*Chapter 3*

# Tracking progress in reforming support for fossil fuels

*This final chapter uses the data compiled for the 2015 edition of the OECD Inventory to derive a few results and indicators on the magnitude and nature of support for fossil fuels in OECD countries and the selected partner economies. The first section looks at broad trends in aggregate support and relates the observed evolution to recent policy changes and reforms. Section 3.2 looks at the characteristics of individual support measures to better understand the way support is provided to producers and consumers. Section 3.3 puts consumer support in perspective by assessing it in the broader context of countries' energy taxation. Finally, section 3.4 concludes by suggesting that further action be taken by policy makers to continue reforming measures that support fossil fuels.*

*The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.*

## 3.1. A first glance at the data

### *Recent reform efforts are paying off*

Taken together, the almost 800 measures contained in the Inventory had an overall value of USD 160-200 billion annually over the period 2010-14. This includes both support provided by OECD countries and that provided by a selection of partner economies (Brazil, the People's Republic of China,[1] India, Indonesia, the Russian Federation, and South Africa). Compared with the previous edition of the *Inventory* (OECD, 2013b), which focussed on OECD countries only, support now seems to follow a downward trend after having peaked twice in 2008 and 2011-12. Although the decline is more marked in OECD countries, a similar downward trend can also be observed in partner economies, where total support has been showing clear signs of recession since 2012 (Figure 3.1). In both cases, the decline in total support finds its origin in lower international oil prices but also in important policy changes, which signal an intention on the part of many governments to depart from earlier practices and move toward growth patterns that are more sustainable fiscally and environmentally.

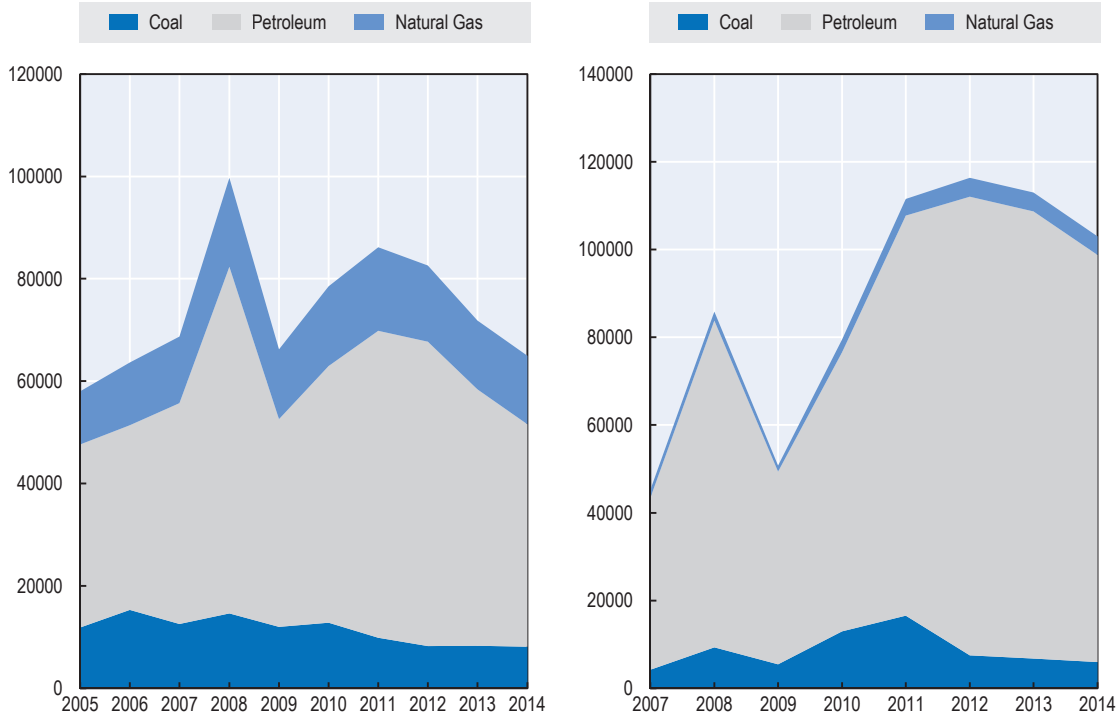
A sizable portion of the decrease in support observed for OECD countries can be ascribed to Mexico, which eliminated the support it provides for the consumption of gasoline and diesel fuel through its IEPS (*Impuesto Especial sobre Producción y Servicios por Enajenación de Gasolinas y Diesel*), a floating excise tax. Variable rates of IEPS are set by the government on the basis of international oil prices for the country's two brands of gasoline, "Magna" and "Premium", and diesel fuel. When international oil prices are high, IEPS rates turn negative, which generates a tax expenditure. Conversely, lower international prices trigger an increase in the variable rates of IEPS, which reduces the tax expenditure or, as is currently the case, results in a positive tax. The Federal Government has over the years steadily increased retail prices on a monthly basis in order to reduce the support conferred to consumers (Figure 3.2). Together with the lower international prices, these efforts have contributed to reducing total consumer support in Mexico from MXN 244 billion (USD 18.5 billion) in 2012 to MXN 34 billion (USD 2.5 billion) in 2014. Since late 2014, rates of IEPS have been positive and it is expected that these will generate revenues of around 1% of GDP in 2015.

In the case of partner economies, most of the decline observed between the years 2012 and 2014 has to do with India's decisive efforts to rein in spending on consumer subsidies for diesel fuel. Starting in late 2012, the federal government thus decided to periodically increase retail prices by small amounts (about INR 0.50 a month, corresponding to USD 0.008), which eventually led to the termination of the subsidies for diesel fuel in September 2014. The reform has had a large impact on public finances, with total consumer support for petroleum products falling from about INR 970 billion (USD 18 billion) in 2012 to INR 610 billion (USD 10 billion) in 2014. Large subsidies remain for kerosene and LPG but the move represents nonetheless a major step in the right direction.

Mexico and India are not isolated cases, however. In the first quarter of 2015, the Central Government of Indonesia took decisive action in its revised budget for the year and scrapped all of its gasoline subsidies, while also capping the subsidies it provides for diesel fuel at IDR 1 000 per litre (about USD 0.08 per litre). This unprecedented move will reduce the total cost of Indonesia's consumer subsidies for petroleum fuels from IDR 247 trillion in 2014 to IDR 65 trillion in 2015, thus approaching a USD 14 billion decrease in a single year.

**Figure 3.1. Support overall remains high at USD 160 billion despite signs of decline**

Total support for fossil fuels in OECD countries (left) and selected partner economies (right) by year and type of fuel (Millions of current USD)

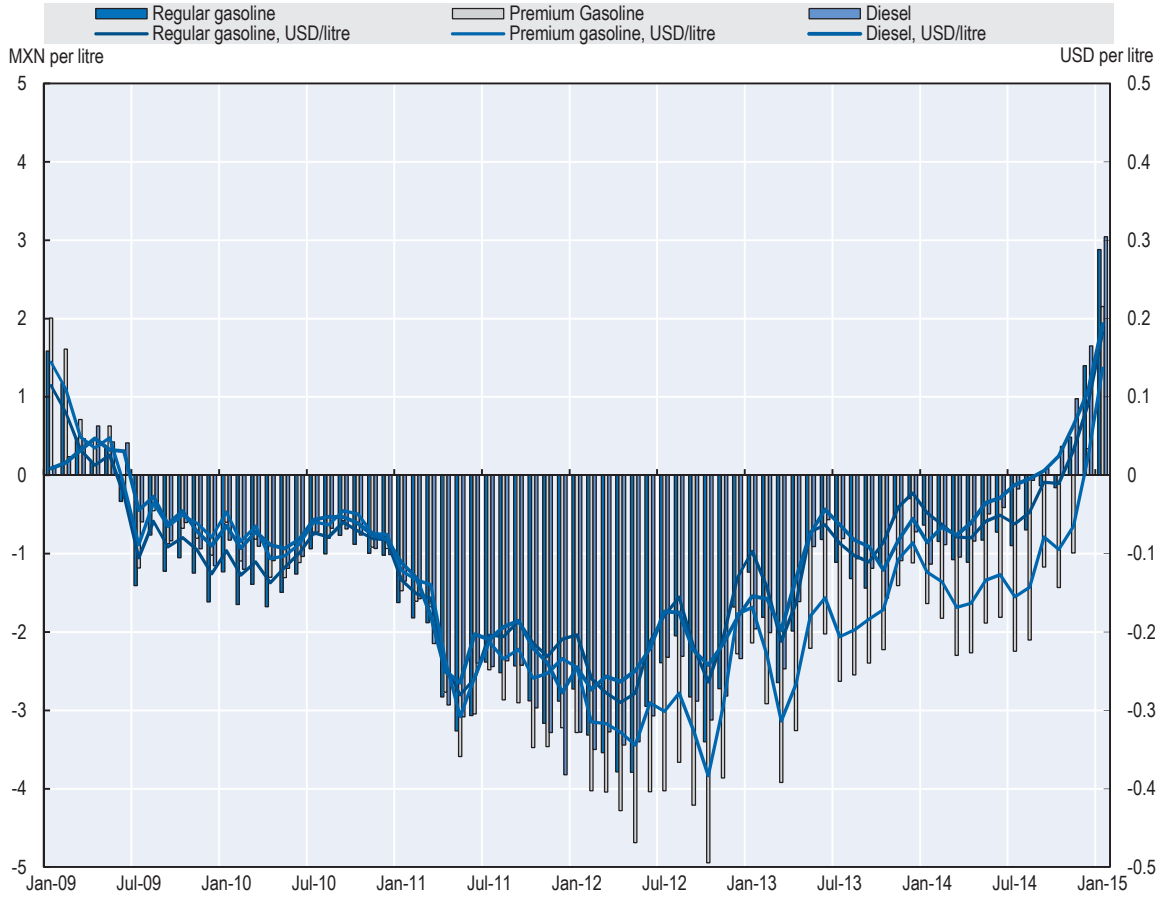



*Notes*: The above charts are based on an arithmetic sum of the individual support measures identified in the *Inventory*. Along with direct budgetary support, it includes the value of tax relief measured under each jurisdiction's benchmark tax treatment. The estimates do not take into account interactions that may occur if multiple measures were to be removed at the same time. Because they focus on budgetary costs and revenue foregone, the estimates for partner economies do not reflect the totality of support provided by means of artificially lower domestic prices. Particular caution should therefore be exercised when comparing these estimates to those reported by the IEA (2014a) for these countries.

At a lower scale, progress is also visible in a number of OECD countries. In January 2013 the Netherlands phased out the excise-tax reduction it had previously been applying to diesel fuel used for non-transport purposes (e.g. in farming activities or for heating) on the grounds that the concession was environmentally harmful and costly to monitor. Austria and the Slovak Republic took similar steps in 2013 and 2011 respectively. Canada has in recent years reformed federal provisions relating to the treatment of certain capital expenses for oil sands and coal mining in order to improve the neutrality of the country's corporate tax system. Germany has continued reducing the large budgetary transfers it provides every year to hard-coal mines located in North Rhine-Westphalia, bringing payments to EUR 1.5 billion in 2014, down from about EUR 4.8 billion in 1998. The country plans to phase out these transfers entirely by 2018. France took important steps in 2014 to gradually remove the exemption from excise tax it applied to natural gas consumed by households. With the phased introduction in 2014 of a carbon component in excise taxes (known as the Climate Energy Contribution, or *Contribution Climat Énergie*), this tax expenditure is expected to terminate as rates of excise on purchases of natural gas start increasing in line with a set price for carbon.

**Figure 3.2. Mexico eliminated the support it provided for the consumption of gasoline and diesel fuel through its floating excise tax**

The evolution of IEPS rates in Mexico over 2009-15
(MXN per litre shown as bars; USD per litre shown as lines)




*Source:* Secretaría de Hacienda y Crédito Público, Federal Government of Mexico, sie.energia.gob.mx/bdiController.do?action=cuadro&cvecua=PMXE2C18E.

### *Support for the consumption of petroleum products still accounts for the bulk of total support*

Whether one looks at OECD countries or partner economies, crude oil and petroleum products clearly attract most support, accounting for more than four-fifths of the total amount (82%) over the period 2012-14. By comparison support for coal and natural gas seems much more modest, representing around 8% and 10% of all support respectively. In part, this reflects the large share of petroleum products in countries' total primary energy supply, where fuels such as gasoline, diesel, and fuel oil dominate the transport sector and parts of the residential and commercial sectors. Fuels used in transport are also more taxed on average than other energy sources (OECD, 2015b), which can result in comparatively larger tax expenditures where tax concessions for such fuels exist.

Concomitant with a high share of total support going to petroleum products, the data also point to an overwhelming predominance of consumer support (more than 80%).[2] While this is hardly surprising for those emerging economies that are characterised by very large consumer subsidies, the situation needs more explaining for OECD countries. There, the prevalence of consumer support owes a lot to the fact that many large OECD economies do not extract fossil fuels on a significant scale. This is, for example, the case of France, Italy, and Sweden, where fossil-fuel extraction is very modest and production mainly occurs in the refining and processing sector. By contrast, focussing on

countries that extract significant quantities of fossil fuels shows producer support to weigh more than what the overall results suggest. Producer support (i.e. PSE) as a share of total support thus exceeded 35% on average in Canada (38%), Germany (43%), the Russian Federation (78%), and the United States (42%) over the period 2012-14.

## 3.2. Anatomy of a support measure

### *How support is generally provided*

Looking at individual measures and their characteristics rather than at the amounts of support they confer changes the picture somewhat, with consumer measures representing about half of all the measures the Inventory contains, whereas producer measures and GSSE measures account for 37% and 13% respectively. This means that a consumer measure generates on average more support (in absolute terms) than a producer measure or a GSSE measure. The relatively high tax benchmarks used in calculating tax expenditures for motor fuels may explain part of that result, as may the very large consumer subsidies observed in a number of partner economies.

In terms of formal or statutory incidence,[3] apart from consumption (which logically accounts for half of all measures, since consumption is the only incidence category for CSE measures), the results indicate that land & natural resources and capital represent 18% and 11% of all measures respectively, followed by knowledge creation (6%), the cost of intermediate inputs (5%), enterprise income (3%), output returns (3%), and labour (3%). This is hardly surprising given that resource extraction and energy transformation tend to be relatively capital-intensive activities. Adding in information on the stage of the supply chain at which policies intervene (see Figure 2.1) shows producer measures to revolve mostly around the extraction stage (42% of all measures), with bulk transportation and storage (4%) and refining and processing (4%) making only a small contribution to the total number of measures.

### *The Inventory shows a certain degree of policy inertia*

The wealth of information contained in the Inventory reveals a few trends and commonalities on measures supporting fossil fuels in OECD countries and the selected partner economies. For example, most measures (about two-thirds of them) seem to have been introduced prior to 2000. This indicates that these policies were in many cases introduced in a very different context than today's. For some, they may have been adopted at a time when climate change was not deemed a concern among policy makers. The economic and political context might have been different too, e.g. as with higher economic growth or higher price inflation. Several federal measures in the United States were, for example, introduced between the 1970s and the 1980s,[4] a period characterised by widespread concerns relating to energy security in the aftermath of the oil crises of the 1970s. It is interesting to note also that some producer measures were put in place precisely when international oil prices collapsed in 1986, so that these measures may have at the time constituted attempts to shore up domestic production capacity.

What this discussion suggests in general is that there might be a need for countries to reassess the relevance of some of their support measures in today's context. Around 60% of all measures are tax expenditures, some of which are long-standing tax provisions that are rarely questioned in the domestic context (e.g. France's VAT and excise-tax reductions for gasoline sold in Corsica). Others are short-lived initiatives adopted in response to the circumstances of the time (e.g. Alberta's 2009-10 Energy Industry Drilling Stimulus). Either way, policy makers may wish to engage in periodic reviews of their countries' support measures as changing circumstances can render certain provisions obsolete or not suited to current challenges.

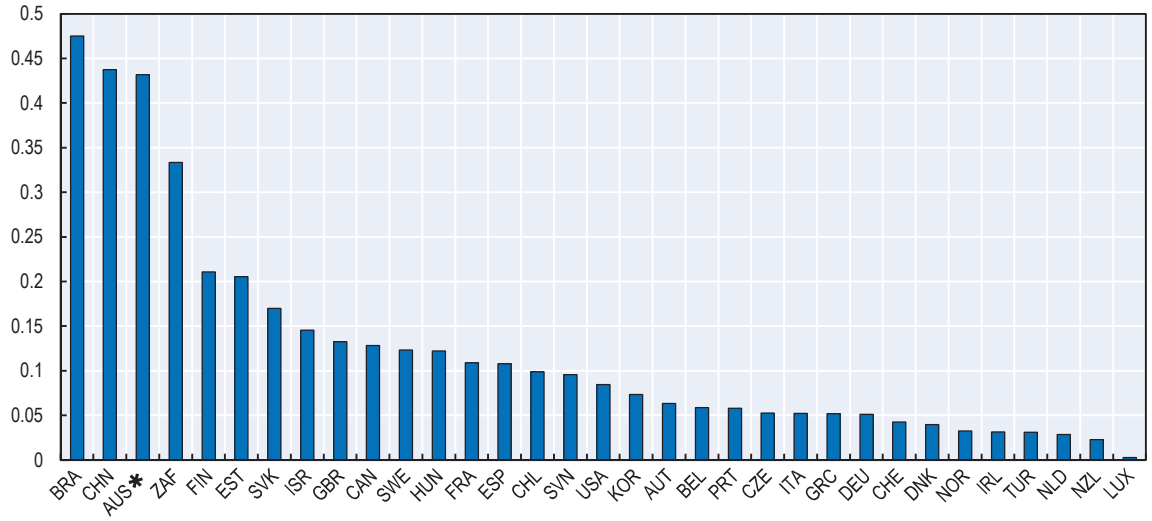
## 3.3. Consumer support for fossil fuels in the broader context of energy taxation

As Chapter 2 pointed out, tax-expenditure estimates are subject to a number of built-in assumptions and caveats that have a bearing on the interpretation of support amounts. Although the Inventory contains many more policies than just tax expenditures, the latter's prevalence is enough to make direct international comparisons difficult, and this imposes strong limitations on the kind of analysis that can be undertaken with the database. A crucial aspect concerns differences in rates of tax that exist across countries since higher rates increase tax expenditures other things equal. Another relates to the scope of what countries consider to be tax expenditures. Together with the size of economies (e.g. as measured using countries' GDP), one could expect those factors to influence the total amounts of support different countries provide.

To account for this possibility, the analysis expresses total consumer support (i.e. total CSE by country) relative to the energy component of the revenues countries derive from environmentally related taxes.[5] Using those revenues as a scaling factor should account for both the size of countries (larger countries raise more revenues all other things equal) and countries' general attitude toward energy taxation (higher rates generally mean higher revenues). Further adjustments are then made to improve comparability, such as removing tax expenditures relating to the lower taxation of diesel fuel for road use relative to gasoline, where such measures are considered tax expenditures. Not doing so would exaggerate the importance of consumer support in countries that treat this tax differential as a tax expenditure (Denmark, Finland, Norway, and Sweden), thereby penalising transparency in tax-expenditure reporting.[6] Figure 3.3 shows the numbers thus obtained.

**Figure 3.3. Total consumer support (CSE) expressed as a share of the energy component of environmentally related tax revenues**

Average for 2010-12



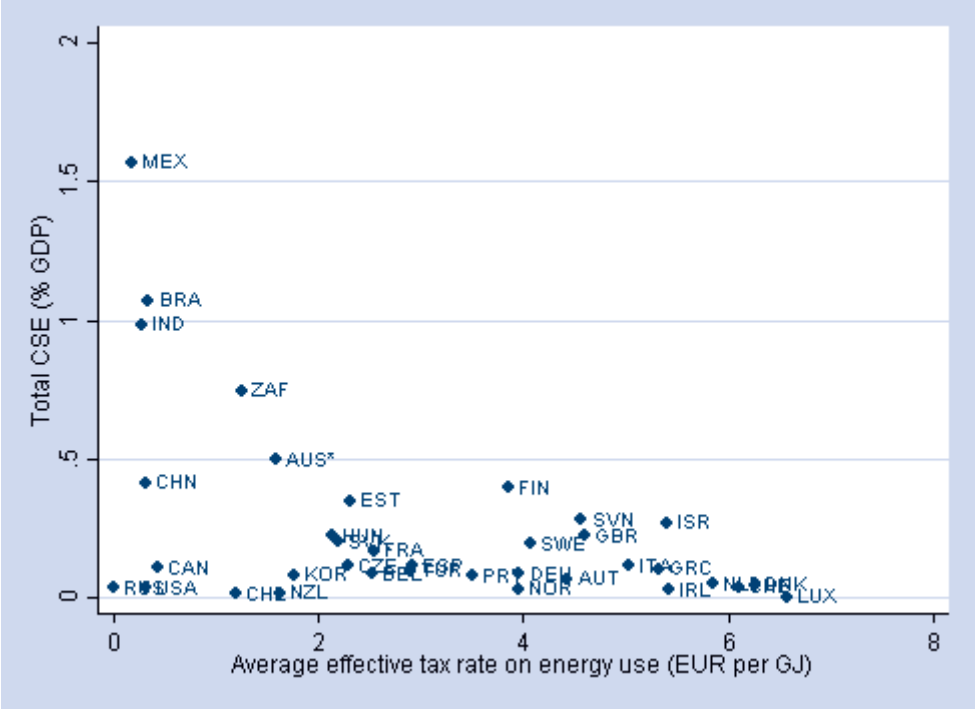

*Notes*: *The data for Australia include the country's large Fuel Tax Credits, which alone explain the relatively high ratio observed for that particular country. This measure serves to rebate some of the excise taxes that businesses pay on their purchases of fuel there. Data for Brazil and Greece are for the period 2010-11 only.

Tax rates would appear to be just one of many factors behind consumer support expressed in relative terms. Unsurprisingly, the data indicate that consumer support relative to environmentally related tax revenues tends to be higher in partner economies than in OECD countries. This reflects in part a lesser reliance on environmental taxation (and taxation in general) in the former group, along with higher consumer support there more generally. Less obvious are the relatively large ratios observed for some OECD countries having higher rates of energy taxation. This is especially so in

view of the weak correlation that exists between total consumer support as a percentage of GDP and the average effective rates of tax on energy use calculated by the OECD[7] (Figure 3.4), which suggests that tax rates are not the main determinant of consumer support expressed in relative terms. What this result might indicate though is a higher reliance in these countries on tax expenditures for targeted fuel usages. As explained before, caution is, however, required in interpreting the ratios in Figure 3.3 since differences remain in how countries define their tax expenditures, and this even though adjustments were made to improve comparability. These problems are considerably more severe for producer measures. No attempt was therefore made to undertake a comparable exercise for producer support (PSE).

**Figure 3.4. Tax rates are not the main determinant of consumer support**

Total consumer support (CSE) as a percentage of GDP and average effective rates of tax on energy use (2012)




*Notes*: *The data for Australia include the country's large Fuel Tax Credits, which alone explain the relatively high ratio observed for that particular country. This measure serves to rebate some of the excise taxes that businesses pay on their purchases of fuel there. Data on average effective rates of tax on energy use come from OECD (2015b). Tax rates are as of 1 April 2012, except 1 July 2012 for Australia and Brazil and 4 April 2012 for South Africa. For that reason, the rates for Australia include the carbon tax that was subsequently repealed effective 1 July 2014. Rates for Canada, India, and the United States include federal taxes only.

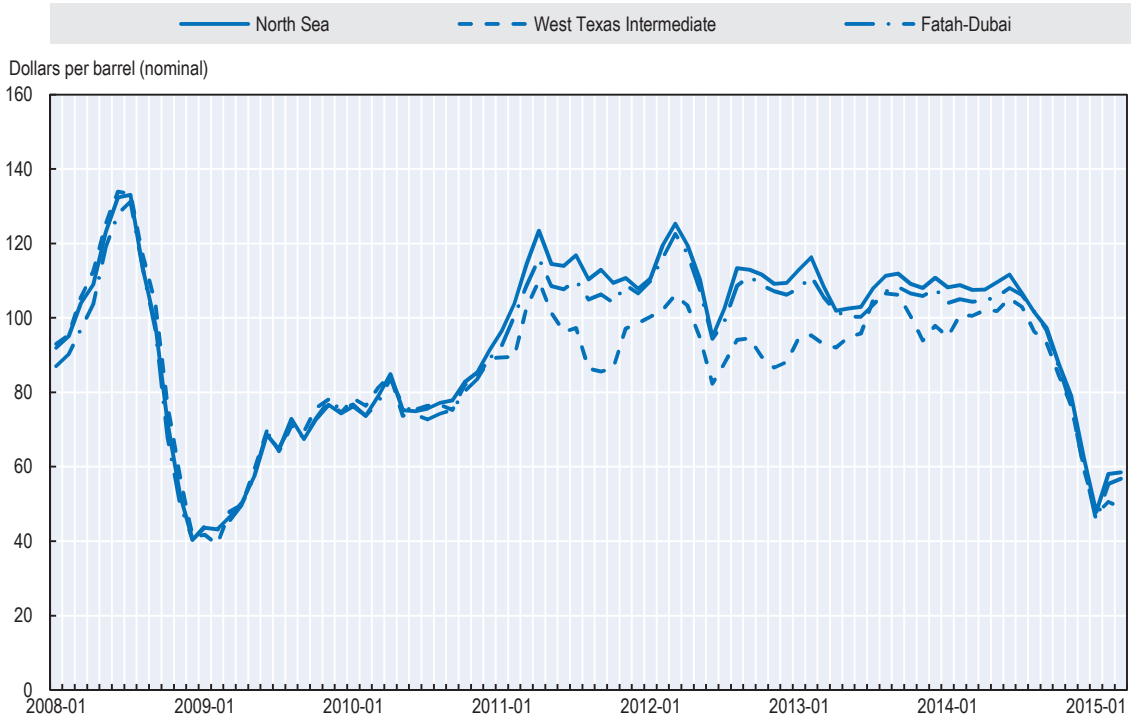
## 3.4. Conclusions and policy implications: Paving the way for reform

The overall impression conveyed by the data compiled for this 2015 edition of the OECD *Inventory* is one of progress. Compared with the previous edition released in January 2013 (OECD, 2013b), for which the data stopped in 2011, total support for fossil fuels in OECD countries clearly exhibits a downward trend. With the new addition of estimates for a selection of partner economies (Brazil, China, India, Indonesia, the Russian Federation, and South Africa), this 2015 edition makes it possible to observe that a notable decline in support has also been underway in these countries since 2012. Underlying this decrease in support are two intertwined phenomena: the recent decline in international oil prices (Figure 3.5), an exogenous factor, and the actual reform efforts of several

governments. This chapter has highlighted many such efforts, including the recent steps taken by Mexico, Indonesia, and India, three countries that have drastically reduced their support for the consumption of petroleum fuels.

Although progress is notable, the Inventory shows that there remains plenty of room for reform. The context is also not one for complacency. Global GHG emissions are still largely above the levels required for limiting average temperature increases. Recovery from the Great Recession of 2008-09 remains slow and difficult by historical standards. Fiscal positions continue posing a challenge to policy makers in many countries as they struggle to identify opportunities for cutting spending and raising more revenues, and this without adding to alarmingly high levels of unemployment. In this context, the reform of measures supporting fossil fuels appears more relevant than ever. Care should nevertheless be taken to ensure that reforms do not add to the plight of the poorest. Reforming support for fossil fuels will thus often form part of a broader strategy mobilising different parts of the government, including social assistance where necessary.

**Figure 3.5. The evolution of international crude-oil prices, 2008-15**




*Source:* IEA (2015b), *IEA Energy Prices and Taxes Statistics* (database).
DOI: http://dx.doi.org/10.1787/ene-pric-data-en.

In today's context, some countries may view support for the production of fossil fuels as a relatively easy way to increase future revenues (through higher royalties, resource taxes or severance taxes) and employment. It is indeed common for countries that are relatively well endowed with natural resources to fine-tune their tax system and adjust government take so as to improve the economics of particular projects and encourage more extraction of fossil fuels than would otherwise be the case. In normal times, this could be regarded as conventional practice, or at least acceptable practice, if only considerations of resource rent and energy security were involved. The times are, however, not normal, and efforts to curb GHG emissions worldwide remain insufficient to date. This therefore raises the question of the appropriateness of certain policies seeking to encourage the extraction of fossil fuels. Most policy discussions have so far centred on the consumption of fossil fuels but the time is likely ripe for starting a discussion on the production side too. It is particularly so

as the low prices for hydrocarbons and coal that have prevailed in the first half of 2015 have strongly curtailed the revenues of extractive industries worldwide, which accentuates the pressures on governments to support fossil-fuel producers.

More generally, support measures were historically introduced for various reasons, each policy having its own *raison d'être*. Some were introduced to explicitly encourage the production or use of fossil fuels. Others were adopted with a very different purpose in mind. Either way, governments should periodically reassess those measures against their initial objectives and in light of today's changing economic and environmental landscape. Other better-targeted policy instruments likely exist and would offer suitable alternatives for meeting the stated policy objective(s). This is, for example, the case where measures seek to support the incomes of households by means of lower fuel taxes or direct energy subsidies. Given the objective of helping households, policies that directly support low incomes (e.g. redistribution through the normal income tax system or means-tested assistance) and those that improve the energy efficiency of buildings and appliances would likely do a better job than measures encouraging the consumption of energy.

***Notes***

1. Henceforth "China".
2. Figure A.1 in the Annex shows the composition of support by fuel and by indicator for each country.
3. See Chapter 2 for an explanation of the concept of formal or statutory incidence.
4. These policies include the Strategic Petroleum Reserve (1975), the Low-Income Home Energy Assistance Program (1981), the Alternative Fuels Production Credit (1986), the Expensing of Exploration and Development Costs (1986), and the Exception from Passive Loss Limitation (1986).
5. Data on the revenues countries derive from environmentally related taxes — which include taxes related to the use of energy, motor-vehicle taxes, and other environmental fees and levies (e.g. on waste and water use) — are regularly collected by the OECD and made available through the Organisation's Database of instruments used for environmental policy (www2.oecd.org/ecoinst/queries/).
6. Belgium's tax expenditure in relation to gasoil used in the residential sector, which uses as a benchmark the country's relatively high tax rate for diesel fuel used on roads, is similarly removed to improve comparability.
7. Those rates are the ones calculated for the companion publication *Taxing Energy Use 2015: OECD and Selected Partner Economies* (OECD, 2015b). See Box 2.3 in Chapter 2 for more details.