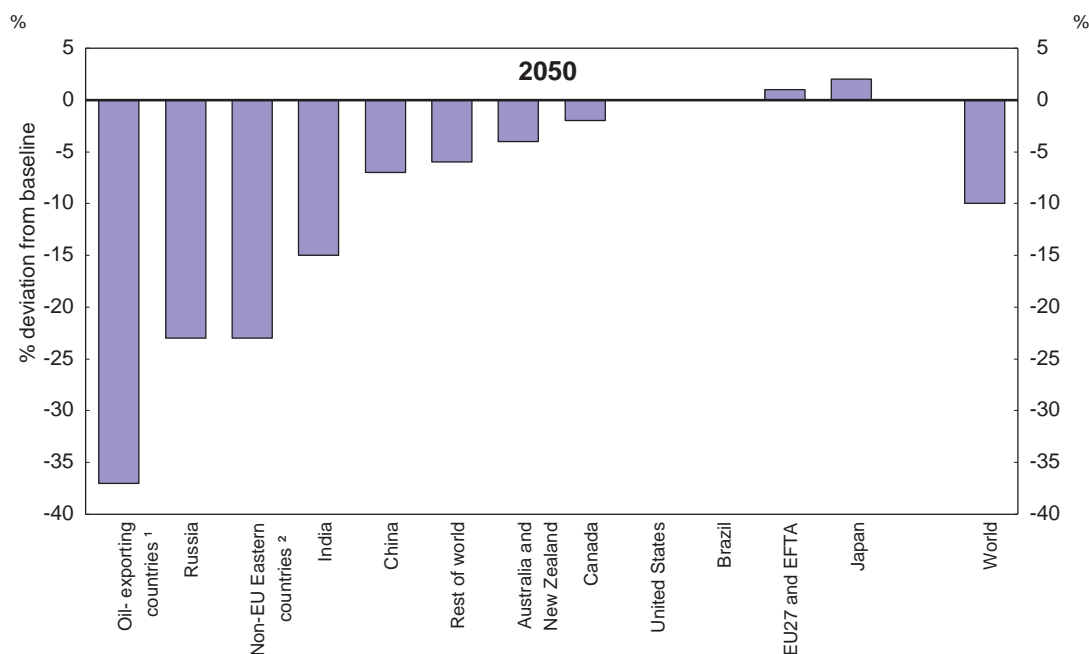


Figure 1. The effects on greenhouse gas emissions of removing fossil fuel subsidies in emerging and developing countries combined with caps on emissions in developed countries



1. The region includes the Middle East, Algeria-Libya-Egypt, Indonesia and Venezuela.
2. These non-EU Eastern European Countries together form the 'Rest of Annex I' region of the OECD ENV-Linkages model.

Source: OECD ENV-Linkages model based on subsidies data from IEA for 37 emerging and developing countries in 2008.

Box 1. Examples of selected tax expenditures to fossil fuel production or use in OECD countries

Examples of tax expenditures relating to the production of fossil fuels in OECD countries

Favourable tax deduction for depletion of oil and gas fields and coal deposits.

Normally businesses can only deduct actual expenses and depreciation from the corporate income tax base. But in the United States, a special rule allows fossil fuel and mineral producers to deduct a fixed percentage of gross revenue instead of the value of the actual depletion. This is a highly favourable tax provision and can even continue after the expenses to acquire and develop a field or mine have been recovered. For fossil fuel producers alone, this tax expenditure is estimated at 0.002-0.004% of GDP. The US administration's 2011 budget proposal would end this and a number of other fossil fuel related tax expenditures.

Accelerated tax depreciation allowances for capital equipment. The extraction and processing of fossil fuels is highly capital intensive. Special rules that allow businesses to deduct depreciation faster than the actual speed at which equipment becomes economically obsolete can therefore in some cases imply large indirect subsidies. The issue is complicated by the special tax and royalty regimes targeted at natural-resource rents. For oil sands in Canada, the annual costs of this tax advantage amounts to 0.02% of GDP, estimated in cash-flow terms. The measure will be phased out by 2015.

Tax exemption for fossil fuel producers' own energy use. Most OECD countries have excise-tax exemptions for fossil fuels used in the production process in coal mining, oil extraction, refineries, etc. The magnitude of this tax expenditure will depend on the volume of energy production in each country. Even in Germany, which is not a large energy producer, it is estimated to be worth 0.01% of GDP.

Examples of tax expenditures on intermediate and final consumption of fossil fuels: in OECD countries

Reduced VAT rates and VAT exemptions for fossil fuels. Reduced value-added tax rates are typically targeted at heating fuels. Italy, for example, applies a 10% VAT rate to the first 480 cubic meters of natural gas supplied annually to each household, compared with a standard VAT rate of 20%. Korea has a VAT exemption for domestically produced anthracite coal typically used by the poor for heating and cooking. In the United Kingdom, all fuel and power for households' domestic use, i.e. heating and electricity, has a reduced VAT rate of 5%, clearly below the standard rate of 17.5%. The tax revenue thereby foregone is equivalent to 0.25% of GDP, the bulk of it relating to fossil fuels either directly or indirectly via electricity generated from coal, etc.

Tax exemptions for "clean" gas fuels. Fuels such as compressed natural gas and liquefied petroleum gas are less environmentally damaging than other fossil fuels for transportation, but they still contribute to CO₂ emissions. Australia currently completely exempts these gaseous fuels from the excise duty applied to other fuels and estimates that this tax expenditure amounts to 0.06% of GDP.

Low tax rates for diesel and exemptions for agriculture and fisheries. Many countries set excise duties on transportation fuels at relatively high rates in order to reflect wider externalities such as air pollution and road accidents, and to finance road construction or raise revenue more generally. Against that background, it is sometimes argued that diesel used off-road by agriculture and fisheries should be taxed at a lower rate. However, the complete exemption seen in many countries implies tax rebates that often exceed what could be considered a road-user payment, and diesel combustion contributes equally to CO₂ emissions irrespective of where it takes place. As one example, Japan exempts agriculture, forestry, fisheries and mining from excise duties on diesel. Turkey estimates that its exemption for diesel used by fisheries and shipping represents a tax expenditure of 0.03% of GDP. For OECD countries as a whole, these tax concessions are worth some US\$ 8 billion a year to the agricultural sector, and at least US\$ 1.1 billion a year to the fisheries sector, according to preliminary OECD estimates. Moreover, many countries have lower excise-duty rates for diesel for road use than for petrol.

Automatic tax cuts and subsidies when fuel prices rise. In Mexico's unusual form of excise tax for petrol and diesel, rates change each month. When the international oil price rises abruptly, the tax rate turns into a subsidy. With low oil prices in 2002, this mechanism resulted in net revenues of 1.2% of GDP, but with high oil prices in 2008 it resulted in net subsidies of 1.8% of GDP.

Tax exemptions for fuel used by the public sector. Where taxes are only intended to raise revenue, it is natural to exempt publicly financed activities. But taxes meant to price externalities may be equally relevant for guiding input substitution in public as in private-sector activities. Public subsidies to education, health care, and collective transport should rather be general than channelled via underpriced tax-free fossil fuels. France, for example, had excise duty exemptions for natural gas used for heating by public agencies and fuel used by the military, but these exemptions have since been ended, starting in fiscal year 2009-10.

Source: National authorities, research literature and OECD data on environmentally-related taxes