**Strategic Regulatory Pathways for Decarbonizing the Power Sector Via Complementarity Modeling**

Appropriately designed renewable support policies can play a leading role in promoting renewable expansions and contribute to low emission goals. Meanwhile, ill-designed policies may distort electricity markets, put power utilities and generation companies on an unlevel playing field and, in turn, cause inefficiencies. This presentation will describe a framework to optimize strategic policymaking for renewable energy sources, while incorporating conflicting interests and objectives of different stakeholders. We formulate a tri-level optimization problem where each level represents a different entity: a state regulator, a power utility and a wholesale electricity market. To solve this tri-level problem, we exploit optimality conditions and develop a modification of the Column-and-Cut Generation (C&CG) algorithm that generates cuts for bilinear terms. The case study based on the ISO New England 8-zone test system reveals different policy trade-offs that policymakers face under different decarbonization goals and implementation scenarios.