Ecological Fiscal Reform and Sustainable Development

A presentation to the

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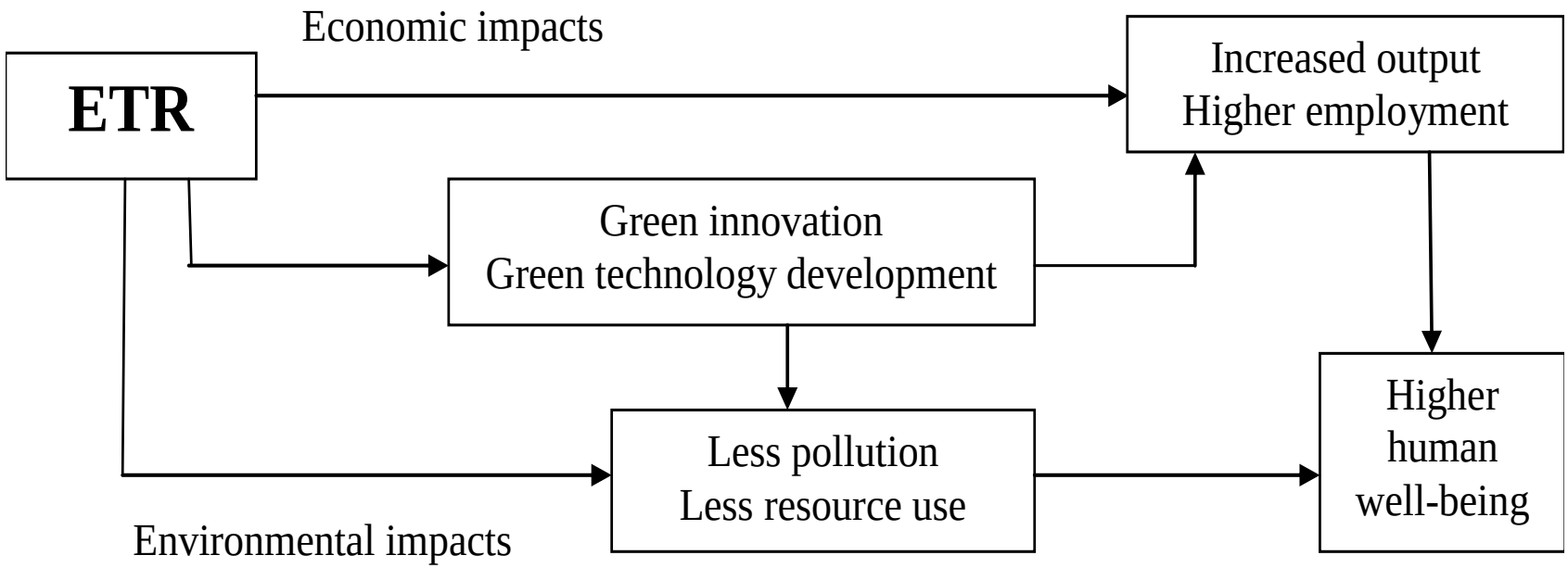
The potential of Ecological Fiscal Reform:

Environmental Tax Reform (ETR) is the shifting of taxation from 'goods' (like income, profits) to 'bads' (like resource use and pollution) (EEA); Ecological Fiscal Reform also includes the removal of environmentally harmful subsidies (EHS)



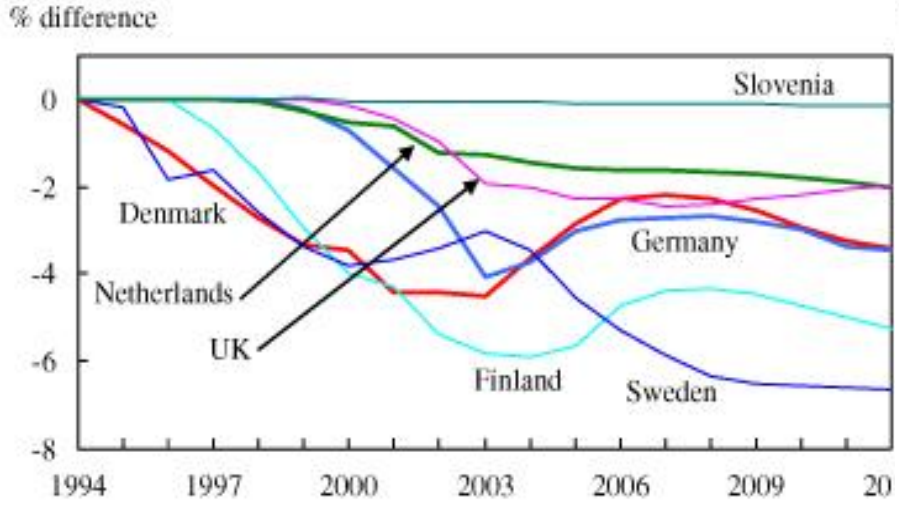
Experience to date of ETR in Europe

- Six EU countries have implemented ETRs: Denmark, Finland, Germany, Netherlands, Sweden, UK
- The outcomes – environmental and economic – have been broadly positive: energy demand and emissions are reduced; employment is increased; effects on GDP are very small
- Effects on industrial competitiveness have been minimal

- See Andersen, M.S. & Ekins, P. (Eds.) *Carbon Taxation: Lessons from Europe*, Oxford University Press, Oxford/New York, 2009

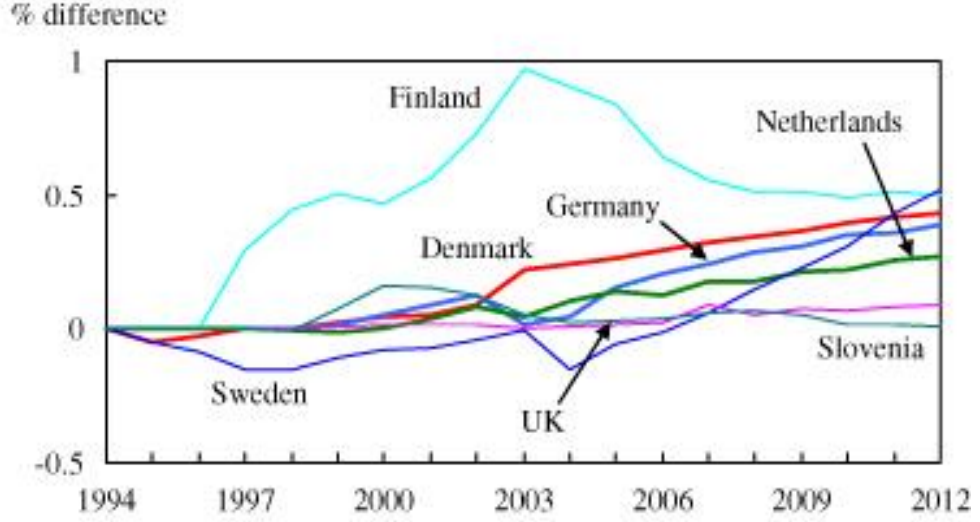
Environmental and economic impacts of ETR, from COMETR study, 2007

CHART 2: THE EFFECT OF ETR ON GHG EMISSIONS



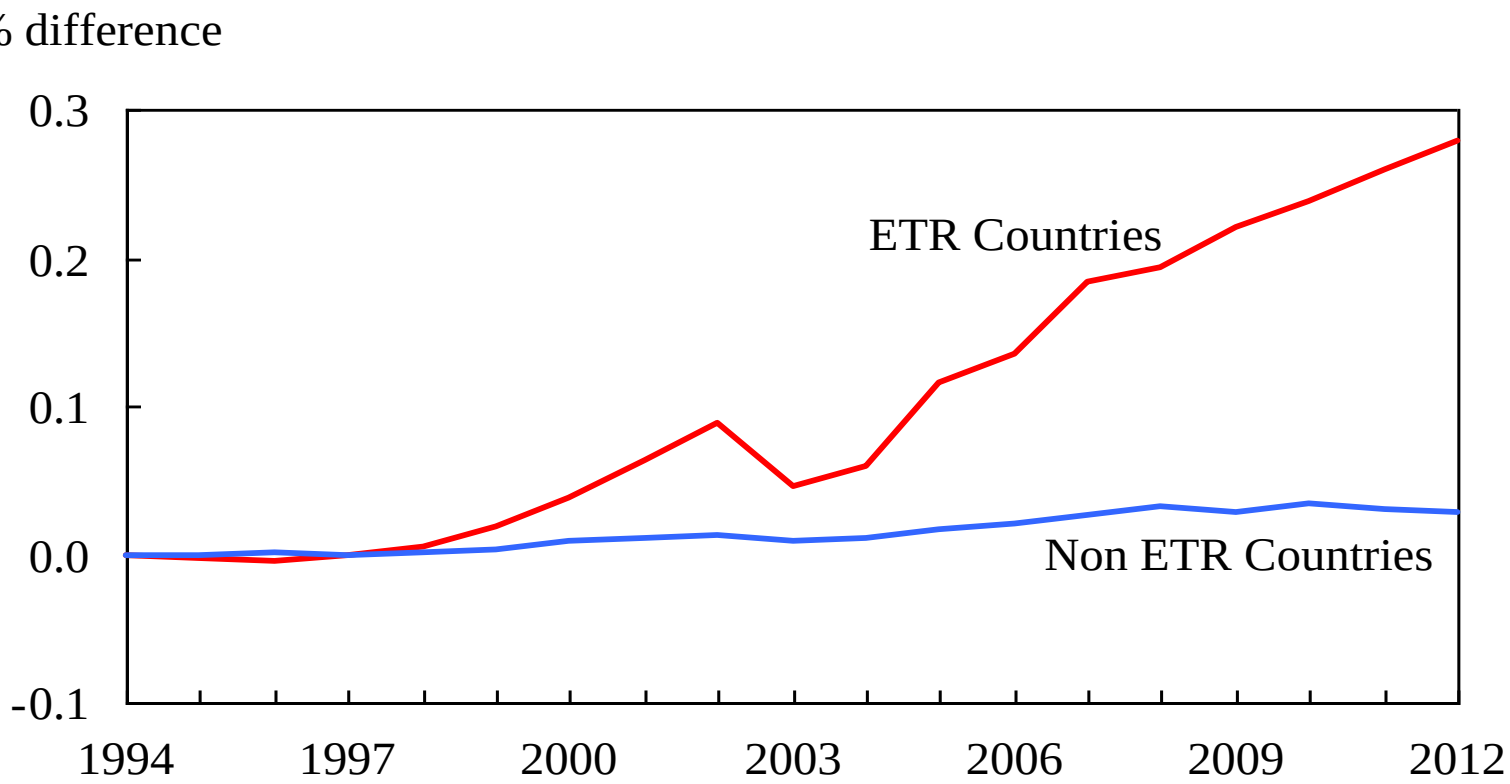
Note(s) : % difference is the difference between the base case and the counterfactual reference case.
Source(s) : CE.

CHART 3: THE EFFECT OF ETR ON GDP



Note(s) : % difference is the difference between the base case and the counterfactual reference case.
Source(s) : CE.

CHART 7.28: THE EFFECTS OF ETR: GDP IN ETR AND NON ETR COUNTRIES



Note(s) : % difference is the difference between the base case and the counterfactual reference case.

Source(s) : CE.

UK Green Fiscal Commission research, 2006-2009

- 8 Briefing Papers, see http://www.greenfiscalcommission.org.uk/index.php/site/about/publications_and_presentations/) on:
  - Public opinion; modelling of economic, environmental and social implications of a major tax shift; distributional issues; international comparisons on the effectiveness of economic instruments; ETR and innovation; ETR and competitiveness; border tax adjustments; ETR and transport; revenue stability

Relevant projects on environmental tax reform

- COMETR: Competitiveness effects of environmental tax reforms, 2007. http://www2.dmu.dk/cometr/ (see Andersen, M.S. & Ekins, P. (Eds.) *Carbon Taxation: Lessons from Europe*, Oxford University Press, Oxford/New York, 2009)
- petrE: 'Resource productivity, environmental tax reform (ETR) and sustainable growth in Europe'. Anglo-German Foundation programme 'Creating Sustainable Growth in Europe'. Final report published October 29, Berlin, November 25, London. www.petre.org.uk (see Ekins, P. & Speck S. Eds. 2011 *Environmental Tax Reform: A Policy for Green Growth*, Oxford University Press, Oxford)
- UK Green Fiscal Commission. Final report published October 26, 2009, London. www.greenfiscalcommission.org.uk
- Carbon and Energy Tax Reform in Europe (Vivid Economics and Green Budget Europe) http://www.foes.de/internationales/green-budget-europe/gbe-projekte/cetrie/?lang=en, 2015
- FRE-COMMUNICATE! - Communicating and realising the benefits and potential of Environmental Fiscal Reform in Europe http://www.foes.de/internationales/green-budget-europe/gbe-projekte/fre-communicate/?lang=en, 2014
- The Ex' Tax project (Netherlands): 'New era. New plan. Europe. A fiscal strategy for an inclusive, circular economy', December 2016, http://www.ex-tax.com/new-era-new-plan/

The wider evidence base

- Handbook on Research in Environmental Taxation (Milne & Skou Andersen, 2012)
- Environmental tax reform in Europe: opportunities for eco-innovation (European Environment Agency, 2011)
- Carbon Taxation and Fiscal Consolidation: the potential for carbon pricing to reduce Europe's fiscal deficits (Vivid Economics, 2012). This report was prepared for the European Climate Foundation and Green Budget Europe
- Mori, M., Ekins, P., Speck, S., Lee, S. and Ueta, K. Eds. 2013 *The Green Fiscal Mechanism and Reform for Low Carbon Development*, Routledge, London/New York (contains a chapter based on a review of 19 different Green Tax Commissions for European countries)
- Numerous publications of the OECD

UK Green Fiscal Commission – Summary of Findings

- Environmental taxes work: they reduce environmental impacts
- Environmental taxes are efficient: they improve the environment at least cost
- Environmental taxes can raise stable revenues
- The public can be won round to Environmental Tax Reform (ETR)
- ETR would stimulate investment in energy and environmental efficiency, and the low-carbon industries of the future
- ETR can mitigate the impact of high world energy prices: unlike ETR, high world energy prices are bad for the economy
- The impacts of ETR on competitiveness can be mitigated: concerns of relatively few economic sectors can be addressed.
- Low-income households need special arrangements, perhaps utilising some of the revenue from ETR
- Green Fiscal Commissions: can explore options, build consensus and work out the details (modelling)

What is an environmentally harmful subsidy (EHS)?

- Subsidy: 'A result of a government action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs' (OECD, 2005) [from the efficient outcome]
- Subsidy may be financial or non-financial, direct or indirect, explicit or implicit
- Subsidy may be on consumption or production
- EHS: The subsidy damages the environment

How large are subsidies for fossil fuels?

- "The IEA's latest estimates indicate that fossil-fuel **consumption subsidies** worldwide amounted to $493 billion in 2014, $39 billion down on the previous year, in part due to the drop in international energy prices, with subsidies to oil products representing over half of the total. Those subsidies were over four-times the value of subsidies to renewable energy."

  (Source: http://www.worldenergyoutlook.org/resources/energysubsidies/)
- "**Producer subsidies**, as estimated by the OECD, are relatively small, at $16.8 billion in 2011 and $17.9 billion in 2015."

  (Source: IMF 2015 'How Large Are Global Energy Subsidies?' Prepared by David Coady, Ian Parry, Louis Sears, and Baoping Shang), IMF Working Paper WP/15/105)
- "Globally, subsidies to fossil fuels may be on the order of US$ 600 billion per year, of which the GSI estimates about US$100 billion is provided to producers."

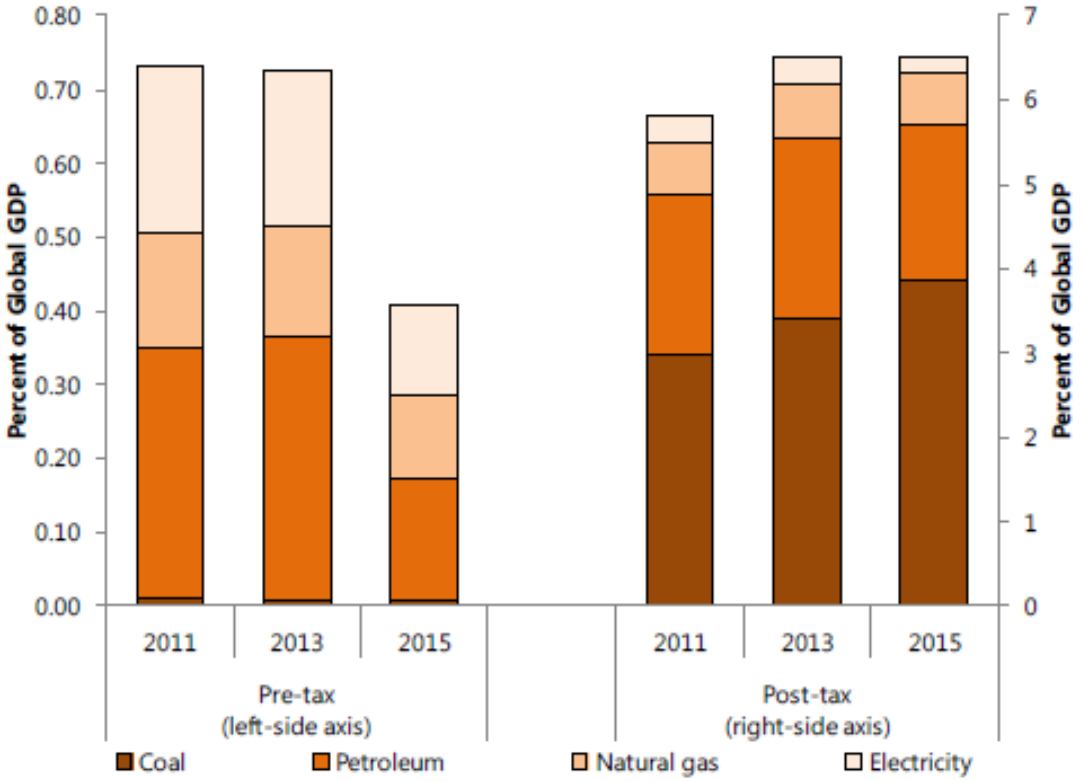
  (Source: http://www.iisd.org/gsi/fossil-fuel-subsidies/fossil-fuels-what-cost)
- "US$ 20 billion in subsidies for biofuel production and consumption" [not fossil fuel but potential EHS]

  (Source: http://www.iisd.org/gsi/biofuel-subsidies/biofuels-state-play-2012)

How large are subsidies for fossil fuels?

Figure 5. Global Energy Subsidies by Energy Product, 2011–15

(Pre-tax in percent global GDP left axis; post-tax in percent global GDP right axis)



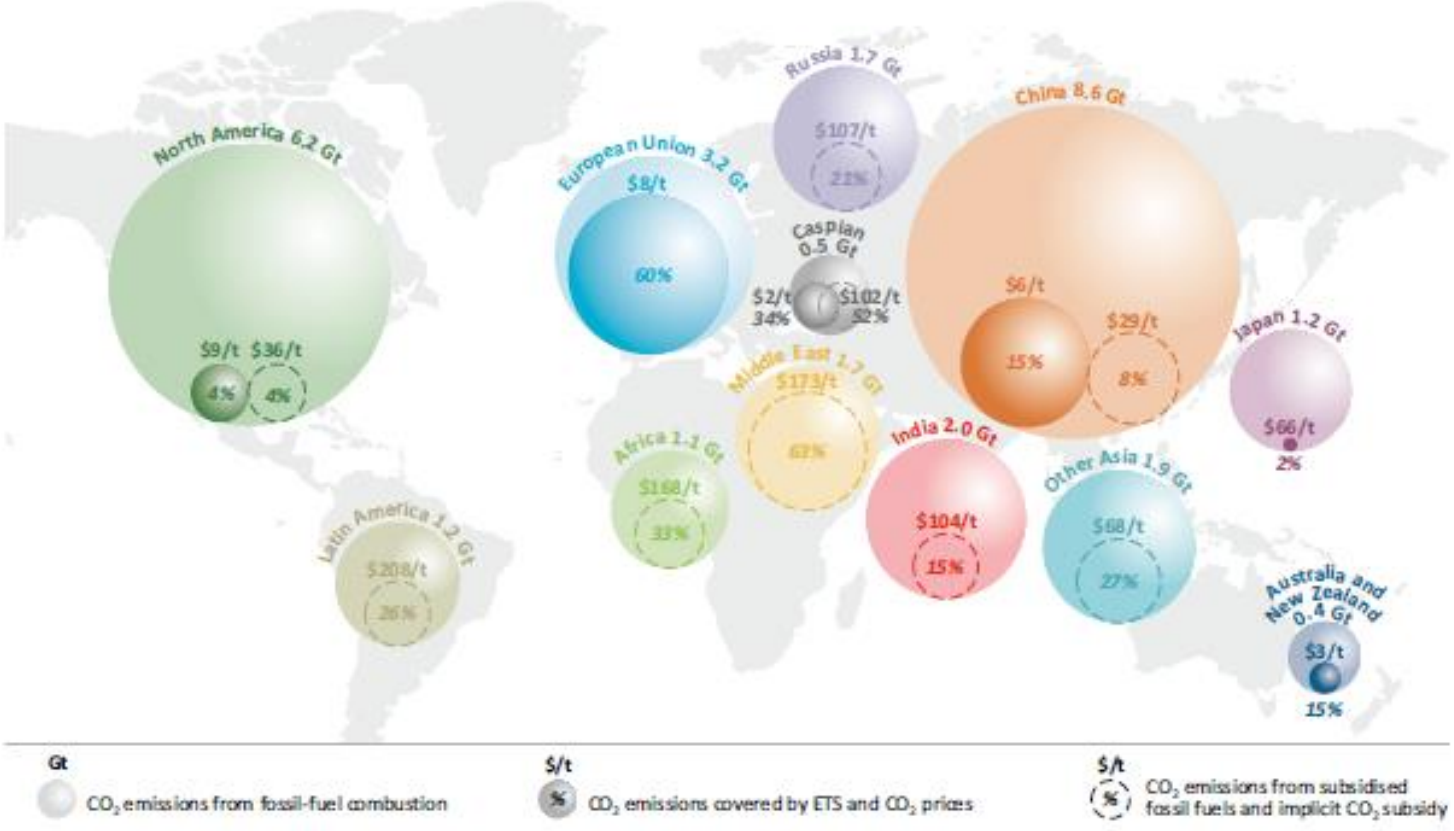
Source: Authors' calculations, based on sources in Appendix Table 2.

(Source: IMF 2015 'How Large Are Global Energy Subsidies?' Prepared by David Coady, Ian Parry, Louis Sears, and Baoping Shang), IMF Working Paper WP/15/105)

Carbon subsidies and carbon pricing

["The average price was around $7 per tonne of CO2 (Figure 1.2). In contrast, 4.2 Gt (13%) of global energy-related CO2 emissions from the use of fossil fuels receive consumption subsidies, with the implicit subsidy amounting to $115 per tonne of CO2, on average." p.23]

Figure 1.2 ▷ Energy-related CO_2 emissions in selected regions, 2014



Notes: The implicit CO_2 subsidy is calculated as the ratio of the economic value of those subsidies to the CO_2 emissions released from subsidised energy consumption. ETS = emissions trading scheme.

(Source: WEO Special Report on Energy and Climate Change, IEA, 2015)

What are the benefits from removing subsidies for fossil fuels?

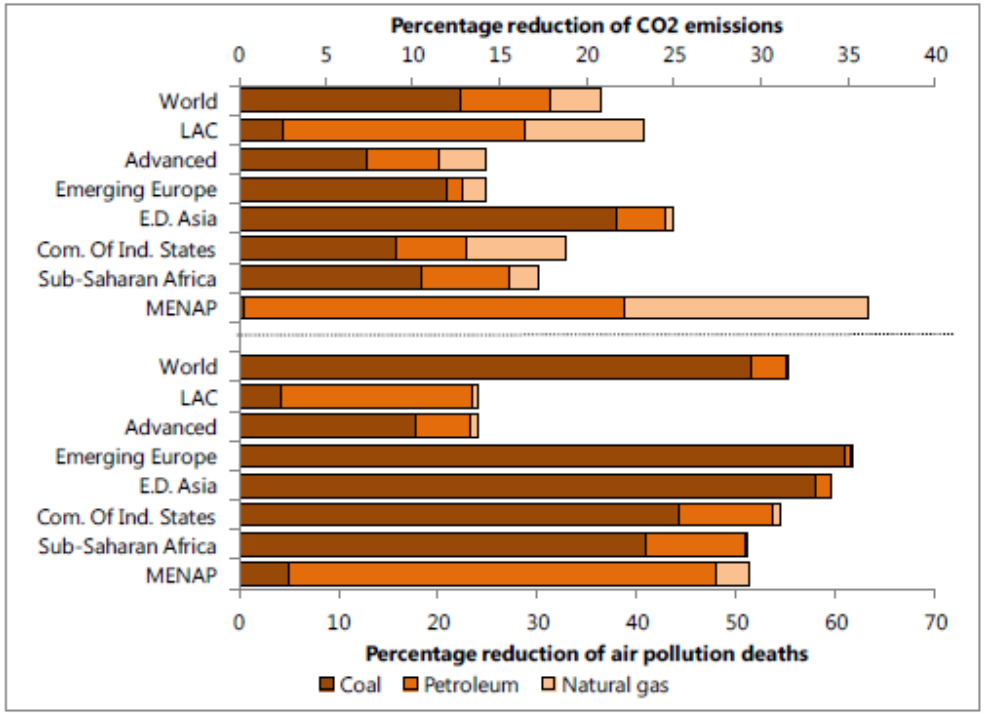
(Source: IMF 2015)

- Fiscal/revenue gain: $3.0 trillion (nominal) in 2013 (4 percent of global GDP), more than 10 percent of government revenue [accounts for the price-induced reduction in energy use and implicitly assumes tax rebates are used to promote adoption of emission control technologies for coal]
- Welfare gain [from eliminating post-tax subsidies - the benefits from reduced environmental damage and higher revenue minus the losses from consumers facing higher energy prices]: globally more than $1.4 trillion, or 2.0 percent of global GDP, in 2013; greatest in Emerging Europe (4.4 percent of regional GDP), Emerging and Developing Asia (6.9 percent), CIS (5.0 percent), and MENAP (4.7 percent).

What are the environmental benefits from removing subsidies for fossil fuels?

Figure 11. Environment Gain from Removing Energy Subsidies, 2013

(Percent reductions in CO_2 emissions on top axis; percent reductions in air pollution deaths on bottom axis)



Source: Authors' calculations, based on sources in Appendix Table 2.
Note: CIS = Commonwealth of Independent States; ED Asia = Emerging and Developing Asia, LAC = Latin America and the Caribbean; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

Source: IMF, 2015

In conclusion …

Source: adapted from IMF, 2015

- EHS damage the environment.
- Fossil fuel subsidies also damage human health.
- EHS, including fossil fuel subsidies, impose large fiscal costs, which can be a drag on economic growth.
- Fossil fuel subsidies discourage needed investments in energy efficiency, renewables, and energy infrastructure.
- Fossil fuel subsidies increase the vulnerability of countries to volatile international energy prices.
- EHS, including fossil fuel subsidies, are economically inefficient and reduce a country's GDP
- Fossil fuel subsidies are a highly inefficient way to provide support to low-income households since most of the benefits from energy subsidies are typically captured by rich households. "The IEA estimates that only 8% of the money spent on fossil-fuel consumption subsidies reaches the poorest 20% of the population" (Source: IEA WEO 2011, cited in WEO2015 Special Report, 2015).

Thank you

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www.bartlett.ucl.ac.uk/sustainable