Gas and Renewable Markets Workshop
October 8th, 2019

Location: TRESIDDER MEMORIAL UNION OAK ROOM
495 LAGUNITA DRIVE
STANFORD UNIVERSITY

8:00 – 8:30 BREAKFAST
8:30  Welcoming remarks - Naomi Boness

9:00 am  Introduction to Stanford University Electricity Market Training

9:15 am  Session 1: Basics of Electricity Markets
The first training session will introduce participants to the basics of wholesale electricity market operation, including the concept of unilateral market power and the effect of transmission congestion. Participant teams will play the role of generating companies (“gencos”), bidding into the market to try to maximize their profits.

11:00 am  Break

11:15 am  Session 2: Forward Contracts in Electricity Markets
This session will introduce the crucially important (but sometimes poorly understood) function of forward contracts in reducing the incentives for generating companies to exercise market power. Many electricity market problems (and notably the California Electricity Crisis in the early 2000s) can be traced in part to a failure to ensure that generating companies hold fixed-price forward commitments for most of their power supply. The game play will help participants gain a thorough understanding of how forward contracts can help load serving entities hedge against high prices and also reduce the incentive of generating companies to exercise unilateral market power.

12:30 pm  Lunch Break

1:30 pm  Session 3: Impacts of Variable Energy Resources on Electricity Markets
This training session will introduce some of the challenges that come along with high market penetration of variable energy renewable resources. In this session, we will require load serving entities to source a high share of their power from wind and solar. Generating companies holding gas-fired units will make decisions about whether to retire existing units and/or buy new ones as the increasing fraction of renewable energy changes market conditions.

3:00 pm  Break

3:15 pm  Session 4: Interactions between Gas and Renewable Markets
Rising wind and solar output will place new demands on natural gas markets and the gas-fired generation fleet. In this session, gas prices will vary, and participants will have the
option of hedging their exposure to short-term natural gas prices that could spike due to gas supply constraints in periods of low wind and solar output.

4:45pm  Discussion: Policy and business implications of gas-renewable linkages

5:00pm  Adjourn