



# Pricing electricity and supporting renewables in Heavily Energy Subsidized Economies

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Heavily Energy Subsidized Economies, HESEs, are here defined as having budgetary subsidies above 1.5% of GDP. In 2014 these economies spent on average 4% of GDP on subsidizing energy. HESEs choose energy subsidies on the back of energy rents and energy exports as a way of passing those rents back to their citizens, and to buy public support with generous welfare benefits and subsidized energy. In the face of limited capacity to invest returns profitably locally, and public scepticism that sovereign wealth funds will provide future benefits there are evident attractions in transferring at least some of the resource rents directly to the population. Once subsidies are in place, the groups that benefit are likely to strongly resist their removal. Social welfare theory argues that resource rents in excess of the costs of administration, justice and defence should be returned as lump sum demo-grants, in practice to finance the essential public services of health, social welfare and compulsory education that benefit all equally. These precepts of public economics presuppose an efficient, trusted and uncorrupt fiscal system that may be lacking.

Just as energy taxes are easy to collect, so energy subsidies are easy to administer, even if they cumulatively lead to highly inefficient patterns of consumption with the risk of lock-in. For countries dependent on oil and gas revenues, energy price falls precipitate severe fiscal shocks. As international pressure to alleviate climate change increases, HESEs find themselves increasingly isolated and face the risk of either global agreements on carbon pricing, or heavy import taxes on their energy exports, which may be extended through border tax adjustments to their energy-intensive exports.

Subsidy reform is considered difficult but understanding their political logic suggests designing reforms that compensate the most vociferous interest groups, while it may be easier to make structural reforms when the resource rents have fallen and budgets are under stress. Recent experience in some Gulf countries has belied the earlier pessimism that removing fuel subsidies was almost impossible. Saudi Arabia doubled



gasoline prices and trebled diesel prices between 2015-16, with Bahrain, Kuwait and Qatar all making major price increases. That suggests that concepts of solidarity may allow the removal of other subsidies that most benefit higher income groups – and the electricity sector is therefore a good choice for further reform.

This paper examines strategies to reduce subsidies to electricity and decarbonize that sector. HESEs that have both oil and gas, and still use oil in power generation, would seem to have a simple option of switching to gas, which was the main source of electricity decarbonisation in Britain in the 1990s. HESEs that have already switched to gas face a harder task, as further decarbonisation would involve supporting renewable electricity supply, and in some cases, CCS or even nuclear power, if costs can be adequately reduced. Fortunately many HESEs have high levels of insolation that makes solar PV increasingly attractive and recent PV price falls have reinforced that prospect. That makes bringing fossil-fuel generation prices up to cost reflective levels even more important. The first question to address is how to properly price gas in those countries for which gas is relatively abundant in order to measure the efficient cost. This involves some discussion of carbon pricing. The next question is how the comparative social costs of local gas and solar PV compare. The final question is how to reform the pricing of electricity and start subsidy reform.

The paper presents evidence on the magnitude and impacts of oil, gas and electricity subsidies, and discusses how the electricity sector can be weaned of subsidies while reducing its carbon emissions.