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The attached Executive Summary was generated by research firm McKinsey & Company, which serves more than 70 percent of Fortune magazine’s most admired list of companies. The complete report, “*Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?*” can be downloaded from:

<http://www.mckinsey.com/client-service/ccsi/greenhousegas.asp>

Recognizing that “consensus is growing among scientists, policy makers, and business leaders that concerted action will be needed to address rising greenhouse gas (GHG) emissions,” this report was spurred by the need to address the costs of mitigating climate change.

The report takes for granted that:

- The transition to a low-carbon economy is going to happen;
- It is going to cost money to make this shift; and thus
- It makes sense to try and figure out what these costs will be, and how best to manage them.

The report’s ultimate goal: to examine the “practical challenges of where and how emissions reductions can best be achieved, at what costs, and over what periods of time.”

Central conclusion of the report: “The United States could reduce greenhouse gas emissions in 2030 by 3.0 to 4.5 gigatons of CO₂e using tested approaches and high-potential emerging technologies. These reductions would involve pursuing a wide array of abatement options available at marginal costs less than \$50 per ton, with the average net cost to the economy being far lower if the nation can capture sizable gains from energy efficiency. Achieving these reductions at the lowest cost to the economy, however, will require strong, coordinated, economy-wide action that begins in the near future.” (ix)

- The U.S. government has projected that annual greenhouse gas emissions (GHGs) will rise 35% between 2005 and 2030. The main drivers are the expanding U.S. economy, population increase and rising personal consumption, and “increased use of carbon-based power in the electric-power generation portfolio, driven by projected construction of new coal-fired power plants without carbon capture and storage (CCS) technology.” (x)
- This emissions growth will occur during the same period that U.S. forests and agricultural lands decrease in their ability to absorb carbon. (x)

- While many abatement opportunities do exist, taking advantage of them fully will “require strong stimuli and policy interventions of some sort. *Without a forceful and coordinated set of actions, it is unlikely that even the most economically beneficial options would materialize at the magnitudes and costs estimated here.*” (xii)
- Five sectors offer the greatest abatement potential: (1) energy efficiency in buildings and appliances, (2) fuel efficiency in transportation, (3) increased energy efficiency in the industrial sector, (4) expanding and enhancing carbon sinks (such as offering incentives for soil management practices), and (5) “reducing the carbon intensity of electric power production... a shift toward renewable energy sources (primarily wind and solar), additional nuclear capacity, improved efficiency of power plants, and eventual use of carbon capture and storage (CCS) technologies on coal-fired electricity generation.” (xv)
- “Improving energy efficiency in the buildings-and-appliances and industrial sectors, for example, could (assuming substantial barriers can be addressed) offset some 85% of the projected incremental demand for electricity in 2030, largely negating the need for the incremental coal-fired power plants.” (xv)
- The report found that a successful, comprehensive abatement program would require strong signals from policymakers, including “visible, sustained signals to create greater certainty about the price of carbon and/or required emissions reductions; this will help encourage investment in options with long lead times and/or lifecycles.” (xvi)
- “Many of the most economically attractive abatement options we analyzed are ‘time perishable’: every year we delay producing energy-efficient commercial buildings, houses, motor vehicles, and so forth, the more negative-cost options we lose. The cost of building energy efficiency into an asset when it is created is typically a fraction of the cost of retrofitting it later, or retiring an asset before its useful life is over. In addition, an aggressive energy policy efficiency program would reduce demand for fossil fuels and the need for new power plants.” (xvi)
- “This project did not attempt to assess the benefits to society from reducing global warming. The report also did not attempt to address other societal benefits from abatement efforts, such as improved public health from reducing atmospheric pollution or improving national security. Policymakers would undoubtedly want to weigh these factors – and possibly others – when developing comprehensive approaches for reducing GHG emissions in the U.S.” (xvii-xviii)
- “The pursuit of GHG abatement... will undoubtedly stimulate new businesses and economic opportunities not covered by our cost-focused analysis.” (xviii)