

## **“Price Signals and Greenhouse Gas Reduction in the Electricity Sector”**

*by Navigant Consulting for the COMPETE Coalition  
with a foreword by former Secretary of Energy Federico Peña*

“Keep in mind that the reason I’m interested in a cap-and-trade approach is precisely because I think the market makes decisions about these technologies better than we do.”

**-President Barack Obama**

- Competitive electricity markets will play a vital role in the success of any market-based program for controlling heat-trapping emissions that contribute to climate change.
- Restructured competitive electricity markets help promote the technological innovation and changes in consumer behavior required for an emissions reduction program to be successful.
- Electricity production accounts for 40% of U.S. emissions, and competitive non-utility generators account for 40% of installed generation capacity. It is therefore important to understand the complementary interaction between competitive electricity markets and market-based emissions reduction programs.
- Competitive electricity markets reinforce market-based pricing of carbon and provide the basis for a direct relationship between prices for carbon and prices for electricity. Having markets for both electricity production and emissions will produce price signals that are critical to the success of proposed policies to reduce greenhouse gas emissions.
- Competitive electricity market restructuring has already led to the types of behavioral changes expected from competitive forces:
  - Market forces have resulted in improved thermal efficiencies for coal-fired generation
  - Market forces have dramatically increased the availability (capacity factors) of nuclear generating facilities
  - Installed renewable wind energy facilities are disproportionately located within the nation’s organized competitive electricity markets
  - Successful demand response programs within competitive electricity markets illustrate the linkage between price signals and consumer behavior, and the ability of markets to provide the innovative products and services necessary for tapping energy efficiency as a resource
- Federal, regional and state policymakers designing greenhouse gas emissions reduction policies need to consider the interdependent nature of carbon markets and electricity markets and how prices in these two markets are related.