

Dalia Patino Echeverri

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Description

Patino Echeverri's experience lies in policy analysis for energy systems; decision making under uncertainty; risk management; and systems modeling.

Primary area of expertise: energy

Secondary areas of expertise: business and the environment, decision analysis, environmental policy, risk analysis, statistics

Bio and Research:

Dr. Patino-Echeverri's research focuses on public policy design for energy systems, with a particular emphasis on managing the risks arising from the uncertainties influencing the outcomes of government actions. Much of her current work focuses on the policies that affect capital investment decisions within the electricity industry, and the corresponding costs to society of electricity and air-emissions levels. Her models explore the effects of different government policies by representing the industry's decisions under uncertainty on future technological advancements, fuel prices, and emissions regulations. This research incorporates various methodologies, including options valuation theory, stochastic dynamic optimization, simulation, statistical methods, and game theory. Recent projects include: 1) a study of how to provide mechanisms for investment in carbon capture and sequestration technologies; 2) research on public perceptions of different energy-environment tensions and customer willingness to pay for solutions; 3) an investigation into the relative merits of biofuels relative to oil dependence; 4) the use of imprecise probabilities in decision making under uncertainty; and 5) the application of robust decision making for the design of energy policies under uncertainty.

Publications

Papers Published

1. Timothy S. Chung, Dalia Patino-Echeverri, Timothy L. Johnson, *Expert assessments of retrofitting coal-fired power plants with carbon dioxide capture technologies*, Energy Policy, vol. 39 (June, 2011), pp. 5609-5620 [038] .
2. Hoppock, D.C.; Patiño-Echeverri, D., *The Cost of Wind Energy: Comparing Distant Wind Resources to Local Resources in the Midwestern United States*, Environ Sci & Technol (2010) .
3. Vaccaro, A., & Patiño Echeverri, D., *Corporate Transparency and Green Management*, Journal of Business Ethics (2010), Springer [pdf] .
4. DeKay, M.L., Patiño Echeverri, D., & Fischbeck, P.S., *Better safe than sorry: precautionary reasoning and implied dominance in risky decisions*, Journal of Behavioral Decision Making, vol. 22 (2009), pp. 338-361 [10.1002/bdm.630] .
5. Patiño Echeverri, D., Fischbeck, P.S., & Kriegler, E., *Economic and environmental costs of regulatory uncertainty for coal-fired power plants*, Environ Sci & Technol, vol. 43 no. 3 (2009), pp. 578-584 .
6. DeKay, M.L., Patiño Echeverri, D., & Fischbeck, P.S., *Distortion of Probability and Outcome Information in Risky Decisions*, Organizational Behavior and Human Decision Processes, vol. 109 (2009), pp. 79-92 [001] .
7. Patiño Echeverri, D., Morel, B., Apt, J., & Chen, C., *Should a coal-fired power plant be replaced or retrofitted?*, Environmental Science and Technology, vol. 41 no. 23 (2007), pp. 980-7986 .
8. Morgan, M.G., J. Apt, and L.B. Lave with contributions from Joule Bergerson, Seth Blumsack, Joseph Decarolis, Paul Hines, Douglas King, Dalia Patino Echeverri and Hisham Zerrifi, *The U.S. Electric Power Sector and Climate Change Mitigation* (2005), Pew Center for Global Climate Change: Washington [pdf] .

Working Papers

1. M.D.Ilic, S.Blumsack, D. Patino Echeverri and M. Jonker, *Industry Regulators as Decision Makers*, in Engineering Electricity Services of the Future (in review) (2008), Springer, 233 Spring Street, New York, NY 10013 USA .
2. D. Patino Echeverri and B. Morel, *An Options Theory Method to Value Electricity Financial Transmission Rights* (2006), paper available at [asp] .
3. D. Patino Echeverri, D. and B. Morel, *The Fair Value of Operational Reliability*, proceedings of the 7th IAEE European Energy Markets Conference (August, 2005), Bergen, Norway [pdf] .
4. D. Patino Echeverri, Z. Wu, and M. Ilic, *Clean Air and Affordable Electricity*, proceedings of the Thirty-Sixth Annual North American Power Symposium

(August, 2004), University of Idaho, Moscow, Idaho, U.S., CEIC 04-05
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