

## Taking Stock on Climate:

### *Quantifying the GHG Emissions Reductions Associated with Sectoral Energy & Climate Policies*

In recent years, the U.S. federal government has adopted a collection of targeted "sectoral policies" that directly and indirectly reduce future GHG emissions, including more than 100 specific measures and unprecedented investments in technology. Additionally, recent economic events, such as the "Great Recession" and elevated energy prices, have also resulted in reduced GHG emissions. In light of these economic and policy developments, official GHG emissions projections have been sharply revised downward. The Energy Information Administration (EIA), for example, now projects that U.S. energy-related CO<sub>2</sub> emissions in 2025 will be 25% lower than it projected just five years earlier.

Commissioned by Industrial Energy Consumers of America and conducted by Keybridge Research, this study quantifies the emissions reductions that will be achieved as a result of recently adopted sectoral policies. The analysis principally relies on assumptions and projections provided in the most recent six editions of the EIA's Annual Energy Outlook (AEO). The emissions impacts of revised GDP and energy price projections were estimated using elasticities available in AEO side analyses while the emissions impacts of sectoral policies were driven by differences in efficiency and technology deployment projections in successive additions of the AEO.

## Key Insights

- In the past five years, economic events and sectoral policies have dramatically changed the trajectory of U.S. GHG emissions.
  - Since 2005, economic factors and sectoral policies have reduced projected GHG emissions in 2020 by nearly 1.7 gigatons. To put this in perspective, in December 2009 President Obama announced a commitment to reduce U.S. GHG emissions to 17% below 2005 levels, or nearly 2.6 gigatons below the level projected for 2020 in the AEO 2005.
  - Five sectoral policy pathways – building efficiency, fuel economy standards, renewable fuels, renewable power, and nuclear power – are responsible for more than 600 MMT of projected emissions reductions in 2020.
- The annual emissions reduction potentials of some policy pathways that will be adopted before 2020, such as fuel economy standards, are projected to accelerate after 2020 as the capital stock turns over.
- When carefully tailored to the unique characteristics of particular sectors, sectoral policies have the potential to cost effectively reduce GHG emissions. As additional climate action is debated, the results of this study should be considered in the context of relevant cost estimates, which vary greatly. See *Keybridge Research (May 2010), The Economic Cost of Carbon Abatement Strategies: A Literature Review*.
- Some policy and technology pathways not projected to significantly reduce GHG emissions by 2020, such as industrial combined heat & power (CHP) and recycled energy, have the potential to make large-scale contributions with the assistance of targeted and sound policies.

## Key Data Points

