

## GLOBAL PRODUCTION NETWORKS FOR FRACKING, GAS LIQUIDS AND PLASTICS: POLICY SOLUTIONS FOR A SELF- REINFORCING PROBLEM

Dr. Diane Sicotte is an Associate Professor in the Department of Sociology at Drexel University, where she teaches courses on environmental justice, sociology of disasters, and social class inequality. She is author of *From Workshop to Waste Magnet: Environmental Inequality in the Philadelphia Region* (Rutgers University Press, 2016). She is Principal Investigator of a National Science Foundation-funded study (with Kelly A. Joyce, Professor of Sociology at Drexel, co-P.I.) titled "Societal Aspects of Energy Infrastructure Expansion." The research team use interviews, ethnographic research and content analysis to examine the opinions of labor union leaders and members on fossil fuels versus renewable energy sources, and the ways in which the expertise of union workers might influence infrastructure development.

Currently, she is also researching the economic and political aspects of global production networks through which a fracked gas liquid (ethane) is transformed into plastics..

### ABSTRACT

Although the connection between the two is obscure, ethane, a gas liquid produced through natural gas fracking, is currently stimulating increases in world plastics production, which ultimately adds to the pollution of the world's oceans with plastic wastes. Here, I examine the newest strand of a global production network (GPN) for ethane, which starts in Pennsylvania, USA. Ethane is an attractive feedstock for plastics because it is chemically efficient and inexpensive, allowing plastics to be manufactured more profitably. Although the state regulates extractive, material transport, manufacturing and waste disposal practices within each of the four nodes of the GPN (upstream, midstream, downstream and waste stream), existing regulations are inadequate to prevent greenhouse gas loading, water and air pollution, increased production of toxic substances or the proliferation of plastic wastes caused by the ethane-to-plastics GPN. While efforts to reform environmental practices of ethane-to-plastics GPNs face formidable barriers, GPNs also offer multiple opportunities for policy interventions as they generate environmental threat at multiple locations and span multiple jurisdictions and regulatory arenas. Reasons that current US regulations have not been effective in curbing the increases in both ethane and plastics production are examined, and policy changes recommended.



**November 1st**

**10:45 AM - 12:00 PM**

**Special Events Forum**

Bloustein School of Planning  
and Public Policy at Rutgers  
University

**Street parking available**

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any questions