

Reforming the energy subsidy systems in the Middle East

Who could lead the region?



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Executive summary

Half of the world's total energy subsidies bill of USD 480 bn comes from the Middle East, eating up more than one-quarter of governments' revenues. Stretched public finances often force governments to sideline other, more economically efficient public spending priorities, such as education, healthcare and infrastructure. Although the policy has managed to constitute an important social safety net for the poor and achieve some economic goals such as promoting industrialization, it has mainly triggered many unintended adverse consequences. Energy-intensive industries and households make the region require more fuel to produce a unit of GDP than any other region. Positive demography and economic growth, driven by energy-intensive production, are driving up overall energy consumption even more. Without reforming or abandoning energy price subsidies, governments are very likely to see further increase in their already-high subsidy costs, further compromising more other economically efficient public spending priorities. It is evident that the pressure is on and governments must simply reform their energy price subsidies. However, they face a number of real challenges when revising their energy pricing systems, as energy pricing reform has potential to induce two major effects: decline in households' welfare, and erosion of regional industries' global competitiveness. So what, then, are the key considerations and success factors governments should consider and reflect in their efforts to reform their respective subsidy systems, but at the same time ensure that potential negative politico-economic and social implications are efficiently mitigated? Does the region need a leader whose reform outcomes would set examples of successful reform policies that are sharable across the region and create reform momentum?

What are energy subsidies, and what do they do?

Defined as any government action that lowers the price paid by energy consumers, the policy of energy price subsidy has been shaping the political and economic environment across the Middle East and North Africa (MENA) region for decades. Typically, the objectives of such a policy focus on overall welfare (expanding energy access and protecting poor households' incomes), economic development (fostering industrial growth and economic diversification and smoothing domestic consumption against wide price fluctuations in international markets) and political considerations, including the distribution of oil and natural gas rents in resource-rich countries.

Indeed, energy importers and producers in the region have, for decades, relied on energy price subsidies as their main tool to provide social protection, share hydrocarbon wealth and promote capital-intensive industries. They have managed to constitute an important social safety net for the poor and achieve some economic goals, such as promoting industrialization. However, the policy has mainly triggered many unintended adverse consequences for the MENA countries.

- Energy subsidy policy's high costs have strained governments' public finances
- It has sidelined other, economically more efficient public spending priorities

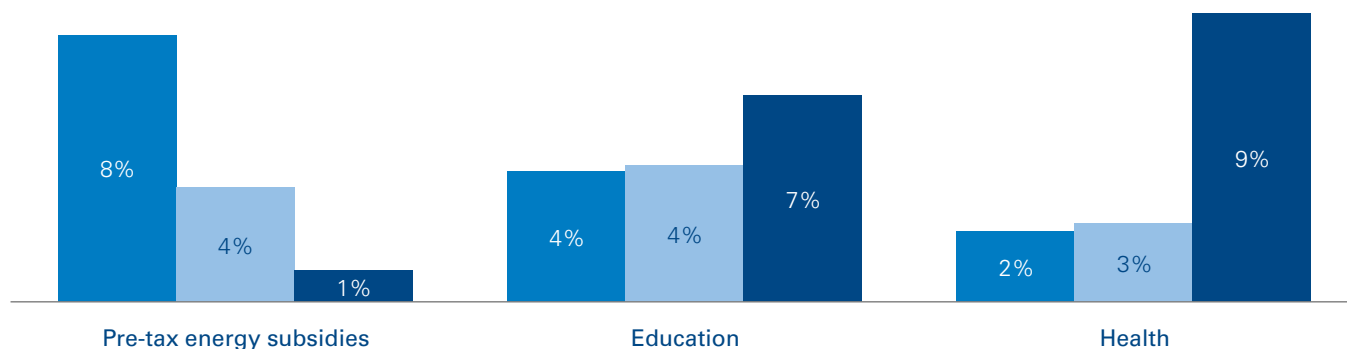
- Overconsumption increases absolute subsidy levels even further
- Potential overdevelopment of energy-intensive industries
- Skewed allocation of subsidies to high-income households and industries

Maintaining tight control of domestic energy prices has proved to be a rather costly endeavor. The region's spend on energy price subsidies makes up about half of the world's total energy subsidies bill of USD 480 bn – a figure that represents more than one-quarter of governments' revenues. With more than a one-quarter of their revenues spent on energy subsidies, the regional governments often find themselves forced to sideline economically more efficient public spending priorities such education, healthcare and infrastructure.

Furthermore, energy subsidies tend to increase energy consumption. By protecting the energy price and consumers from the volatility of international energy markets and expanding access to energy to lower-income households, subsidies tend to distort price signals to customers, ultimately reducing their price sensitivity. To illustrate how subsidies contribute to particularly energy-intensive household consumption patterns, across the globe 25% of all energy is consumed by households; however, the ME region's residential use accounts for 47% of energy consumption.

Figure 1: MENA Oil exporters/importers, OECD – Total pre-tax energy subsidies, education and healthcare spending

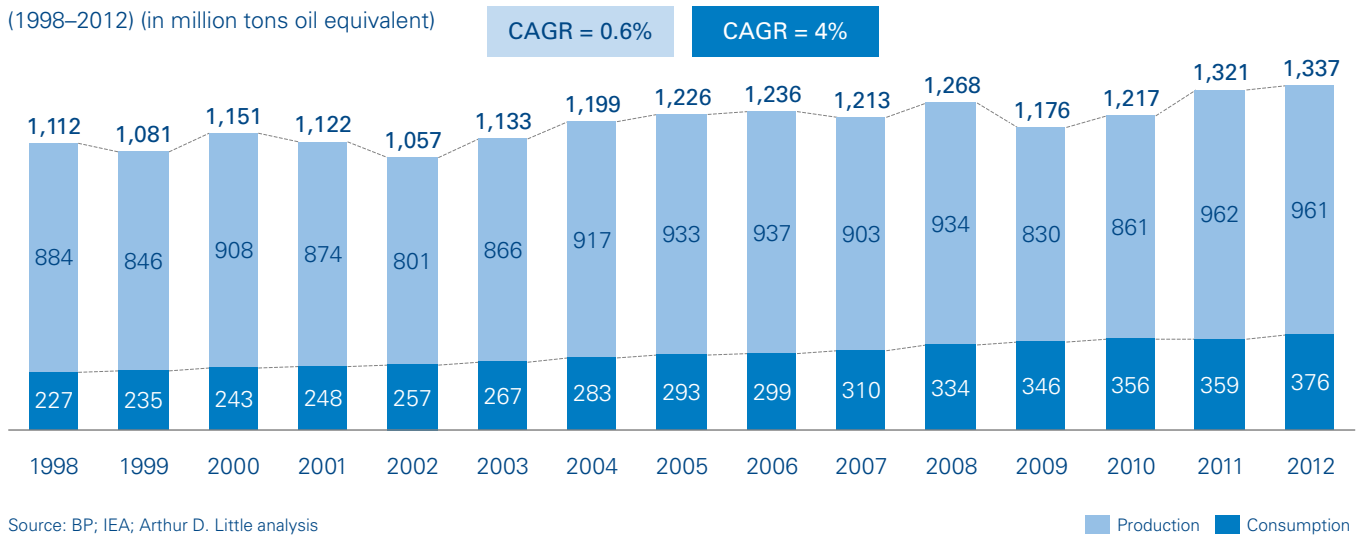
(2007–2012) (in % of GDP)



Source: OECD; IMF; World Bank; Arthur D. Little analysis

■ Energy exporters ■ Energy importers ■ OECD

Figure 2: Total Middle East – Primary energy production and consumption



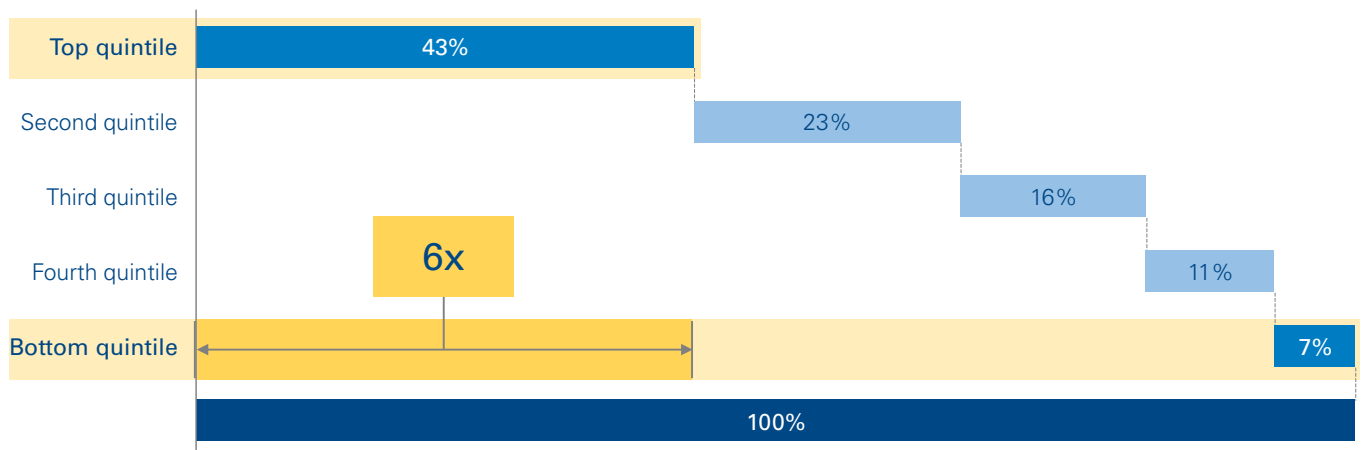
Resulting high and often wasteful energy consumption (energy consumption across the region has nearly tripled since 1990), further boosted by continuous economic and demographic growth (population growth of 33% is expected between 2010 and 2030), outstrips that of production across the region. Other key factors driving this trend are the region’s exceptionally low energy efficiency of private and public transport, with average fuel consumption per vehicle of more than double the average in countries without fuel subsidies, and, as implicitly encouraged by the energy subsidy policy itself, a tendency to develop mainly intensive industries (petro-chemicals, aluminum smelting,

cement production and fertilizers) in an effort to diversify their economies away from hydrocarbon extraction.

Ironically, the process of oil and gas extraction is energy intensive. These factors combine to make the region very energy intensive, taking more fuel to produce a unit of GDP than any other region. Also, energy subsidies tend to be socially regressive, with high-income households and industries benefiting most from low energy prices; the top income quintile received six times more in subsidy benefits than the bottom quintile.

Figure 3: Allocation of fossil fuel subsidies by income quintile

The top income quintile receives 6 times more in subsidy benefits than the bottom quintile (Average across 20 countries)



Source: IMF; Arthur D. Little analysis

With households in this region consuming double what is typically consumed elsewhere, industrial structure that has developed mostly around energy-intensive productions, continuous economic growth, and demographic projections promising significant population growth, energy consumption in the region is expected to continue to grow, further driving up the policy's already-high costs and thus rendering it even more economically inefficient. Needless to say, the policy's increasing costs will carry important fiscal consequences and only further exacerbate the current trend of sidelining other economically efficient public spending priorities, directly downgrading the regional economies' capability not only of diversifying and enhancing their competitiveness, but also further maintaining the policy currently in place.

Further increase in an already well-above-average domestic energy demand forces oil exporters to forgo some of their oil and gas earnings to cover their domestic energy demand. With oil driving their economic growth through export earnings, the regional oil exporters are compromising their very source of growth. Considering all of the unintended adverse consequences stemming from the subsidy policy and their broader socio-economic and political implications, it is clear that reforming the subsidy system could have a much larger impact than just the realized savings in the government's budget. Given the fairly straightforward conclusions one can draw from the context, why is it so difficult to start reforming the system?

Why is it so difficult to reform the subsidy system?

Governments face a number of real challenges when revising their energy pricing systems. Energy pricing reform has potential to induce two major effects: decline in households' welfare, and erosion of the regional industries' global competitiveness.

Most of the factors that render any reform effort difficult to fully succeed represent realities established after the introduction of the subsidy policy, which, once introduced, tends to be difficult to roll back, and hence becomes persistent.

- **Belief in a "right" to cheap fuel** – Based on the perception of oil as an abundant commodity
- **Energy-intensive demand side**
 - Non-diversified industry structure developed around energy-intensive production, given the availability of low-cost energy inputs
 - Dependence of a large share of population on energy subsidies
 - More low-income households having access to energy, which represents 50% of power demand compared to the global average of 24%
- **Energy-intensive supply side** – Non-diversified power mix; the Arab world relies on oil and natural gas for over 95% of its energy needs
- **Non-transparent subsidy costs** – Measurement of subsidies is often difficult, as they may be directed through a variety of channels
- **Low-productivity of industries** – The cost structure of the businesses in the region is highly uncompetitive due to low energy prices. A potential price increase will impact the businesses' profit margins. Readiness of industries to adjust their cost structures is therefore crucial.

In oil-exporting countries, subsidies are often justified as simply reflecting the abundance of natural resources, the low costs and production, and as a way of ensuring that mineral wealth is shared among the population. In those states the notion of abundance has been shaping successive generations' belief in a "right" to cheap fuel. Therefore, managing demand through higher prices is seen as a political "red line" in much of the region.

Since energy use permeates every home and industry, a universal subsidy is, by definition, spread across the economy. Take the subsidized local input costs, such as transportation, storage and processing, providing for lower domestic food prices, and the current practice of producing these inputs by generating electricity through inefficient oil-based power plants. With these plants remaining in service for several years, it will be more difficult to diversify the current power mix by developing alternative energy sources – for example, about half of Saudi Arabia's power today is being generated in oil-fired power plants, with the rest in gas power plants. With its power demand set to more than double by 2030, it is clear that such an increase in already-high domestic power demand would only exacerbate the current inefficiencies stemming from both supply and demand sides being non-diversified.

Given the relatively high energy intensity of many Arab countries' economies, energy pricing reform is likely to induce a large indirect effect on households. Low-income households are usually impacted most adversely because of lack of ability to further compromise the consumption of essential goods. Considering that more households in the region have access to energy, they represent a significant social force, which, in the case of absence of compensatory programs, could cause serious social unrest in response to subsidy system reform effort. The wave of political uprisings that has confronted Arab governments across the region since early 2011 has, more than any other single factor, rendered this challenge all the more important.

The core industries in the region (petrochemicals, cement production, aluminum smelting and fertilizers) are all energy intensive, in that a subsidized cost of energy input serves as a key driver for businesses' competitive advantage. However, this subsidy-driven protection from competitive pressures discourages the businesses in the region from pursuing strategies to minimize energy costs. High energy costs would automatically reduce the profit margins of domestic industries, eroding their global competitiveness. The industries likely to be affected the most are those with high energy intensity and those that face strong competition (such as petrochemicals) and price controls (such as electricity) that prevent them from passing rising costs on to final consumers.

Adding to the complexity of the energy pricing reform is the fact that the impact of energy pricing reform on industry can also operate through the demand side. The cost shock associated with energy pricing reform may result in underutilization of capacity. This, in turn, lowers employment and reduces overall demand, causing reduction in economic activity. The circle is closed. The high social cost resulting from a potential combination of an economic activity slowdown, an increase in unemployment, and higher energy and consumer goods prices could spark serious social unrest.

Energy subsidy reform is complex, both technically and politically. The reform's broader implications and effects require careful planning, including the timing and pace of reform. The logic behind subsidy reform is sound – imposing controls on spending and conserving resources. However, despite the potential gains, many countries have had difficulty reforming subsidies, mainly due to widespread public protests. The absence of public support for subsidy reform is, in part, due to lack of confidence in the ability of governments to shift the resulting budgetary savings to programs that would compensate the poor and middle class for the higher energy prices they would face.

The measurement of subsidies is adding to the complexity of designing the subsidy-removal policy. The full cost of subsidies is rarely reflected in the budget. It can often be difficult, as they may be directed through a variety of channels, including, but not limited to, direct cash transfers, tax reductions and exemptions, price caps, and limits on market access, and cross-subsidies to consumers. These different channels can, in turn, affect the transparency of the subsidy and the political dynamics associated with revising or eliminating a subsidy. The public, in the end, is unable to make a connection between subsidies, constraints on expanding high-priority public spending, and the adverse effects of subsidies discussed earlier.

Considering the lack of readiness for change on the sides of both households and industries, coupled with a variety of post-removal cost scenarios and effects, the policy-makers will have to put in place effective mitigation measures that ultimately protect the poorest and assist the economy in its long-term adaptation. What are the policy answers most likely to succeed in achieving these goals?

How should the issues of subsidies in the ME region be solved?

There are two major approaches for reforming the energy subsidy pricing framework – immediate and gradual energy subsidy reforms. The pace and extent of potential steps towards reform will be determined by both the fiscal and administrative capabilities of the governments making such reforms.

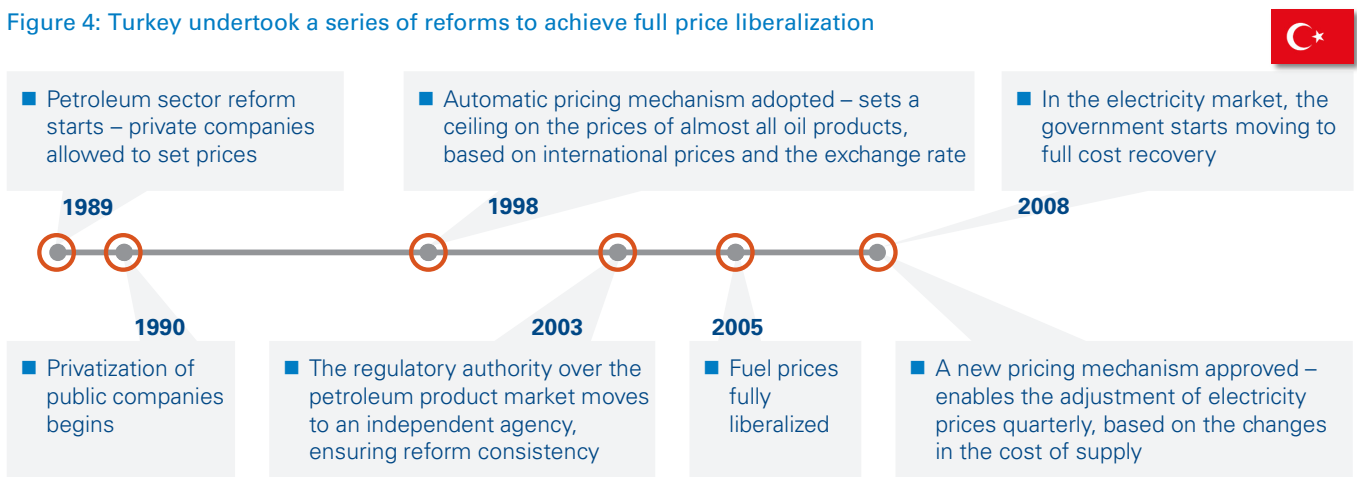
Immediate reform typically involves moving prices for all fuels and electricity to their respective international reference prices. Prices for traded goods such as oil, natural gas and oil products are brought into line with international prices, or above the marginal cost but below international prices. Prices for non-tradable goods and essential services, such as electricity and water, equate the price with the cost of production. In terms of its impact, immediate reform can maximize fiscal savings, freeing up funds for mitigation measures or improving

competitiveness in other ways. In addition, it generates a maximum-demand response in the form of reduced total energy consumption and changed consumption patterns via a clear price signal, doing away with the market distortions previously triggered by energy subsidies.

However, comprehensive reform typically maximizes the initial price increases, hence also maximizing the price shock to the economy. With the region today being even more prone to political instability, the regional governments may be reluctant to undertake a reform of such a magnitude.

Gradual reform of energy prices spreads price rises over multiple steps, and over a period of several months up to several years. In essence, this type of reform buys time for the economy

Figure 4: Turkey undertook a series of reforms to achieve full price liberalization



Country Example – Turkey

- Turkey is one of the few countries to have successfully carried out subsidy reform. A series of reforms have been implemented to achieve full price liberalization, privatization of state-owned enterprises and a competitive energy market.
- Turkey began liberalizing energy pricing in the late 1980s, driven by wider economic reforms to enter the EU, a factor that has caused little opposition and setbacks, even though just a few mitigating measures were adopted.
- Fuel prices became fully liberalized in 2005, with the electricity market moving to full cost recovery in 2008. A new pricing mechanism enabled the adjustment of electricity prices quarterly, based on the changes in the cost of supply. As a result, electricity prices were more than 50 percent higher by the end of 2009 compared to before the reform.
- Mitigating measures that were implemented during these reforms included tax exemption for public transportation and LPG consumption, as well as a rebate for diesel used in agriculture. The key success factor in Turkey's effort to reform its subsidy system was the reform's limited social impact due to relatively high household income.

Source: IMF; Arthur D. Little analysis

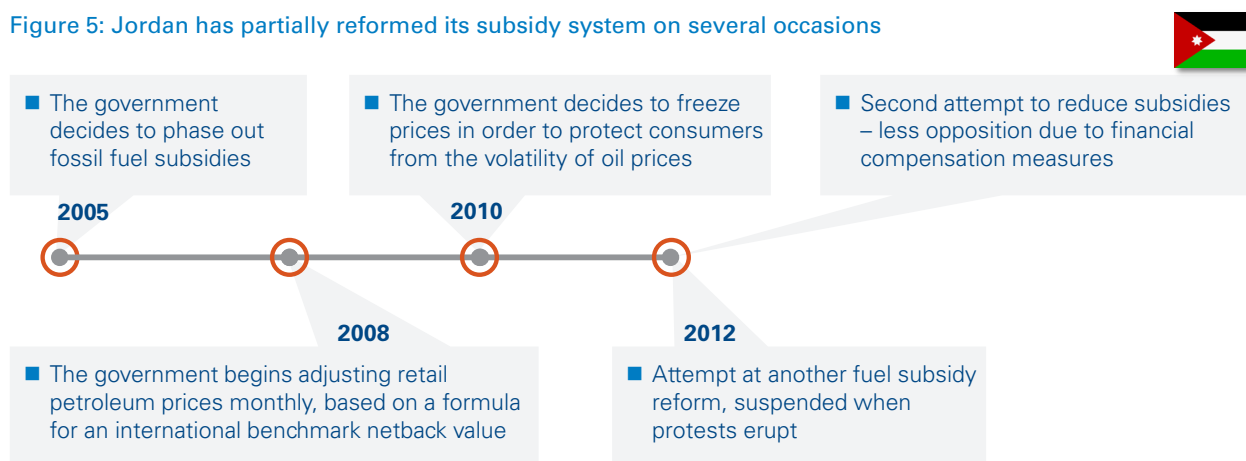
to conduct necessary structural adjustments. However, consecutive rounds of price adjustments spread across the medium to long term increase the risk of future policy reversion due to popular opposition to the repetitive price increases. Unlike comprehensive energy price reform, gradual reform reduces initial fiscal savings, hence the funds available for mitigation schemes, e.g., compensatory cash transfers. Spread across time, the reform's extended exposure to the volatility of international oil prices can either help or hinder the various reform steps undertaken by the government. When prices are high, oil-exporting economies can enhance their fiscal capability of sustaining the pace and extent of the reform. However, oil-importing countries are exposed to higher fiscal pressure to cover the gradually shrinking, but still existing, gap between domestic and international reference prices. When prices are low, oil-exporting countries experience lower export earnings, which stretches funds available for mitigation measures and/or other economically efficient investments, while oil importers experience an economically more favorable environment for implementing the reform steps without having to compromise the extent of the various price adjustments when faced with a higher price gap.

The perspective of serious economic and social costs entailed by removing domestic energy subsidies (especially for households) requires regional policy-makers to couple their reforms of domestic energy prices to a set of effective mitigation measures designed to minimize the aforesaid costs. Well-implemented mitigation schemes can protect low-income groups against erosion of their real incomes and the domestic demand base for industries and businesses, and help raise public acceptance of pricing reforms considerably.

Critical to the aforesaid reforms and the government's capability of sustaining the corresponding mitigation measures are the size of price increases (and hence the revenue proceeds available for distribution), the fiscal soundness of government budgets, the administrative feasibility of targeted or untargeted benefit schemes (and hence the government's administrative capacity to introduce a reform), the effectiveness of existing social welfare nets, and the extent of absolute poverty in the reforming country.

Against this background, several strategic tools and mitigation options are available to governments to compensate their

Figure 5: Jordan has partially reformed its subsidy system on several occasions



Country Example – Jordan

- Jordan has followed the gradual reform approach, partially reforming its subsidy system on several occasions. In 2005, when faced with increased energy subsidy costs, from \$60 million in 2002 to \$711 million in 2005, due to the war in Iraq, the government decided to phase out fossil fuel subsidies within three years. In 2008, the government began adjusting retail petroleum prices monthly, based on a formula for an international benchmark netback value, reducing its subsidy costs from 5.6 percent in 2005 to 0.4 percent of GDP in 2010.
- The reform went relatively smoothly due to a wide-ranging compensation package that included increasing minimum wage, cash transfers, tax exceptions for basic goods and temporary removal of sales tax for taxis and public transport. The subsidy on liquid petroleum gas (LPG) was not removed, in order to protect low-income households. A large public communication campaign and consultations with community stakeholders also contributed to the successful implementation of the reforms.
- Between 2010 and 2012, the government made a few other attempts to reduce subsidies. Resulting protests were later diminished by pro compensation of JOD 70 (\$100) to individuals with annual incomes of less than JOD 10,000 (\$14,285).

Source: IMF; Arthur D. Little analysis

populations for the reduction or removal of subsidies, such as well-targeted energy subsidies towards low income groups, the distribution of direct cash transfers, and/or improving and expanding their existing social safety nets.

Targeted energy subsidies reduce the total fiscal burden, with some subsidies remaining in place to further support specific or selected beneficiary groups. Beneficiaries can also include particular sectors of the economy, especially those that derive much of their international cost-competitiveness from the availability of low-cost fuel and feedstock for their production or households, where specific income groups' consumption levels are secured through the provision of limited amounts of certain fuels and low-priced electricity. Governments can also engage in the so-called categorical targeting that subsidizes fuels or electricity to be consumed by the targeted or selected group. For example, Egypt recently increased its domestic energy prices, but continues to subsidize the LPG price, given that it is the fuel of choice for low-income households. Relatively simple to administer, categorical targeting is, however, based on the assumption that poverty differs between categories but is similar within those categories. The ease of administering such reform is strongly dependent on the availability of information about a target group, which, if not present, may entail significant administrative costs to acquire them. In countries where administrative capacities are limited, often combined with large gray economies, the targeting success can also be somewhat limited.

Eliminating all fuel subsidies with the goal of using budgetary savings to finance targeted cash-transfer programs towards the poor is considered the most ambitious reform to undertake, as it presupposes both strong fiscal and administrative capabilities of government pursuing such reform. Under target cash transfers, the government determines who will be eligible to receive the benefits on the basis of set criteria, which involve either a form of income testing or unemployment, or a combination. Unlike targeted subsidies, cash transfers do not link benefits to fuel consumption and hence avoid gaps typically associated with pro-poor fuel subsidies; neither do they trigger adverse consequences such as wasteful consumption. Compared to universal subsidies, targeted cash transfers minimize leakages to unintended groups, reversing regressive distributional effects of the universal subsidy system. An important feature of targeted cash transfers is that they appear as budgeted government spending on public accounts. Future revisions of cash-transfer programs are typically more accepted by the public than are consecutive large price revisions for fuels and electricity. Again, key to making targeted cash transfers work is governments' administrative ability to identify true beneficiaries in order to ensure complete coverage of the most

vulnerable groups. Without this capability, governments are more prone to errors of exclusion, which potentially undermines public acceptance of the reform steps and hence forces the government to reverse its reform policies.

A relatively fast and cost-effective way of reforming energy pricing is to mitigate the effects by using the existing social safety nets. In countries with existing social safety nets, budgetary savings can be used to expand the size of the program. For example, Jordan has, in addition to other mitigation measures, raised public sector workers' wages, introduced a separate compensation scheme for private sector employees and upgraded its existing food subsidy program.

Against this background, three key success factors emerge for economies to sustain the needed pace and extent of their reform efforts.

- Governments' readiness to reform energy subsidy systems from a fiscal and administrative perspective
- Readiness of industries to absorb the rise in fuel prices from a profit margin perspective
- The international oil price, which influences the country's fiscal capability of supporting its mitigation measures

Few countries in the ME region have started reforming their respective subsidy systems, some being more and some being less successful in their reform efforts. However, the region does not have a clear success story of a reformer that would serve as a case to follow for countries whose subsidy systems have become pressing domestic issues.

Who could lead the reform?

In the light of the pros and cons of the various reform types and the aforesaid key success factors, we argue that Saudi Arabia is well positioned to take on this role, potentially paving the way for others in the region.

As the largest economy in the region, Saudi Arabia embodies the majority of adverse consequences triggered by energy subsidies. The country has the highest subsidy bill in the region, primarily driven by some of the most historically profligate energy use and deepest carbon footprints on the planet. It produced more than 750,000 barrels a day of crude oil to meet peak energy demand in mid-2014.

With its subsidy bills rising in step with brisk population growth, the need to reform the country's current subsidy system has become a pressing domestic issue, as it has become increasingly distorting to the Kingdom's economy. Although subsidy reform is being debated from time to time in the Kingdom, it is yet to be embraced by leaders trying to improve infrastructure, social services and employment prospects for the large generation of young Saudis coming into the workforce. In the past four decades, the economy of the world's top oil exporter has stayed inefficient and backward in many areas, even as it has boomed. However, Saudi authorities now appear to be calculating that significant changes to the economy can wait no longer.

Saudi Arabia's public sector is efficient enough for administering the reform policy's mitigation measures. Considering that public sector employment functions as a de facto social safety network, public sector employment in the Kingdom continues to be dominated by Saudi nationals, who make up 93% of its total workforce, whereas private sector engagement of nationals is at 13%. The fact that the majority of residents is concentrated within one sector makes targeting of beneficiaries more efficient, hence reducing potential errors of exclusion, as well as the risk of lower public acceptance of the proposed mitigation measures.

Despite being fiscally capable, the extent and pace of the reforms that Saudi Arabia eventually decides to undergo is, in part, dependent on international oil prices. Oil prices have now dropped below Saudi Arabia's break-even point — around \$93 per barrel, rendering the Kingdom's reform planning more difficult.

The readiness of Saudi Arabia's industries to absorb the rise in energy prices does not seem to be an issue as, for example, its cement industry has seen the highest net profit margin in the world.

Although subsidy may initially be affordable, increases in international energy prices or currency movements can drive the cost of the policy up dramatically in a very short space of time. In the long term, energy price reform can improve the economy's growth prospects through raising the productivity of capital, technological innovations, and international competitiveness and by reducing energy intensity. China's reform experience has shown a strong link between high energy prices and lower energy intensity. Similarly, in the context of Central and Eastern Europe, an increase in energy prices was the most important driver of efficient energy use. In addition to subsidy reform efforts, diversification could reduce the energy intensity of the regional economies over time as production became less dependent upon oil, but this will only work if the new industries introduced are less energy intensive. Policy-makers will, therefore, have to focus on the need to diversify energy production and ensure that consumption is being driven by sustainable industrial policy.

Conclusion and key considerations

It is clear that energy price subsidies are not sustainable and, hence, it is critical that governments start reforming their respective energy pricing frameworks with no further delay. However, the timing of the reform will, to a large extent, depend on the international oil price, as it spells a different constellation for both energy exporters and importers, which reflects their choice of reform approach.

No matter what the constellation will be, we believe that governments will most likely opt for the gradual reform, which, if successful in its initial rounds, may prompt governments to switch gears and eventually resort to the comprehensive reform approach.

■ Energy exporters

- **With the international oil prices above the country's break-even** – The pressure to reform is typically lower. Governments should, therefore, proactively engage in designing relevant reform policies and start managing relevant stakeholders (i.e. public sector bodies to improve coordination, and the public to mitigate the risk of potential opposition) to prepare for implementation.
- **With the international oil price below the country's break-even** – Governments face higher pressure to reform. With less funds available for mitigation measures, the risk of potential failure is relatively high due to protests that insufficient mitigation measures can potentially trigger. (See Figure 6: Country Example – Jordan.)
- If the drop is significantly high and unaccounted for in their budgets, governments need to quickly decide and implement the necessary mitigation measures. To do so, an efficient public sector and administration is required.

■ Energy importers

- **High international oil price** – The pressure to reform is higher, as the gap between the country's international oil reference price and domestic energy prices implies higher subsidy spend, further stretching public finances.
- **Low international oil price** – The pressure to reform is lower. Governments, like oil exporters when oil prices are above their break-even, should proactively engage in designing relevant reform policies and start managing relevant stakeholders (i.e. public sector bodies to improve coordination, and the public to mitigate the risk of potential opposition) to prepare for implementation.
- Typically, energy importers have poverty rates that make the reform effort more difficult, as the risk of opposition is higher. Experience shows that governments tend to hold back their reform efforts when faced with protests.

Notes



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