

How (Much) To Price Carbon

The panel discussed the pricing of carbon as a response to climate change. In particular, the focus was on whether carbon should be priced, and if so, what that price level should be. Speakers addressed the philosophical basis, theoretical methodology, and current mechanisms for pricing carbon.

Pierre Ducret of CDC Climat discussed the current market for carbon pricing. In this market, the source of carbon partially determines how it is priced. Two-thirds of global carbon emissions are produced by energy supply and industry, while one-third is generated by agriculture and forestry. Since different sectors face different emission policies, they may face different carbon prices. There are currently two main instruments for pricing carbon: the European Union Emission Trading Scheme (EU ETS) and the Kyoto projects. Though EU ETS has proven its ability to reduce green house gas emissions by providing an efficient market price for emissions reduction, it is not an ultimate or global solution. Instead complementary policies at the EU or member state level are needed to make further progress.

Christian Gollier, Professor at the Toulouse School of Economics, discussed the economic and philosophical basis for current generations bearing the cost of adaptation through reduced current growth. In regards to the former, the uncertainty surrounding future growth and the risk averse characteristic of people, contemporary society should invest in climate-change mitigation to reduce inflicting harm on future generations. From a philosophical perspective, he noted that one can approach the question as an investment choice under the veil of ignorance – if you don't know which generation you will be born in, the best investment is that which maximizes ex-ante multi-generational welfare.

Roger Guesnerie, Professor at the Collège de France and Paris School of Economics, discussed cost-benefit analyses of environmental goods. One important point is that, when there are threats of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent irreversible damage. He also discussed several models for pricing irreversible environmental damage.

Bob Litterman, the co-developer of the Black-Litterman Global Asset Allocation Model, addressed the urgency and importance of carbon emission mitigation, and pointed out some fallacies in carbon pricing imposed by standard economic models. For example, standard economic models do not capture the uncertainty of climate change damages or the potential for catastrophic risk. The costs of climate change mitigation today could be viewed as insurance against future catastrophic states, where people's marginal utility is higher. As a result, making the investment is worthwhile. Another aspect missed by standard utility function is that, as evidenced by the equity risk premium, investors are risk-averse. He argued that the Epstein-Zin utility function, which can separate risk aversion over different states and times, should be used to price carbon since it implies a higher carbon price than standard economic models.