive charges for water/electricity (to consumption) - Allais - South Africa case**
- **Economics does not like compensations and subsidies: but transition measures (if they do not become permanent!) may be acceptable even for most traditional economists**

CARBON PRICING: THE GREATEST CHALLENGE

- ETS and/or Carbon Tax?
- Carbon Price/Tax and/or Subsidies to Renewables and Eco-Innovation
- A global Carbon Price?

ENVIRONMENTALLY-RELATED TAXES REVENUE

OECD average:

- **6,5 % of revenue (Country variability 3-14%)**
- **2 % of GDP (Country variability 1-5%)**
- **Energy and transport = 90 % of revenue**
- **Wide margins of manoeuvre**

What is the level of ambition?

- **the average? 7%**
- **the ETR champions?**
- **DENMARK (EU-OECD) 12%**
- **TURKEY (non-EU, non-OECD) 14%**
- **COSTA RICA (non-EU, non-OECD) 18%**
- **EEA - IEEP hypotheses at 2030 of 30%?**

A LARGE BASIS OF KNOWLEDGE AND POLICY ANALYSIS

- **OECD (e.g. GTRs, EHSs, Green Growth, Fossil Fuels EHSs)**
- **UNEP (e.g. Green Economy, Resource Efficiency)**
- **GGKP (Green Growth Knowledge Platform: OECD+WB+UNEP+GGGI)**
- **IMF (recent work on EFRs, aviation taxation, redistribution effects, environmental benefits)**
- **EUROPEAN UNION (e.g. White Paper, MBI Forum, Europe 2020, White Paper Delors, EU Semester Recommendations)**
- **EUROPEAN ENVIRONMENT AGENCY (e.g. Country workshops, analysis papers)**
- **WCERE-EAERE-ISEE-GCET Scientific Conferences**
- **GREEN BUDGET EUROPE (support to EU Country Presidencies and EC, annual conferences, CETRIE project)**

RESEARCH AND ENVIRONMENTAL FISCALITY

- More university oriented
- GCET 2014
15th Global Conference on Environmental Taxation
“Environmental Taxation & Emissions Trading in an Era of Climate Change”
Copenhagen 24-26 September 2014 - <http://conferences.au.dk/gcet/>
- WCERE 2014
World Conference of Environmental and Resource Economists
Istanbul 27 June - 2 July 2014 <http://www.wcere2014.org/>
Policy Session on Environmental Fiscal Reform (Ravazzi - Vollebergh)
- IAERE 2015
3rd Conference of the Italian Association of Environment & Resource Economists, Università di Padova, February 2015
www.iaere.org
- FAERE 1st Annual Conference, Montpellier, 11-12 Sept. 2014
- UKNEE 2015: Royal Society, London, 13 March 2015, London

RESEARCH AND ENVIRONMENTAL FISCALITY

More policy-oriented

- **GBE - Italian EU Presidency**

Green Budget Europe 2014 Annual Conference

‘Recovery, Jobs and Sustainable Prosperity:

A New Agenda for Green Fiscal Reform in Europe’

Bruxelles 5 November 2014

www.green-budget.eu

- **GGKP (Green Growth Knowledge Platform)**

OECD-UNEP-WB-GGGI - Università di Venezia

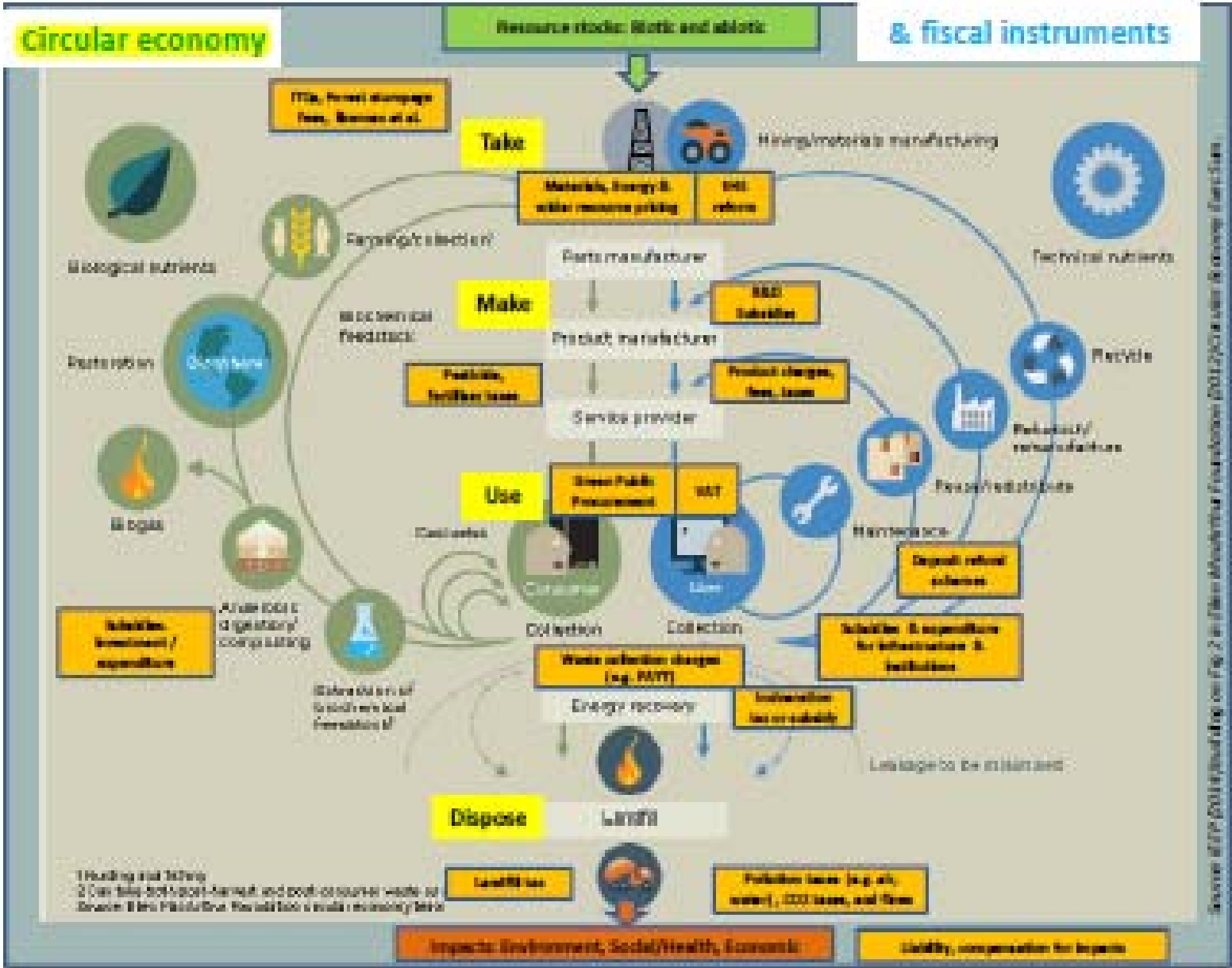
"Fiscal Policies and the Green Economy Transition:

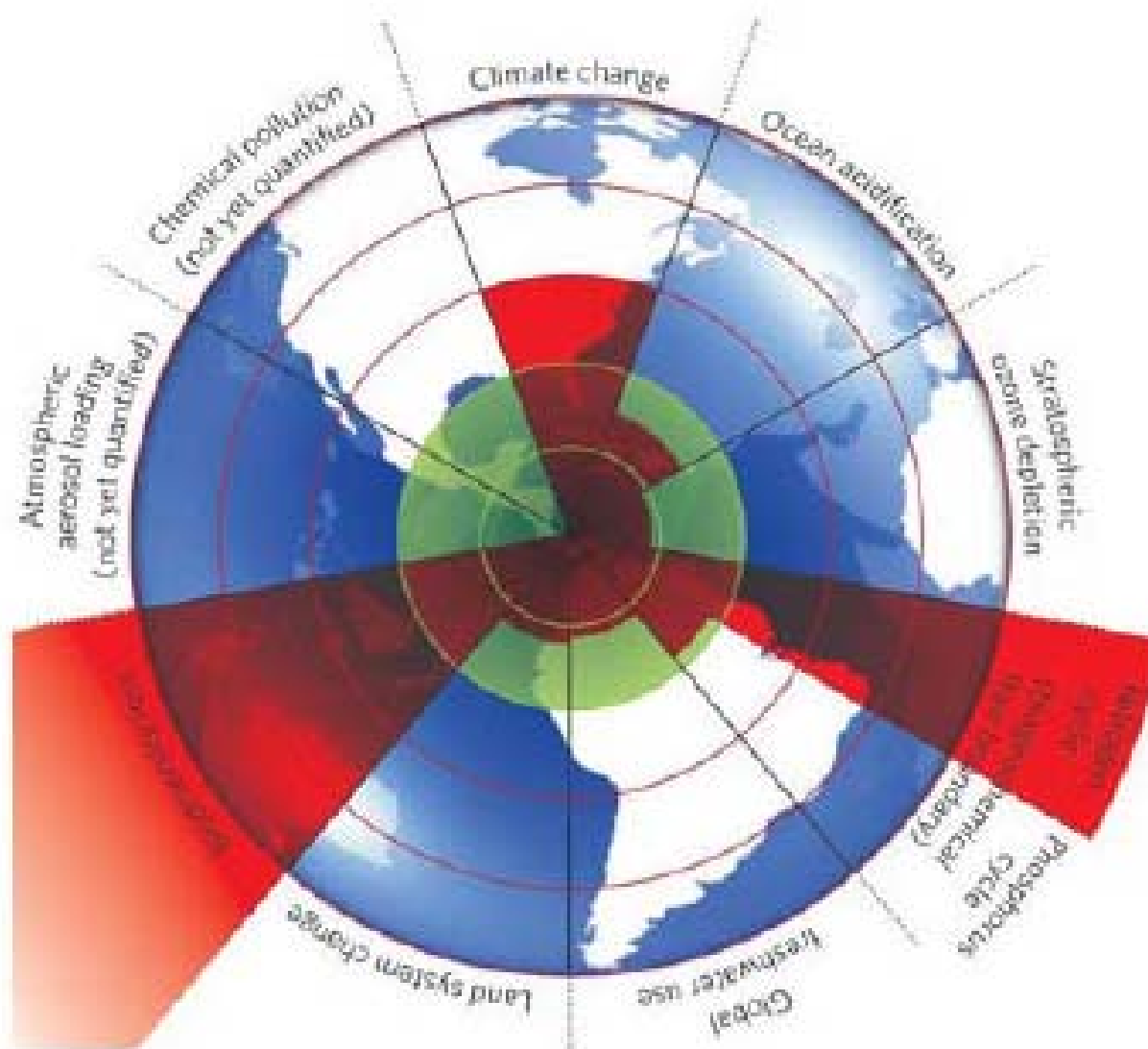
Generating Knowledge - Creating Impact“

Venezia, 29-30 January 2015

www.greengrowthknowledge.org/conference2015

Resource Efficiency, Circular Economy & Fiscal Instruments (IEEP 2014)





Source: Rockstrom et al (2009)

10 Planet Ecosystems to be kept under control:

1. Climate change
2. Biodiversity loss
3. Nitrogen cycle
4. *Phosphorus cycle*
5. Stratospheric ozone depletion
6. *Ocean acidification*
7. *Global freshwater use*
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9. Atmospheric aerosol loading
10. Chemical pollution

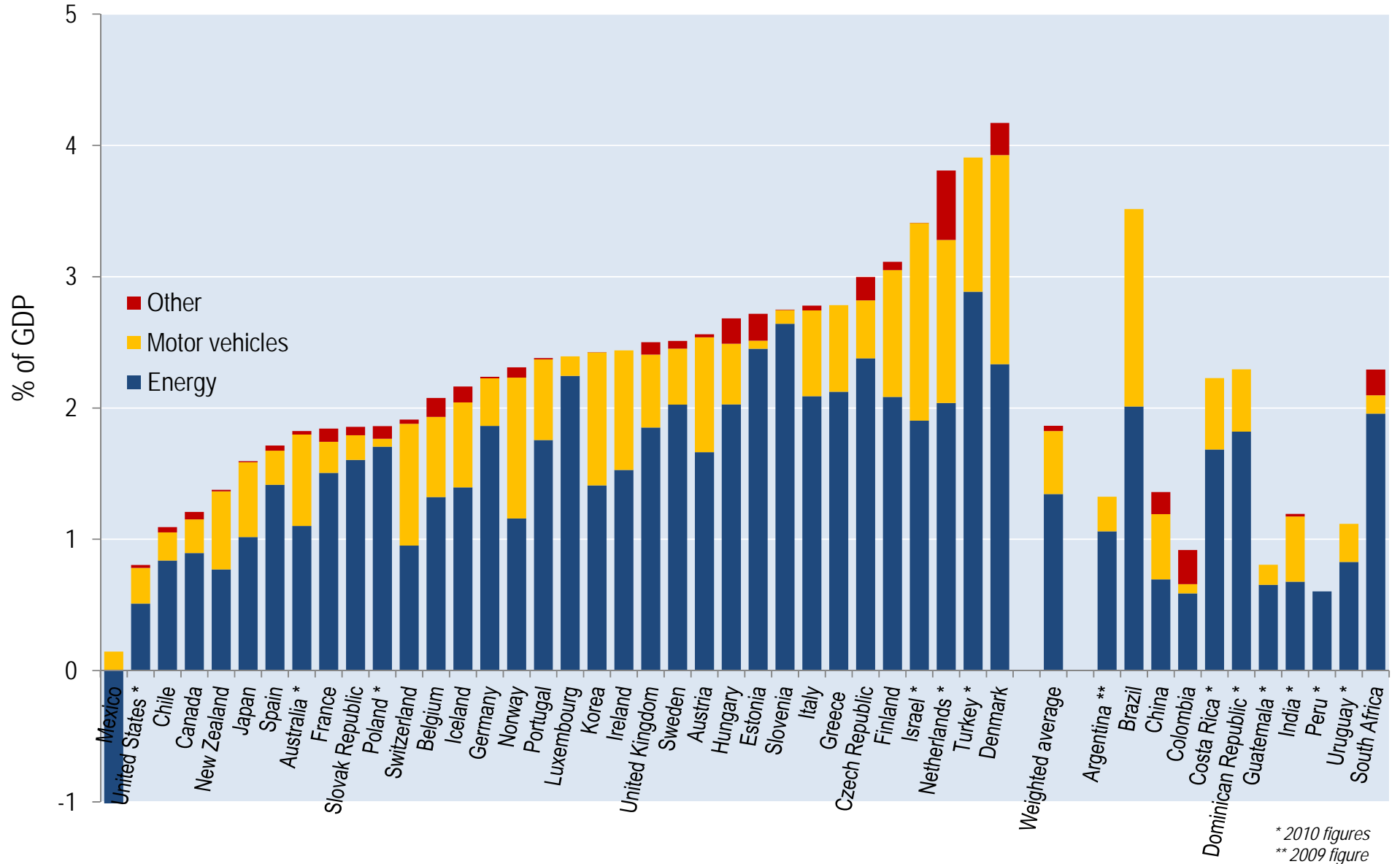
Climate change mitigation policy instruments

THE OECD WORK
(by Nils-Axel Braathen)

Environmentally related taxes

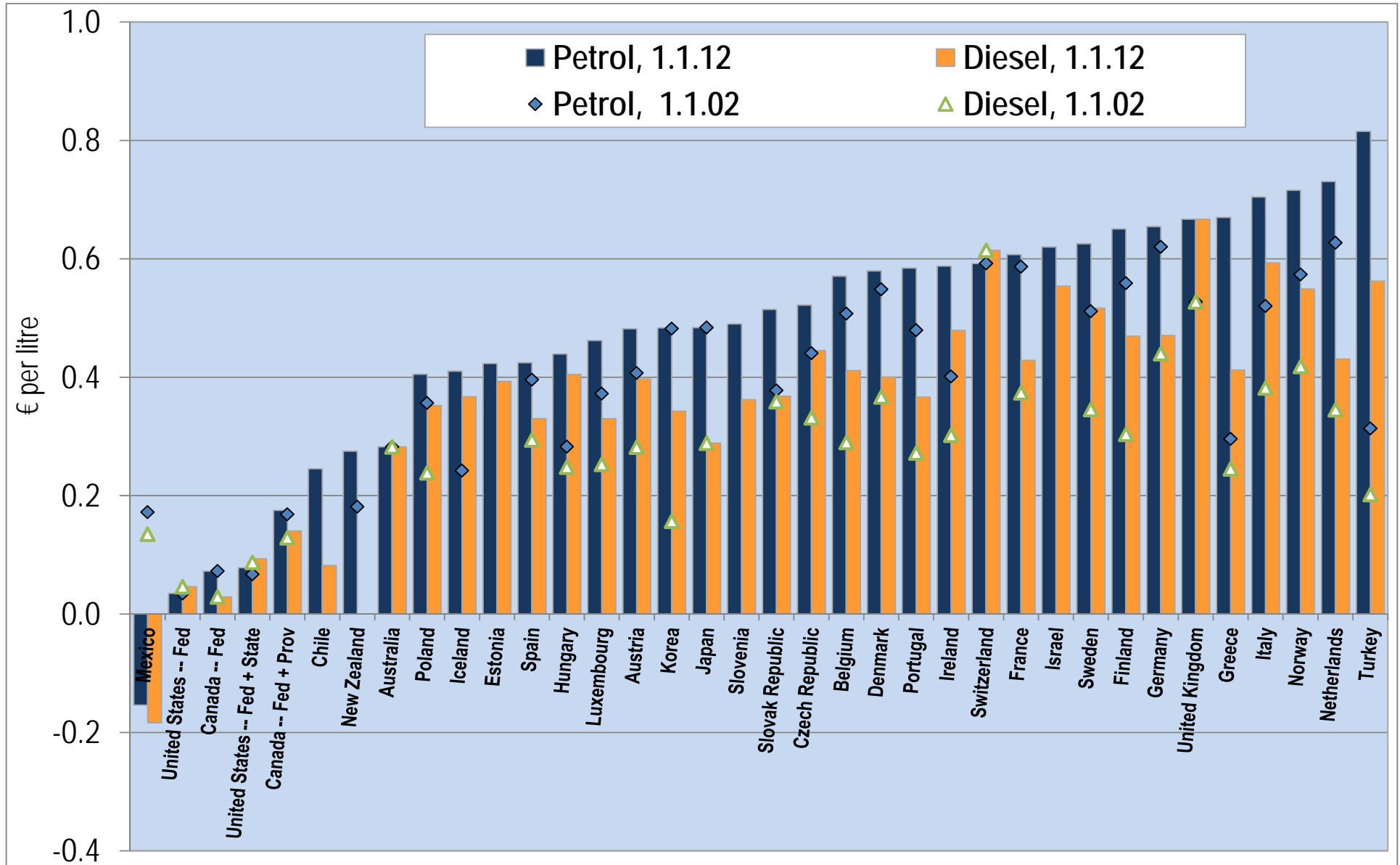
Revenues from environmentally related taxes

In per cent of GDP, Selected countries



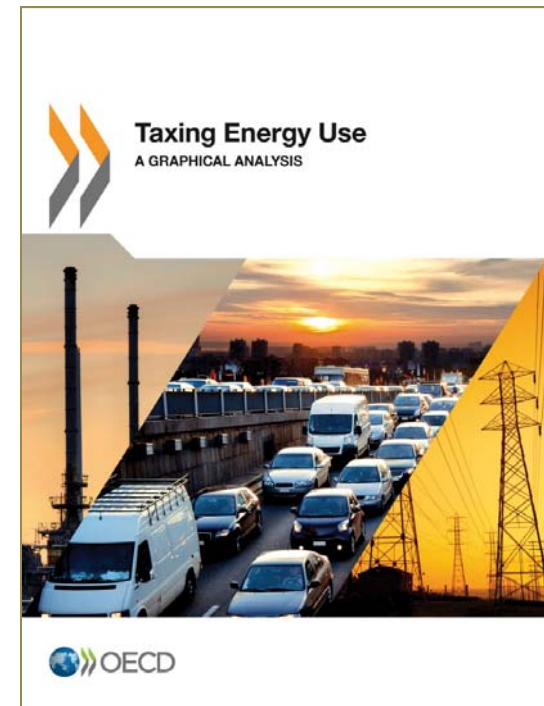
* 2010 figures
** 2009 figure

Taxes on petrol and diesel, € per litre



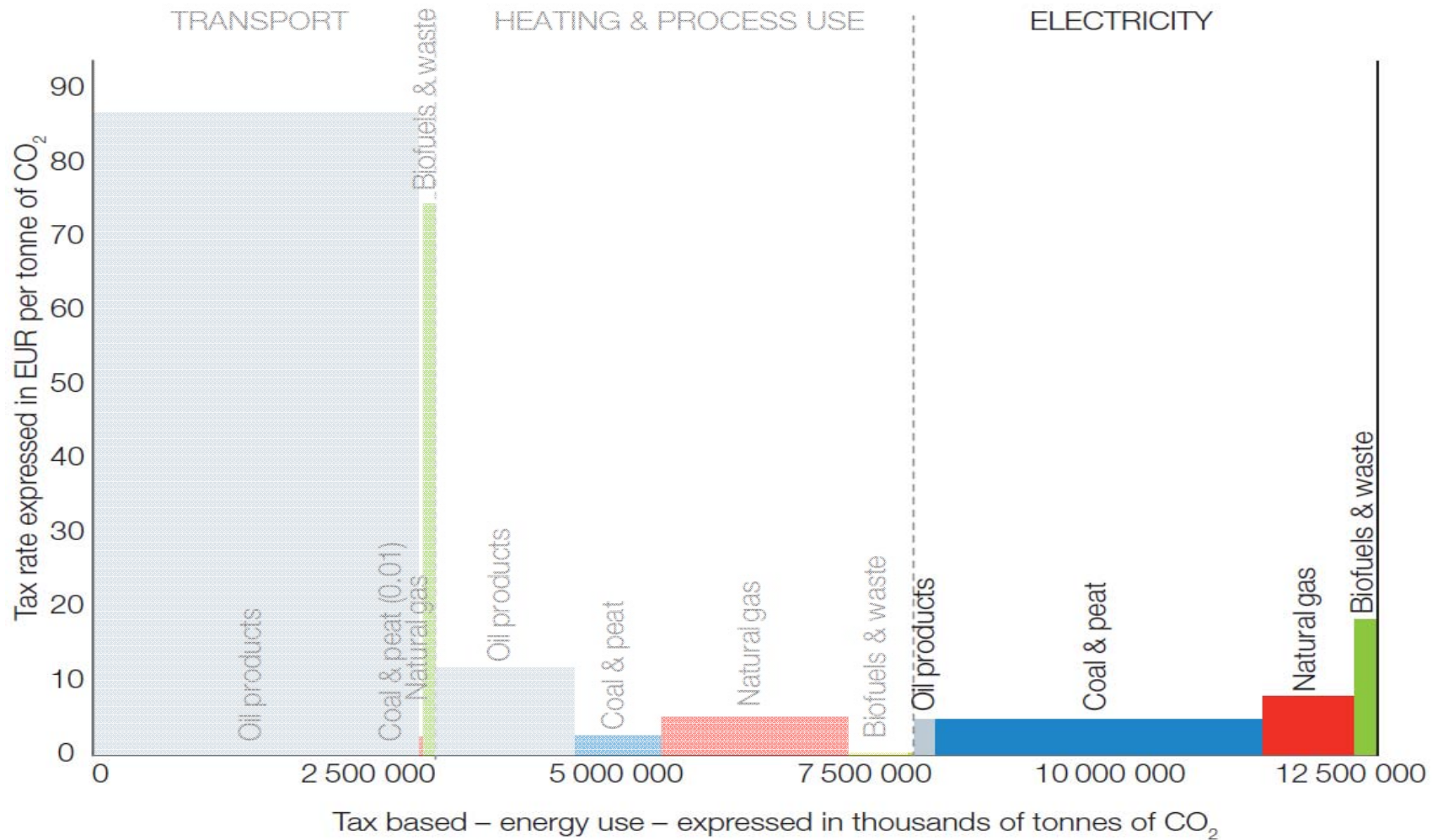
Taxing Energy Use

- OECD published the book *Taxing Energy Use: A Graphical Analysis* earlier this year.
- First systematic comparison of the taxation of all energy use across & within OECD countries.
- Considers taxes on fuels as effective taxes on energy & on carbon emissions, highlighting the price signals sent by taxes to different fuels & fuel uses.
- Provides a graphical & statistical profile of the structure of energy use & taxation in each of the OECD countries.
- Uses the underlying data to develop cross-OECD comparisons of effective tax rates on different users and sources of energy.



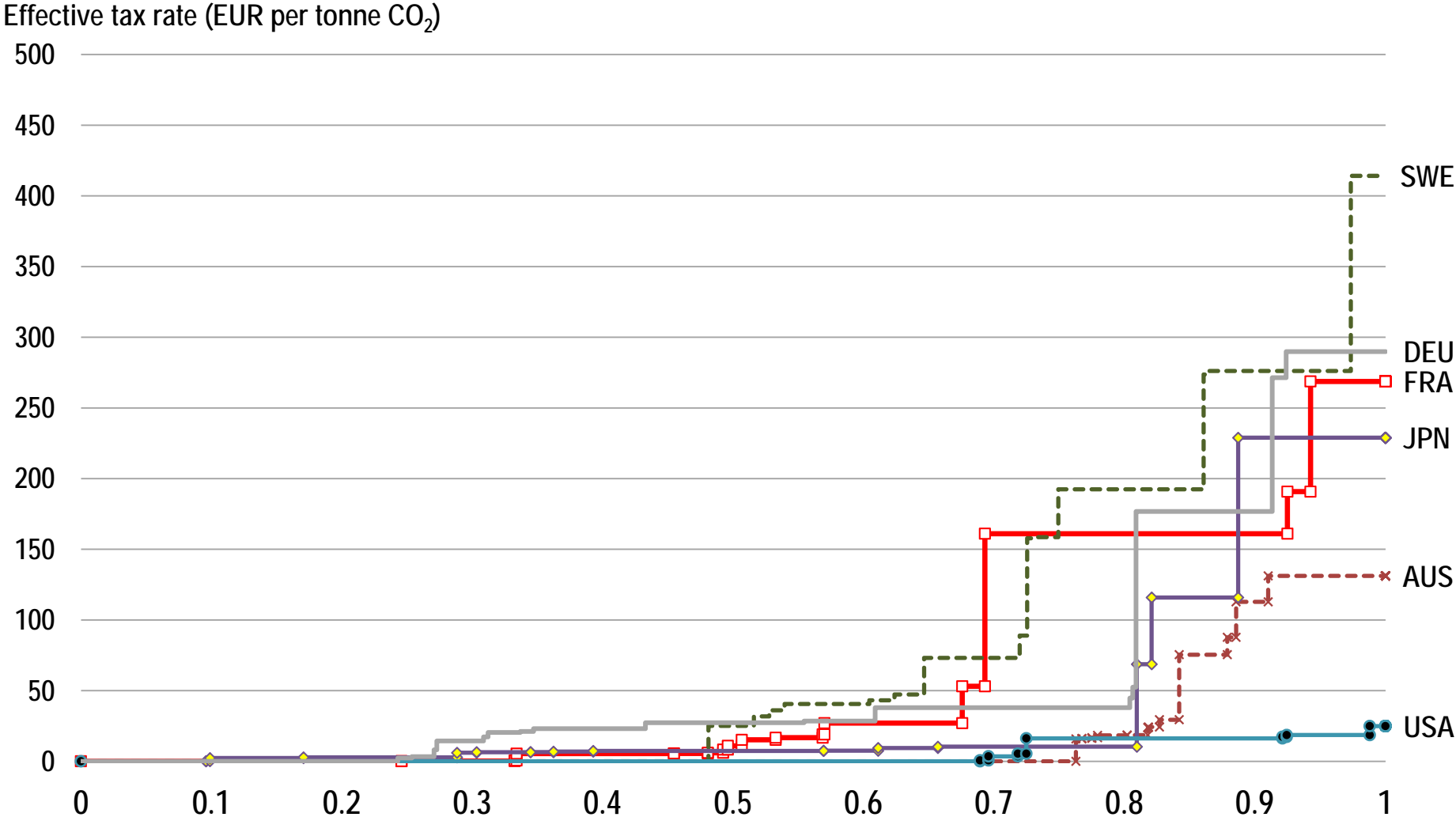
www.oecd.org/tax/tax-policy/taxingenergyuse.htm

Taxation of energy in the OECD area: A carbon content basis



Source: OECD (2013), Taxing Energy Use: A Graphical Analysis.

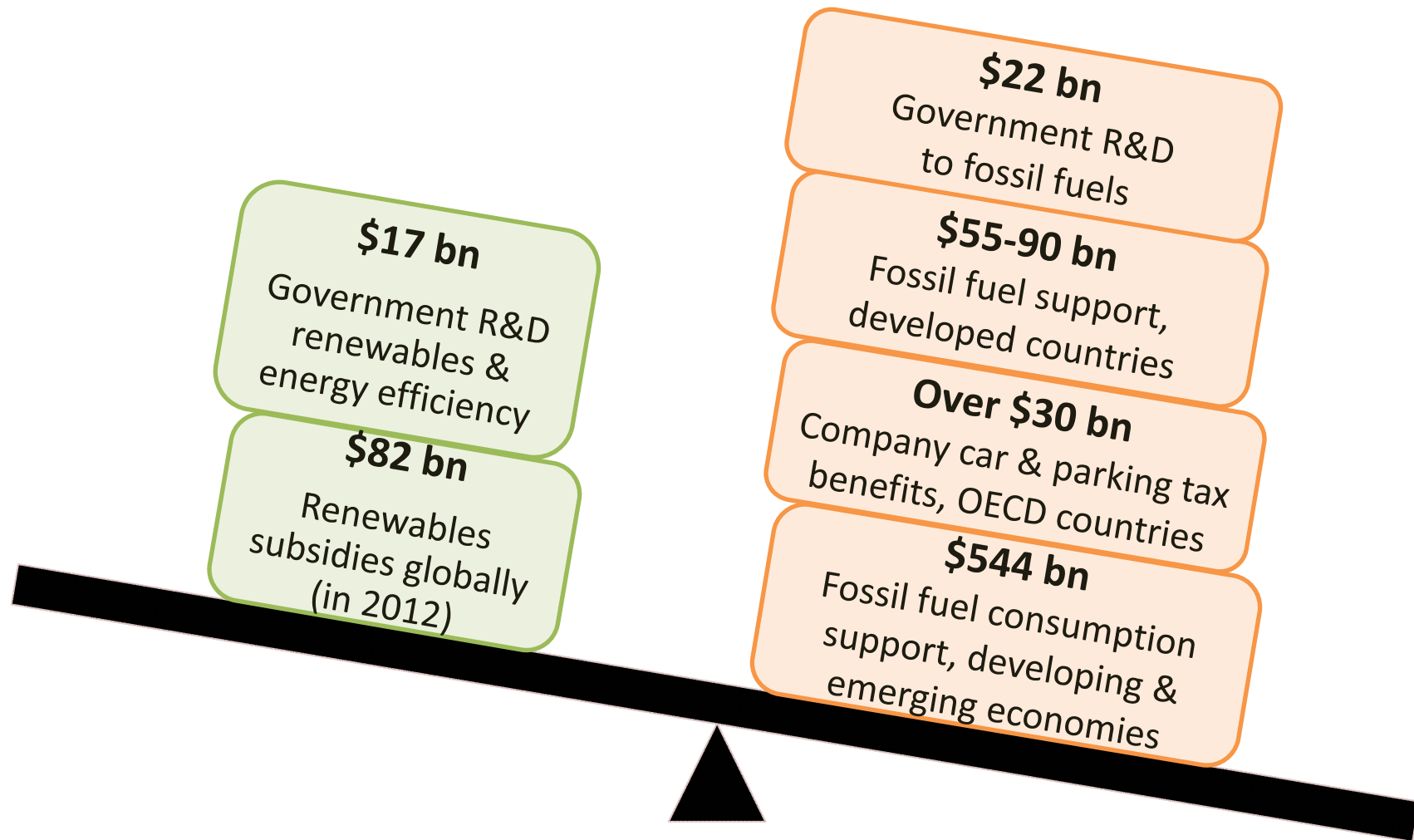
Energy tax rates, EUR per tonne CO₂



Source: OECD (2013), *Taxing Energy Use: A Graphical Analysis*

Fossil fuel support

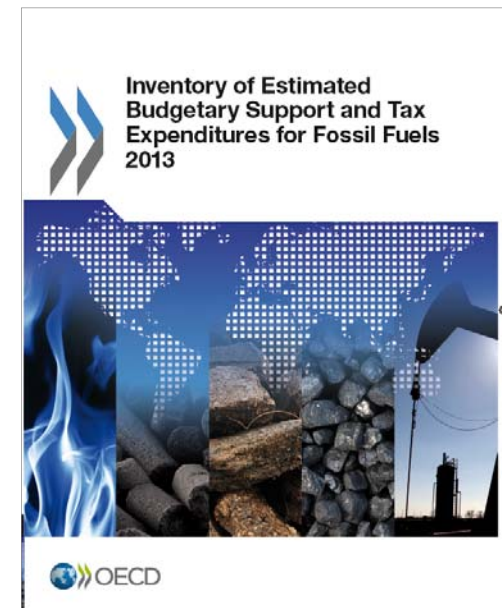
Are governments sending the right signals?



Sources: OECD (2013), Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels; IEA (2013), World Energy Outlook; IEA (2013), Tracking Clean Energy Progress Report; OECD (2013), Effective Carbon Prices.

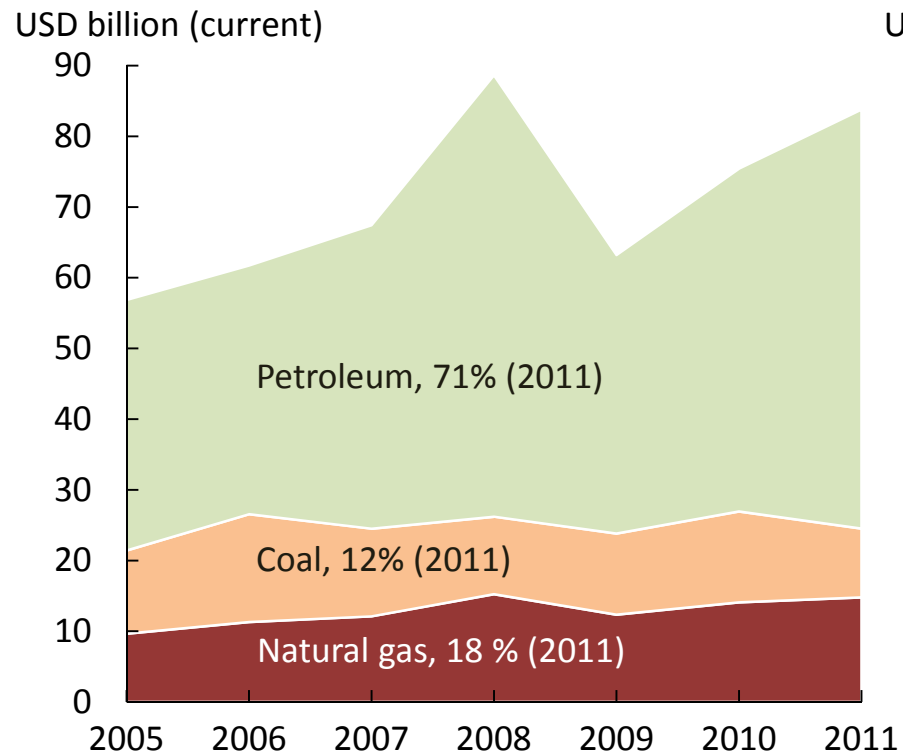
Support to fossil fuels: The OECD's Inventory

- OECD's *Inventory of estimated budgetary support and tax expenditures for fossil fuels* documents and estimates budgetary transfers and tax expenditures relating to fossil fuels for all 34 OECD countries.
 - Covers both production and consumption.
 - Includes sub-national jurisdictions in federal countries (e.g. Australia, Canada, United States).
 - Complements the IEA data on consumer subsidies in developing and emerging economies.
 - The EC has applied approach to non-OECD EU states (BGR, CYP, LVA, LTU, MLT, ROM).
 - Provisional data for Russia, Brazil and India, and soon for China, Indonesia and South Africa.

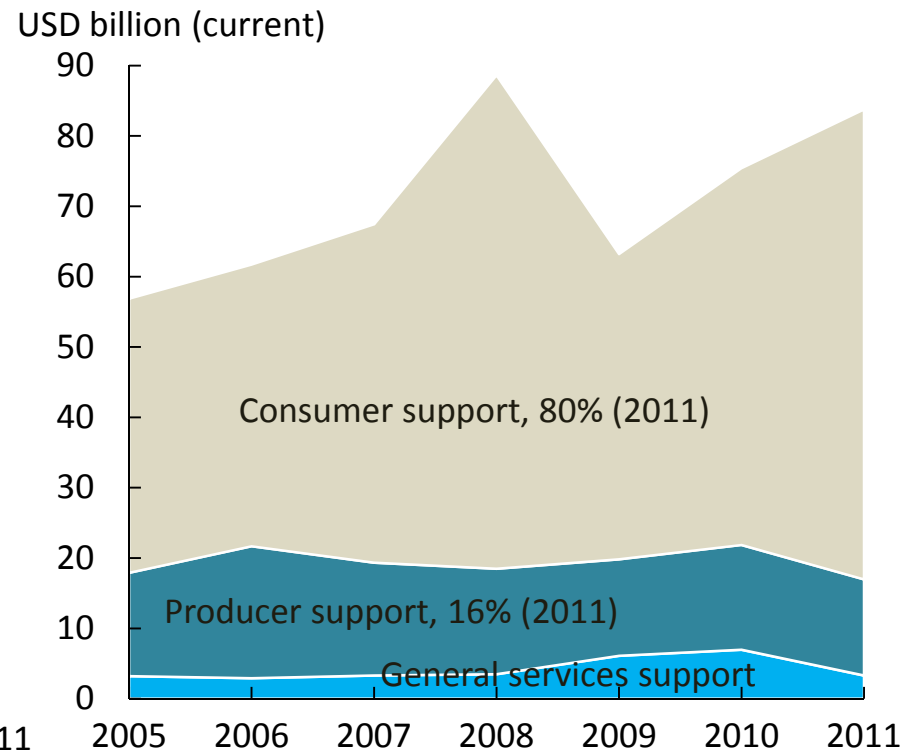


Support to fossil fuels in OECD countries by year

By type of fuel



By measure

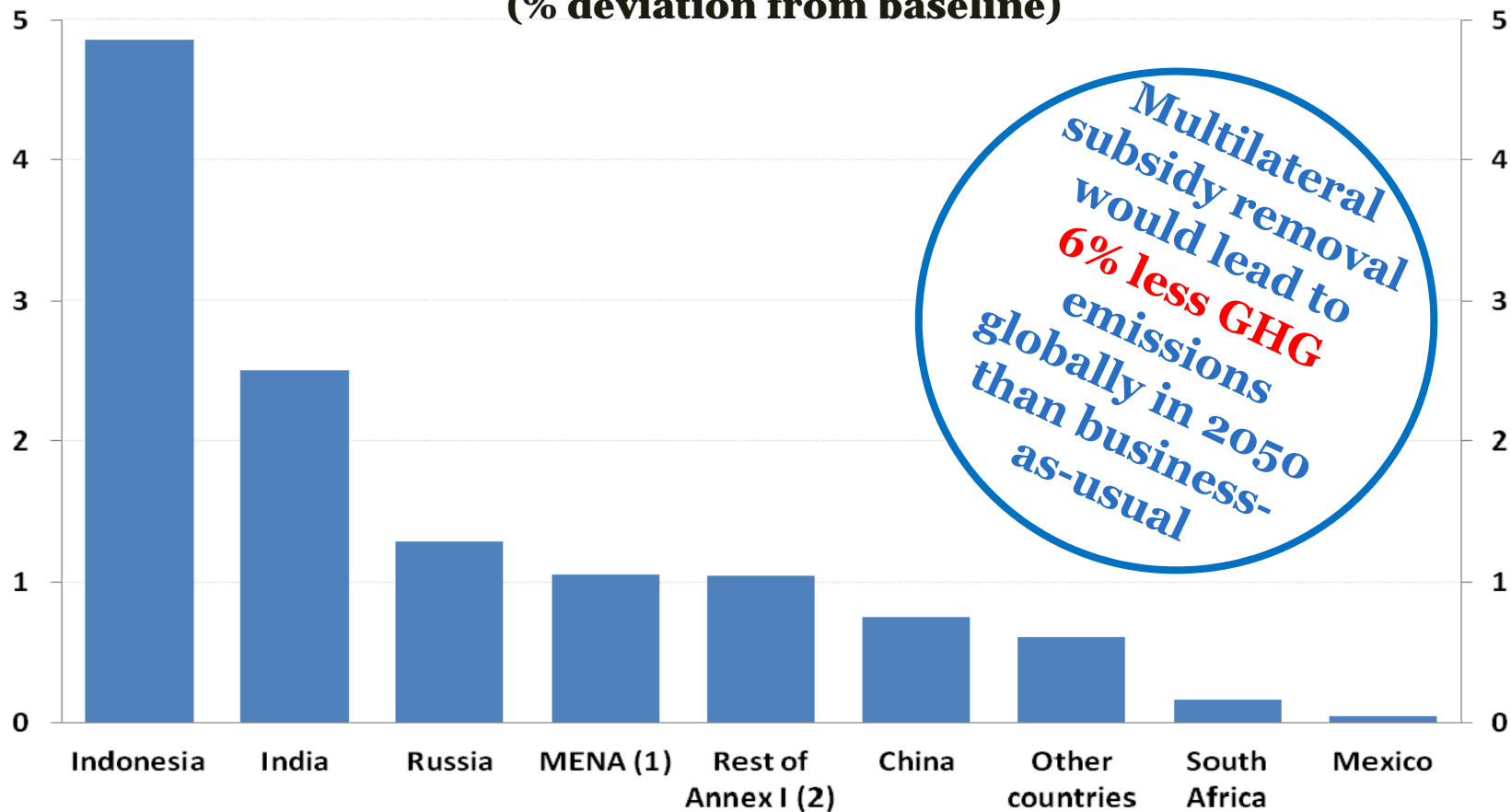


Note: Based on arithmetic sum of the individual support measures identified for all 34 OECD member countries. It includes the value of tax relief measured under each jurisdiction's benchmark treatment. The estimates do not account for interactions that may occur if multiple measures were considered simultaneously.

Source: OECD (2013), *Inventory of Estimated Budgetary Support and Tax Expenditures for Fossil Fuels 2013*, OECD Publishing.

Removing fossil fuel subsidies is good for the economy and for the environment

**Impact on GDP of unilateral subsidy phase out in 2050
(% deviation from baseline)**



(1) Middle East & Northern Africa

(2) Other Asian, African and Latin American Emerging economies

Source : OECD ENV-Linkages Model ; based on IEA subsidies data for the year 2009.

EFFECTIVE CARBON PRICES

Background and introduction

- OECD recently published the book *Effective Carbon Prices*.
- The book looks at the amount of GHG abatement different policy instruments contribute to; the costs to society of achieving this abatement; and, hence, the costs to society per tonne of CO₂eq abated.
- Covers electricity generation, road transport, pulp & paper, cement, as well as households' domestic energy use in 15 Countries.
- **Keep in mind:** A high effective carbon price can stem from an ambitious policy – or from an inefficient policy.

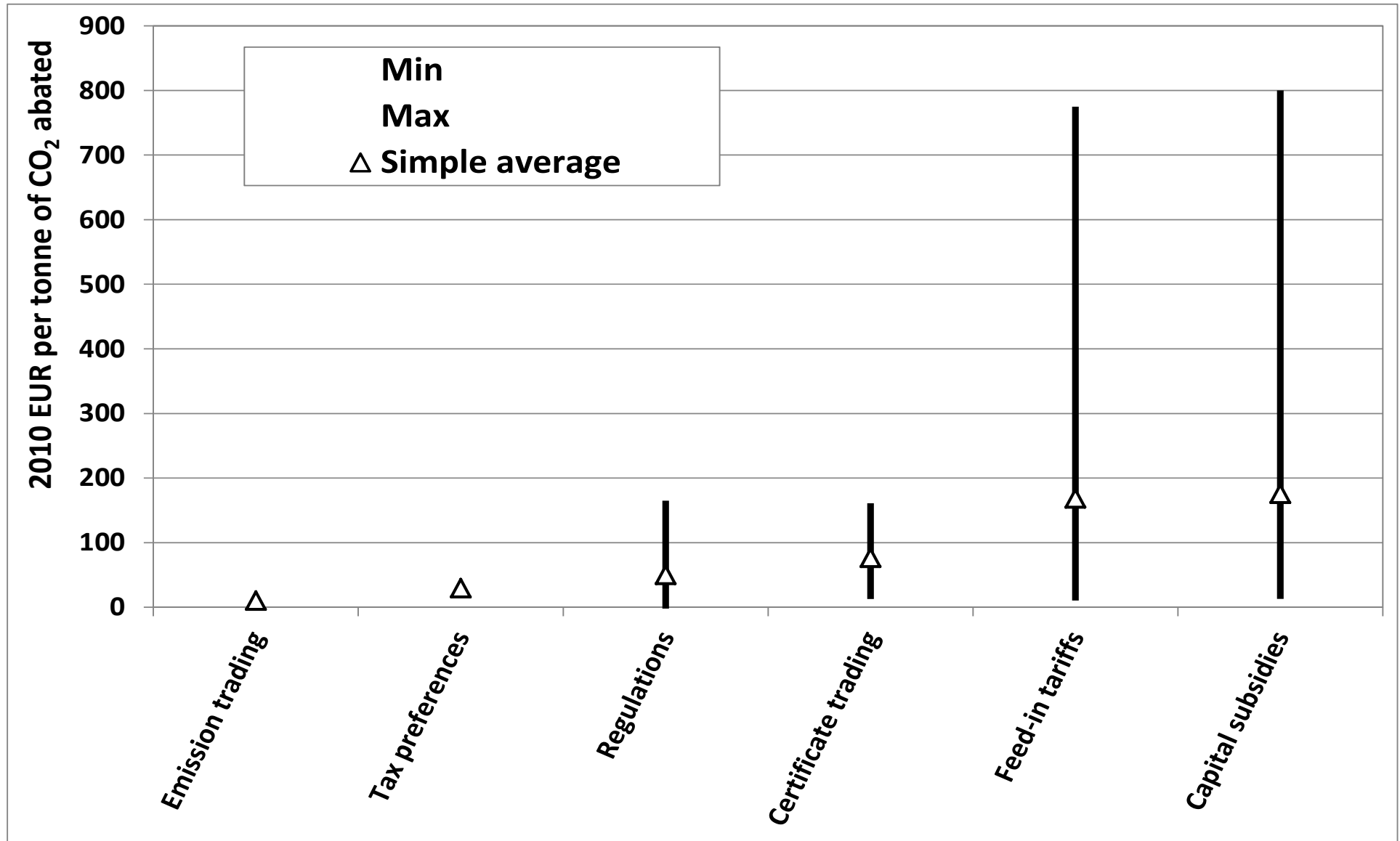


www.oecd.org/env/tools-evaluation/carbon-prices.htm

Electricity generation

- The **highest costs** per tonne of CO₂ abated are associated with various **capital subsidies** (for renewables, energy-efficient appliances, etc.) and **feed-in tariff** system – both in terms of the averages calculated and the maximum values observed.
- The **lowest costs** per tonne were found for **trading systems**.
- The costs were particularly low when the trading systems addressed the environmental externality as **directly** as possible – like with a trading system for GHG emission allowances (rather than **indirectly**, such as e.g. “tradable renewables certificates”).
- This confirms “textbook suggestions” that trading systems (and broad-based carbon taxes) are the most economically efficient policy tools to mitigate climate change.

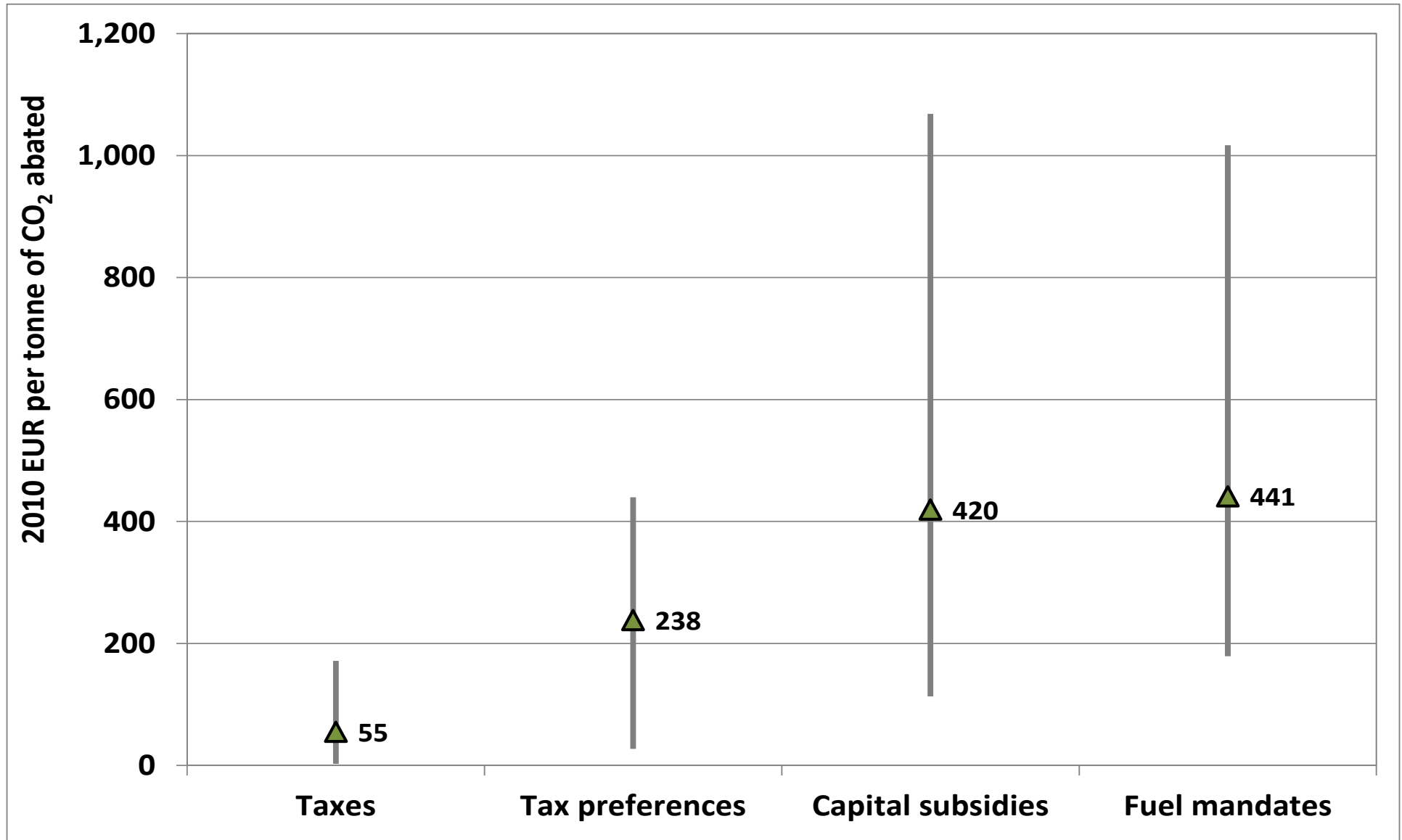
Average effective carbon prices in the electricity sector, by instrument category, EUR₂₀₁₀ per tonne CO₂



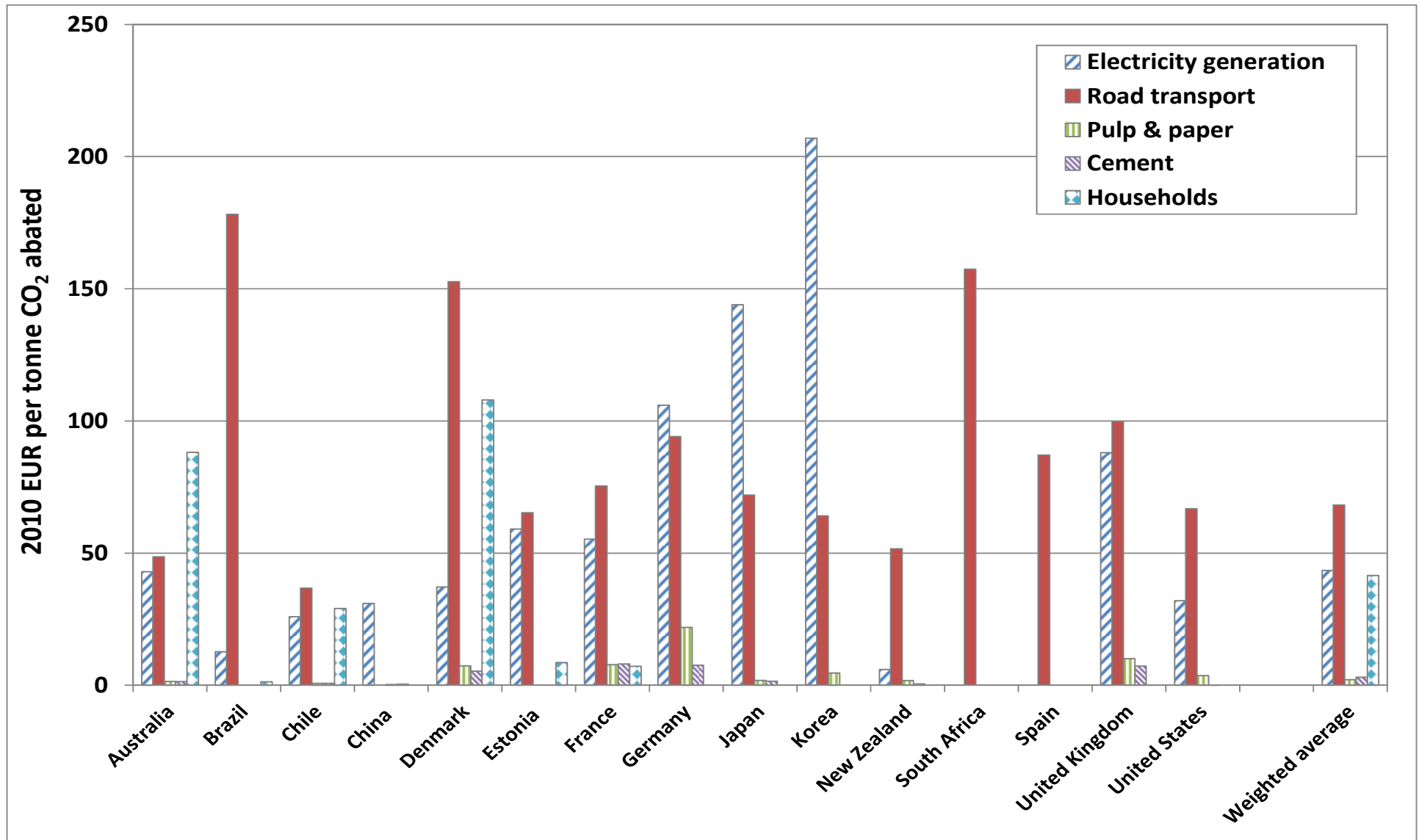
Other sectors

- In **road transport**, the costs exceed EUR 1 000 per tonne CO₂ abated for some policies related to the promotion of biofuels.
- In contrast, **motor fuel taxes** resulted in the lowest cost per tonne of CO₂ abated by far.
- In **pulp & paper** and **cement**, the costs per tonne abated are very modest.
- With an exception for feed-in tariffs in Germany, the highest effective carbon prices were found for emission trading systems in EU countries.
- A number of the instruments in the **household sector** were not primarily meant to address GHG emissions – and the effective carbon prices are in some of these cases very high.
- Taxes are again the most cost-effective instruments.

Average effective carbon prices in the **road transport** sector,
by instrument category, EUR₂₀₁₀ per tonne CO₂



Effective carbon prices in the different sectors covered, by country, EUR₂₀₁₀ per tonne CO₂



To sum up ...

- There are clear differences in effective carbon prices:
 - *within* a given sector, **across the countries** covered;
 - **across the different sectors**, *within* each country;
 - **across the different instrument types**, *across* all the countries covered.
- The lower effective carbon prices found for taxes and emission trading systems in the non-industrial sectors are related to their greater cost-effectiveness.
- In some cases, abating CO₂ emissions was not a major policy objective, so “judging” their “performance” only in terms of costs per tonne of CO₂ abated can be “unfair”.
- However, for many of the other instruments with very high effective carbon prices, **carbon abatement has indeed been one of the main arguments** applied in public debates in favour of their introduction.

Further information

- www.oecd.org/env/policies/database
- www.oecd.org/env/taxes
- www.oecd.org/env/tools-evaluation/carbon-prices.htm
- www.oecd.org/env/taxingenergyuse.htm
- www.oecd.org/site/tadffss/
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