



The Political Economy of pricing Carbon in a 2°C World

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Climate policy faces a difficult challenge, Joe Aldy, Associate Professor of Public Policy at the Harvard Kennedy School, explained in Monday's energy policy seminar. "People don't like to see high energy prices," Aldy said. In many countries, energy is subsidized, and/or energy prices are regulated by the state. Even California's cap-and-trade program, Aldy noted, allocates allowances to local electricity distribution companies in order to prevent electricity rate increases. If we accept this resistance to energy price increases as a political reality, Aldy asked, what does it mean for the 2015 Paris Agreement goal of keeping global average temperature increases below 2°C?

Analyses of how the world might reduce emissions in order to have a more than 50% chance of staying within temperature targets tend to focus on two approaches, Aldy explained: reducing the amount of energy used for a given amount of economic activity (energy efficiency and conservation), and reducing the amount of carbon emitted per unit of energy produced (low carbon energy technologies). Models of possible emission reduction paths tend to rely heavily on energy efficiency in the first half of the century, Aldy explained, then project more low-, zero-, and even negative-carbon energy in the second half of the century, as new technologies develop.

A certain amount of improvement in energy efficiency is projected to occur, even without any policy intervention. As long as energy costs money, there will be an incentive to find ways to use less. However, Aldy said, "unprecedented improvement" in energy efficiency is what is called for to meet temperature targets—improvements that are less likely to happen when the incentive of rising energy prices is removed.

As a "thought experiment," Aldy said, he looked at what happens in existing Integrated Assessment Models to projections of emissions if two assumptions are incorporated: first, that there will be no energy price increases associated with carbon policies, and, second, that there will be a globally implemented carbon tax. (This would assume, therefore, that countries are taking independent actions, such as using tax revenue to subsidize energy, to ensure that the carbon tax is not reflected in energy prices).

Re-running some of the major Integrated Assessment Models with these two assumptions, Aldy reported, he found that the models projected that keeping energy prices from rising would indeed result in more emissions over this century, significantly decreasing chances of keeping temperature increases below 2°C.

Aldy acknowledged that countries could implement additional energy efficiency policies to try to incentivize energy efficiency in the absence of a strong price signal. However, Aldy noted, recent evaluations of energy efficiency programs raise serious questions about whether these programs work. As a result, Aldy had only one piece of good news to offer. "The Red Sox won last night," he said.

Aldy spoke as part of the Kennedy School's Energy Policy Seminar Series, which is sponsored by the Consortium for Energy Policy Research of the Mossavar-Rahmani Center on Business and Government and by the Belfer Center for Science and International Affairs.

