



Energy Policy Seminar Series, Spring 2013

Assistant Professor Joe Aldy examines the true costs of fossil fuel subsidies

Hundreds of billions of dollars in the developing world are funding subsidies for fossil fuel energy, including petroleum, electricity, and natural gas. Joe Aldy, assistant professor of public policy, is currently research the economic and environmental impacts of these subsidies. He presented a snapshot of his latest research during an energy policy seminar on Monday, March 25.

As Aldy explained, fossil fuel subsidies often take the form of price controls, with governments stepping in to absorb or to make up for lost revenues. Often, the largest subsidy programs are found in oil exporting countries. In some cases, the increased oil demand resulting from subsidies has turned former net oil exporting countries into oil importers. The amount of money attributed to oil subsidies can be significant, Aldy said. In the most extreme cases, the value of subsidies can reach 30% of GDP, with expenditures on such programs claiming up to 20% of government budgets.

These subsidies, which are estimated to have a significant impact on increasing the consumption of energy, have recently become the focus of international “phase out” efforts. It is estimated that a successful phase-out of these subsidies could lead to roughly a 4% decline in world energy demand, Aldy explained, with corresponding reductions in emissions of carbon and other pollutants. However, these subsidies can be difficult to reduce for a number of reasons: they are seen as a way of helping low-income people by keeping energy costs low, or as a way of letting all residents of oil-producing countries access some of the benefits of oil revenues, or as a way of supporting social and political stability.

Aldy noted that while support for low-income people is often cited as a reason for such policies, the reality is that most of the monetary benefits of these policies accrue to the well-off. He presented his ongoing research on several approaches to better understanding the environmental and public finance implications of these subsidies. One set of findings comes from a close look at the experience of Indonesia, where two failed attempts to reduce petroleum subsidies were succeeded by a successful attempt on 2005, which resulted in roughly a doubling of the price of gasoline and diesel and a tripling of the price of kerosene. (This was accompanied by a cash transfer to low income households.) In what appears to be a response to this change, Indonesia saw a 13% decline in oil consumption and a 21% decline in CO₂ emissions, an effect that is even more significant when it is put in the context of baseline forecasts of steady increases.

As another approach to understanding the impact of subsidies, Aldy is working to gather multi-country, multi-year data to analyze a potential relationship between government expenditures on public health and subsidies of fossil fuels. His analysis so far suggests that there is in fact a trade-off being made which governments may not currently recognize—as more is spent on subsidies, less tends to be spent on public health, further complicating the relationship between fossil fuel subsidies and support for low-income households.

Aldy spoke as part of the Energy Policy Seminar Series, which is jointly sponsored by the Energy Technology Innovation Policy research group of the Belfer Center on Science and International Affairs and the Consortium for Energy Policy Research at the Mossavar-Rahmani Center for Business and Government.