Eliminating Perverse Energy Subsidies

High Prices Are Increasing the Urgency to Remove Subsidies

The recent surge in international energy prices has brought the issue of energy subsidies to the forefront of the economic policy agenda in many countries where such subsidies are still used to ease the financial burden to households and, in some cases, industry. In principle, any measure that keeps prices for energy consumers below market levels or for energy producers above market levels or that reduces costs for consumers or producers may be considered a subsidy. Energy consumption subsidies – government measures that result in an end-user price that is below the price that would prevail in truly competitive market including all the costs of supply – are large in some countries. Energy is most commonly subsidised through price controls, often through state-owned companies. Consumption subsidies have been largely eliminated in the OECD, but remain large in some non-OECD countries, both in gross terms and net of any taxes. Electricity and household heating and cooking fuels are usually most heavily subsidised, though several countries still subsidise road-transport fuels.

Energy consumption subsidies in developing countries and economies in transition are often much larger net of taxes than in OECD countries and take markedly different forms. Government price controls, which hold prices below the full economic cost of supply, remain the most widespread means of providing subsidies. They are most common for electricity, but are still important in some countries for oil products, coal and gas. The extent of under-pricing is generally bigger in countries where the energy sector is state-owned. State companies are usually treated as public service entities and are not required to maximise profits. Energy subsidies are especially pervasive in energy-producing countries such as Iran and Indonesia, where the prices of almost every form of commercial energy are well below competitive market levels. India has taken important steps to raise oil and coal prices to economic levels in recent years, but massive electricity, kerosene and LP Gas subsidies remain.

Economic theory says that social welfare is maximised when the price of each good and service is freely determined by the interaction of buyers and sellers in open, competitive markets. In practice, however, free markets in energy services left to their own devices do not work perfectly. In particular, they do not take account of any environmental and social benefits and costs that might be associated with certain types of energy activities. Barriers to market entry, for example, for demand-side technologies, may also cause markets to fail. So it can be argued that there exists a justification for governments to intervene in energy markets in pursuit of environmental and social objectives. In other words, subsidies can be justified if overall social welfare is increased; i.e where the social gain or environmental improvement exceeds the economic cost.

But, experience around the developing world shows that, in many instances, the net effects of subsidies are negative. In other words, overall social welfare would be higher without subsidies. This may be the case if the rationale for the subsidy is invalid, for example, because too much emphasis is put on a particular policy goal to the detriment of others. The way in which the subsidy is applied may also be ineffective. Even where the net benefits are positive, energy subsidies may not be the most efficient way of achieving policy goals.

The economic costs of energy subsidies can be significant. They can place a heavy burden on government finances, weaken the foreign trade balance and stunt the potential of economies.

These costs are especially large in Indonesia and Iran, where energy is very heavily subsidised. Depending on how they work, they can also undermine private and public investment in the energy sector, impeding energy conservation and the expansion of distribution networks. Electricity subsidies in India, for example, by undermining the financial health of the state electricity boards, undermine investment and the quality of electricity service. Subsidies to specific technologies can also hinder the development of competing technologies that might be more economic in the longer term. In other words, subsidies can "lock-in" inappropriate technologies. And very often, it is more affluent socio-economic classes that end up with the largest share of subsidies intended for the poor.

Many energy-subsidy schemes are also harmful for the environment. Subsidies that encourage the production and use of fossil fuels inevitably have some harmful environmental effects. Consumer subsidies that lower the price paid for those fuels or the cost of using them almost always result in higher consumption levels. This can lead to higher emissions of noxious and greenhouse gases as well as other forms of environmental damage, such as water contamination and spoiling of the landscape. Recent international legal frameworks, such as the Kyoto Protocol, explicitly require a reduction of subsidies that encourage greenhouse-gas emissions. In many developing countries, such as Iran, India and Indonesia, the more pressing environmental cost of subsidies relates to the health impacts of local pollution. But subsidies to fossil fuels can have a beneficial impact on the environment. For example, encouraging the household use of oil products can reduce pressure on forests in poor rural areas of developing countries otherwise dependent on firewood. Subsidies to oil products and electricity in poor countries can also reduce indoor air pollution, if they encourage a shift away from traditional biomass fuels, such as wood, straw, crop residues and dung.

Empirical evidence of the net environmental effects of introducing or removing energy subsidies is generally qualitative. This reflects the immense practical difficulties in estimating quantitatively the different effects, expressing them in consistent monetary terms and aggregating them. Nonetheless, partial analyses suggest that there is considerable scope in some countries for reducing environmental degradation by eliminating energy subsidies. In India, for instance, analysis we have carried out suggests that carbon dioxide (CO2) emissions could be cut by around 100 million tonnes a year – equivalent to more than 10% of the country's total emissions – by removing electricity subsidies. Similarly, the removal of oil subsidies in Chile could lower sulphur dioxide (SO2), nitrogen dioxide (NOx), particulate and CO2 emissions each by around 5% in the short term.

Removing subsidies that are both economically costly as well as harmful to the environment would be a win-win policy reform. As many fossil-fuel subsidies fall into this category, governments should prioritise removing them. But governments are often faced with awkward trade-offs between the economic and environmental benefits of reforming those subsidies and the social costs of higher fuel prices or of lower employment in indigenous energy industries. In some poor developing countries and transition economies, removing subsidies to modern household cooking and heating fuels has had a dramatic short-term impact on living standards. This factor has deterred the Russian Government from addressing heat subsidies. And removing subsidies to coal can have a devastating effect on employment and incomes in local communities that depend heavily on mining.

But these subsidies have to be paid for – often out of general tax revenues. At the least, governments should think seriously about the opportunity costs of energy subsidies. The money saved by removing subsidies could be spent on other social welfare programmes, such as direct income-support payments, health and education. Moreover, it is doubtful that one could ever find overall net social benefits from protectionist policies aimed at maintaining employment in domestic energy industries such as coal mining. Such subsidies can hold back innovation and efficiency gains, and thus cost reductions. They furthermore can restrict economic growth and

reduce employment in other sectors of the economy. And even the local communities concerned may not benefit in the long run. Experience in Europe shows that redirecting coal subsidies to retraining and regional economic development aid can boost higher-paid, safer and more desirable jobs to replace the jobs lost in the coal industry.

There may be a good case for retaining subsidies in specific instances, especially where they are aimed at encouraging more sustainable energy use. Examples might include temporary support for new renewable and energy-efficient technologies to overcome market barriers, and measures to improve poor or rural households' access to modern, commercial forms of energy. But the way in which a subsidy is applied is critical to how effective it is in meeting policy objectives and its cost. In practice, governments need to take account of national and local circumstances in reforming subsidy policies or designing new ones. These include the country's own policy objectives and priorities, its stage of economic development, market and economic conditions, the state of public finances, the institutional framework and the state of the country's environment. Nonetheless, there are a number of basic principles that countries need to apply in designing subsidies and implementing reforms to existing programmes. Experience shows that when applied, subsidy programmes and their reform should meet the following key criteria:

- *Well-targeted:* Subsidies should go only to those who are meant and deserve to receive them.
- *Efficient:* Subsidies should not undermine incentives for suppliers or consumers to provide or use a service efficiently.
- *Soundly based:* Subsidies should be justified by a thorough analysis of the associated costs and benefits.
- *Practical:* The amount of subsidy should be affordable and it must be possible to administer the subsidy in a low-cost way.
- *Transparent:* The public should be able to see how much a subsidy programme costs and who benefits from it.
- *Limited in time:* Subsidy programmes should have limited duration, preferably set at the outset, so that consumers and producers do not get "hooked" on the subsidies and the cost of the programme does not spiral out of control.

In practice, public resistance to reform can be very strong. Reforming existing energy subsidies requires strong political will to take tough decisions that benefit society as a whole. Certain approaches can also help. Implementing reforms in a phased manner can help to soften the financial pain of those who stand to lose out and give them time to adapt. This is likely to be the case where removing a subsidy has major economic and social consequences. The pace of reform, however, should not be so slow that delaying its full implementation involves excessive costs and allows resistance to build up. The authorities can also introduce compensating measures that support the real incomes of targeted social groups in more direct and effective ways. That goal may be considered socially desirable. It may also be the price that has to be paid to achieve public and political support for removing or reducing the subsidy. Whatever the precise design of reform policies, politicians need to communicate clearly to the general public the overall benefits of subsidy reform to the economy and to society as a whole, and consult with stakeholders in formulating reforms to counter political inertia and opposition. Stakeholder consultation ensures transparency and adds legitimacy to the proposed reforms, thereby increasing the chances of the policy being accepted.

Menecon Consulting has carried out a number of studies of energy subsidies and their effects, including *Reforming Energy Subsidies* on behalf of UNEP (www.greenleaf-publishing.com/catalogue/enersubs.htm), and *Guidelines for Energy Subsidy Reform* (http://unece.org/ie/) on behalf of the UN Economic Commission for Europe. The results of a detailed analysis of energy consumption subsidies in developing countries being carried by the International Energy Agency with the help of Menecon Consulting will be published in the forthcoming *World Energy Outlook*. Go to www.worldenergyoutlook.org for further information about the study and how to order it.

Menecon Energy Briefs are designed to stimulate discussion and inform the energy debate. Reactions, questions and suggestions are welcome, and should be addressed to trevor.morgan@menecon.com.