

# Focus on Economics

No. 89, 31<sup>st</sup> March 2015

## An end to energy subsidies in developing countries and emerging markets – if not now, then when?

Author: Dr Martin Raschen, Phone +49 (0)69 7431-2434, [research@kfw.de](mailto:research@kfw.de)

In many developing countries and emerging markets the state, for socio-political reasons, sets energy prices at a low level that does not cover costs. It is a matter of policy that fuel and electricity consumers should not bear the full costs of such items and that they should be spared the burden of consumption-based taxation. This subsidy policy is questionable from an economic, developmental and environmental point of view. Happily, a number of countries have used the recent fall in oil prices to dismantle their energy subsidies. However, that is far from the end of the problem.

### Very relevant from a quantitative point of view but difficult to measure

Energy consumption is subsidised in many countries. According to an IMF survey on 176 industrialised and developing countries, subsidies in 2011 amounted to some USD 2,000 billion, equivalent to 2.9% of GDP and 8.5% of public revenues.<sup>1</sup> As Figure 1 shows, the bulk of subsidies are applied to oil products, such as petrol, diesel and kerosene, and also to coal. However, gas and electricity subsidies are not insubstantial either.<sup>2</sup>

Energy subsidies are empirically hard to identify as they appear in a variety of different guises. The easiest to identify are those that appear in the form of a targeted state transfer payment; this type of subsidy can be seen in the national budget. However, it is also quite common for subsidies to be given in the form of a tax exemption. This, of course, does not appear in the national budget. The

same applies where a state fixes the supply price to the end consumer, without providing a balancing transfer payment. This practice is quite widespread in the case of public utility services providers. In such instances the amount of subsidy provided is equivalent to the profit foregone by the relevant company. The IMF survey also regards the practice whereby fuel in an oil-producing state is sold below the global market price as being a de-facto subsidy.

In order to determine what constitutes an energy subsidy, the following questions must be asked: What are the production, import, transportation and distribution costs of this product? How much tax ought it to be subject to under normal circumstances (assessment criteria: general revenue interests of the state plus fiscal correction of external factors, such as damage to the environment)? In the case of oil-producing countries: How

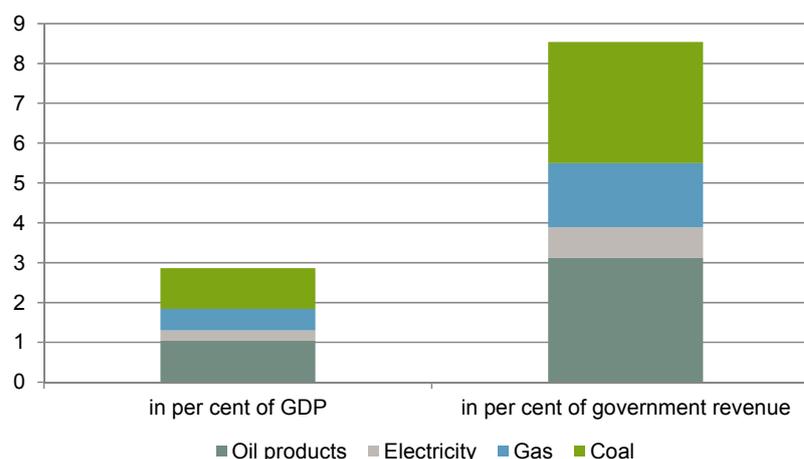
much revenue does the country forego by not exporting its oil and by using it domestically (opportunity costs)?<sup>3</sup>

There is plenty of scope in all of these areas for people to use different definitions and gather different types of data. It is hardly surprising, therefore, that different institutions come up with different figures as to the level of energy subsidies. For example, according to the *International Energy Agency* (IEA), energy subsidies amounted to just USD 527 billion in 2011 and USD 548 billion in 2013.<sup>4</sup> The difference between these figures and the significantly higher figures produced by the IMF can primarily be explained by the fact that the IEA did not take "false" taxation into account (foregoing taxation in respect of damage to the environment). If we are to use the more comprehensive definition of the term "subsidy", the IMF survey still provides the most up-to-date information we have at present, even though it does not go beyond 2011.

### A global phenomenon but of greater significance in developing countries and emerging markets (DC/EMs)

The IMF report includes interesting details on the regional distribution of energy subsidies. These are not limited by any means to DC/EMs. 40% of subsidies oc-

Figure 1: Energy subsidies in 176 industrialised and developing countries

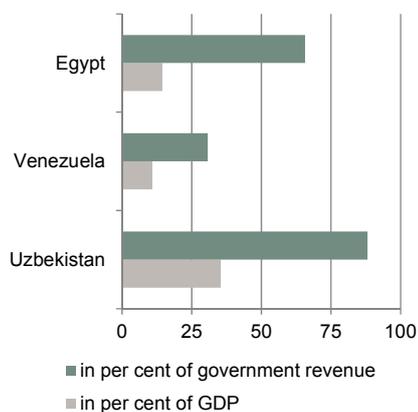


Source: IMF

cur in industrialised nations. At USD 410 billion (=20%), the country with the highest subsidy levels of all is the United States (followed by China and Russia). Relative to GDP, however, subsidies reach their most significant level in DC/EMs in the Middle East/North Africa region, followed by Eastern Europe/Central Asia and Developing Asia.

In DC/EMs energy is subsidised in both importing and exporting countries. In importing countries the central political objective is to provide the population with cheaper energy and to protect people from external price changes beyond their control. In exporting countries, governments take the view that the country's wealth in natural resources should also benefit the population directly and that the easiest and most direct way of demonstrating the extent of the state's generosity is on price labels. There are even some exceptionally crass examples of energy subsidies, such as those provided in Egypt, Venezuela and Uzbekistan (Figure 2).

**Figure 2: Energy subsidies in select-exporting countries, 2011**



Source: IMF

Given, therefore, that energy subsidies are a global phenomenon, the following considerations fundamentally apply just as much to industrialised nations as they do to DC/EMs. The considerations that follow, however, relate only to DC/EMs, as subsidies play a much greater role in relation to their economic strength, and the DC/EMs – as will be shown – are much less able than rich countries to afford policies of this kind.

**Demand stimulated, supply compromised**

Inordinately low prices due to subsidies stimulate demand while, at the same time, harming the supply side. Stimulating consumption has negative effects on the environment and the global climate (see below). There is also a link between low fuel prices, on the one hand, and overloaded road networks and serious traffic congestion in large cities in DC/EMs, on the other hand.

On the supply side, subsidies reduce the incentive to invest in energy efficiency and renewable energies. Furthermore, fixing prices at low levels without any financial compensation generates losses for the companies concerned. There is, in turn, a close connection with the evidently poor technical condition of many power plants and inadequate quality of supply (e.g. frequent power outages).

**High levels of fiscal pressure, neglected opportunities to direct government spending to projects that aid development**

Public finances in DC/EMs are generally unsatisfactory. Four fifths of these countries run budget deficits. All sorts of reforms are needed on both sides of their balance sheets. It is all the more worrying to note the massive pressure that energy subsidies exert upon national budgets in the form of transfer payments and foregone taxation.

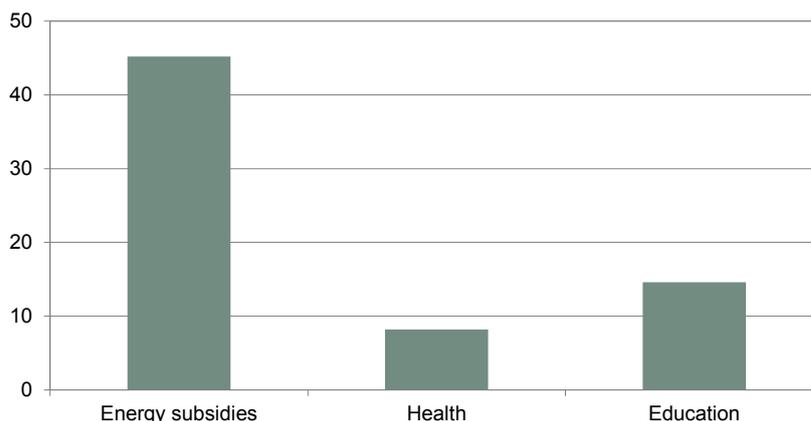
The problem is at its worst in DC/EMs in the North Africa/Middle East region. If we relate energy subsidies (using the broader IMF definition) to government

spending, we see that the average for this region is extremely high: 45%.<sup>5</sup> These countries therefore spend five times more on subsidies than they do on public health and three times more than on education (Figure 3). In view of the poor living conditions in many of these countries, not to mention high levels of youth unemployment, greater state involvement in education and health would actually be a more appropriate priority.

**Failing the target group, negative effects of poverty**

An important motive behind the provision of energy subsidies is to achieve some measure of redistribution to the poor. Mobility, electricity supply etc. are understood to be basic human necessities, justifying state support for those people on low incomes who receive it. However, this does not stand up to critical examination. Many poor people have no access whatever to such benefits. They neither own a car nor have a connection to an electricity supply. The amount of subsidy that benefits lower income groups is relatively small; most of it goes to the better off. Experts have worked out that less than 10% of energy subsidies benefit the lowest fifth of the earnings pyramid, with over 40% going to the top fifth. Energy subsidies are therefore an extremely ineffective weapon against poverty. Another way in which the target group is failed comes under the heading of "smuggling". There is an incentive to take subsidised goods abroad where they can be sold at a higher price. This can be seen in many countries. According to the IMF, 80% of the petrol used in Benin, West Africa, in 2012 was subsidi-

**Figure 3: Encumbrance on national budgets (in %) by energy subsidies (as defined by IMF), health and education in North Africa/Middle East, 2011**



Source: IMF, World Bank, own calculation

dised petrol that had been smuggled in from neighbouring Nigeria.

### **Harmful to environment, climate, human development and "energy turnaround"**

According to the IMF survey referred to above, eliminating subsidies for oil products, gas and coal would reduce global energy-related CO<sub>2</sub> emissions by 15%.<sup>6</sup> This is, therefore, a very relevant topic for current global climate discussions and in preparation for the Paris Climate Conference to be held in December 2015. There would also be significant reductions in air pollution caused by sulphur dioxide and other pollutants. Not only would this be good for the general quality of life of the people in the countries concerned, it would also significantly improve their standard of health.

If DC/EMs were to make greater use of renewable energies in the electricity sector, this would benefit both the climate and the environment. There is considerable potential for this. Many countries have long hours of sunshine, others with access to the sea and/or mountains have excellent wind conditions (for example, China, India, Indonesia, Brazil, Turkey and South Africa) and can use hydro-power. It is good to note that a great deal is already being done in this regard and there are plans to do even more. The IEA estimates that electricity generation from renewable sources will grow by over 50% in DC/EMs between 2013 and 2020. That said, fossil-based energy sources will still account for the bulk (75%) of electricity generation in these countries by 2020, as investment costs associated with fossil-based generation are often lower.<sup>7</sup> If subsidies to fossil-based energy sources were to be dismantled, this would undoubtedly provide an additional boost to "green" technologies in the electricity sector.

It is undoubtedly possible to raise the level of potential for energy efficiency in DC/EMs. An example given by the IEA is that 15% of electricity output in the Middle East (where, as previously mentioned, energy subsidies are especially high) is accounted for by lighting buildings. Swapping the conventional light bulbs for LED light bulbs would reduce these levels of electricity consumption

significantly. According to the IEA, however, high levels of electricity subsidy make this form of investment unattractive, as it would take ten years to pay for itself. Without the subsidies, it would take only a year and a half.<sup>8</sup>

### **Reforms may be difficult but not impossible with the right policies in place**

Many (but not all) governments are well aware that energy subsidies are of questionable benefit.<sup>9</sup> There have been many attempts in the past to change policy. However, massive protests often forced politicians to back-track. This experience has adversely affected willingness to bring about reform. Let us take Indonesia as an example. During the 1997/98 crisis in Asia, which hit Indonesia very badly, the government there temporarily raised fuel prices by up to 70%. This made the domestic political atmosphere even more tense than it had been before. The decision to reduce subsidies proved ultimately to be one of the factors that toppled President Suharto. In subsequent years the Indonesian government failed repeatedly in its attempts to revise its subsidy policy.

However, providing a reform has been properly conceived, there is no reason why it cannot be politically achievable and successful. In the survey referred to above, the IMF, citing numerous concrete examples from a variety of countries, recommends following the principles listed below. The World Bank offers funding to interested DC/EMs to pay for relevant consultancy services.<sup>10</sup>

(1) There has to be a clear and comprehensive reform plan. This must contain understandable, long-term objectives, as well as a credible impact study that identifies winners and losers. If efforts are made alongside this to improve the quality of supply in the electricity sector, for example, this will enhance acceptance.

(2) All of this must be communicated effectively to the public at large. It is absolutely essential that those affected by the changes feel understood and involved. It is even worthwhile highlighting some of the more complicated issues, including the fact that subsidies hardly benefit the poor at all.

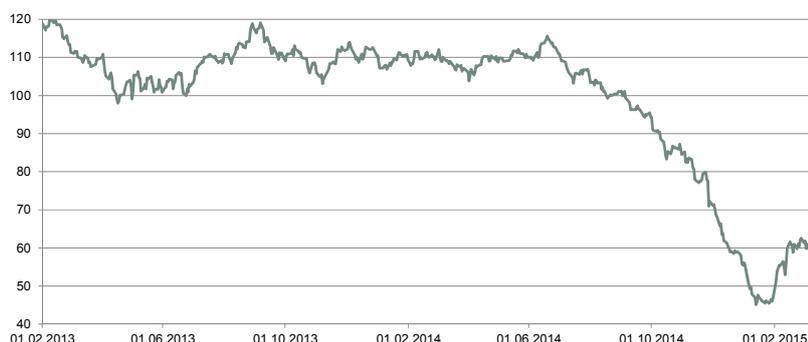
(3) Reform should not be implemented in an ad-hoc manner but rather step by step over a longer period of time. Once again, this would win acceptance. It would be wise to start with products such as aircraft fuel that are clearly more consumed by the better off. However, it must also be clear that the desired positive effects of the reform will not be seen overnight.

(4) The poor deserve special attention. It cannot be sufficient just to explain the major issues to them. It is undeniable that they will lose something at the outset. Providing compensating cash transfers or expanding existing welfare programmes might be a solution. There is no doubt, however, that this is extremely difficult ground. In most developing countries, data relating to income and assets leaves much to be desired. And, if truth be told, the content of specific welfare programmes can be rather pointless. It is by no means certain, therefore, that it would be sensible to play this card when considering how to win acceptance for subsidy reform.

(5) Quite apart from concrete measures, reform should also address a fundamental paradigm shift: to stop treating energy prices as political prices. The latent risk would otherwise remain that, even were the reform to be successful, there could be a build-up of political pressure to intervene again, should, for example, global market prices for crude oil begin to rise rapidly. This paradigm shift should not be an insurmountable hurdle in oil-importing countries, as it is really not difficult to understand that society as a whole has to pay a price when import prices rise. It is somewhat different in oil-exporting countries where, as previously indicated, subsidies are often used as a method of distributing a country's wealth in natural resources. It would make sense in these countries to link the depoliticisation of energy prices to an alternative which benefits a much broader section of the population (e.g. local public transport, welfare programmes or a reserve fund for the benefit of future generations).

### **Use the recent fall in oil prices in a more consistent manner**

As previously mentioned, there have in-

**Figure 4: Nominal world market price for crude oil (Brent) in USD per barrel**

Source: Datastream

any recovery in the global market price of crude oil – the signs have been there since the middle of January 2015! And any further depreciation in the currencies of oil-importing countries increases the gap between the price fixed by certain countries and the "true" economic price of energy products, thus making it more difficult to achieve this kind of policy change.

### Conclusion

While there is no disagreement amongst experts regarding the dubious benefit of energy subsidies, it is gratifying to note that the most recent fall in the price of oil also brought about policy changes in a number of DC/EMs. However, even more countries ought to set off down this road. Furthermore, reforms must not be introduced in a half-hearted manner but should include a fundamental change of policy. There is no lack of experience and no shortage of advisory proposals on how to implement this in a manner that promises success. ■

deed been instances in the past where DC/EMs have reduced their energy subsidy levels; however, there have also been setbacks. Thankfully, this topic has received greater impetus since the middle of 2014. One of the effects of the massive fall in the global market price of crude oil (Figure 4) was to reduce subsidies without forcing consumers to pay more. Some countries went a step further and increased energy prices.<sup>11</sup>

However, two particular aspects are

worth mentioning. Firstly, the overall value of subsidies in many oil-importing countries fell by less than the reduction in oil prices might have suggested because the domestic currency of the DC/EM concerned simultaneously lost value against the US dollar, thus making imports more expensive. Secondly, there was a lack of courage to address the fundamental paradigm shift referred to above. The opportunity presented by the current situation ought to be used to depoliticise energy prices. Watch out for

<sup>1</sup> Clements, B. et al.: Energy Subsidy Reform: Lessons and Implications, International Monetary Fund, Washington D. C. 2013. Study based on 34 industrialised countries and 142 developing countries and emerging markets. Oil products (petrol, diesel, kerosene), electricity, natural gas and coal are analysed. Data used comes mainly from the years 2007–2011. The depth of the IMF study notwithstanding, the numbers listed below represent an indication of an order of size only as acknowledged by the authors, due in part to immense acquisition problems as well as the number of countries and products and the valuation margins.

<sup>2</sup> In many countries electricity generation is based on a subsidised primary energy source. An example would be a country with its own gas reserves where the state makes gas available to power plant operators on preferential terms. We have to wonder here whether the overall value of subsidies might not have been subject to double counting. The IMF survey counters this possibility by excluding from the total subsidy figure any electricity sold at a (subsidised low) price equal to or greater than production costs, even where the price of such electricity is very low due to the fact that it has been generated from a subsidised primary energy source. If, in such cases, electricity is still sold below the (subsidised low) cost of production, this counts as two subsidies (one for gas and one for electricity). This is factually correct and does not constitute double counting.

<sup>3</sup> Representatives of oil-producing countries currently reject this opportunity cost approach. They argue that, although domestic fuel prices may well be lower than the global market price they would obtain from exports, this does not constitute a subsidy as the cost of extracting their own raw materials is low and is covered by the price at which fuel is sold within their own country. The IMF takes the view, however, that by choosing not to export its resources at global market prices, the state is providing a social benefit and is adversely affecting the (future) growth of the country.

<sup>4</sup> IEA: World Energy Outlook 2014, Paris 2014.

<sup>5</sup> Average weighted with GDP. The high average of 45% results from the fact that the subsidies quota in Egypt, Iran, Saudi Arabia and UAE (together representing two thirds of the regional GDP) is particularly high, with values of between 43 and 76%.

<sup>6</sup> No presentation of these effects divided up by industrialised countries and DC/EMs.

<sup>7</sup> IEA: Renewable Energy Medium Term Market Report 2014, Paris 2014, S. 76. The IEA differentiates between OECD country groupings and non-OECD country groupings, the second being understood here as DC/EMs.

<sup>8</sup> IEA: World Energy Outlook 2014, p. 327.

<sup>9</sup> Important reference to the topic at the G20 meetings, for example. At the summit in Pittsburgh in September 2009, the leaders announced: "We commit to rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption". Subsequent G-20 summits have confirmed this.

<sup>10</sup> Energy Sector Management Assistance Program (ESMAP): <https://www.esmap.org/node/55297>

<sup>11</sup> Energy subsidies fell in one form or another in Egypt, Angola, Bahrain, Brazil, Ivory Coast, Haiti, India, Indonesia, Yemen, Jordan, Cameroon, Kuwait, Malaysia, Morocco, Mauritania, Sudan, Thailand, Tunisia and the United Arab Emirates.