Key Messages:

- America is in a race to lead the new global energy economy. To that end, it must research, develop and adopt energy technology that is cleaner, sustainable, improves national security and strengthens the economy. All renewable forms of energy address these objectives.

- The primary causes of rising food prices are increased demand, higher energy costs and weather shocks.

- America’s farms, ranches, and forests have demonstrated the capacity to meet the nation’s food, feed, fiber and fuel needs.

- Sustainably, domestically produced biofuels are viable alternatives to petroleum-based transportation fuels that are limited as a resource and subject to volatile pricing. Current first-generation biofuels will soon evolve into next-generation biofuels made from non-food energy feedstocks.

- The 25x’25 renewable energy vision is about food, feed, fiber and fuel. A recent University of Tennessee study confirmed that the 25x’25 goal can be met without compromising the ability of the agricultural sector to reliably produce food, feed and fiber at reasonable prices.

Food Availability and Cost Factors

While biofuel production is a contributing factor to recent increases in food prices, higher transportation fuel costs, along with erratic weather, increased demand and low food stocks, are the more significant contributors to the high cost of food around the globe.

According to the Executive Director of the UN World Food Program, the price of oil has a direct impact on the amount of hunger in the world. Skyrocketing oil prices drive up the entire value chain of food production—from fertilizer, to diesel for tilling, planting and harvesting, to storage and shipping.

Recent history has shown biofuel production is not a significant driver of rising food prices. A 2009 Congressional Budget Office report said that ethanol production contributed a minuscule amount to the significant 5.1-percent increase in food prices over the year that ended in April, 2008, noting that higher energy costs, including oil, had at least twice the impact on the cost of food. A World Bank report
released in August 2010 concluded energy costs and some commodity market speculation, and not biofuel production, were principle instigators of the spike in food prices in 2008.

USDA statistics show that for every dollar consumers spend on a food, only 20 cents is attributable to the actual cost of the food product itself. The remaining 80 percent is tied to labor, energy, transportation, advertising, packaging and other costs.

**Biofuels Production**

A study by the Department of Energy's Oak Ridge Laboratory found that the U.S. could displace more than one-third of its current oil consumption with biofuels while continuing to meet demands for food, feed and export.

Looking to the future, non-food crops and materials now considered waste will become the primary feedstocks for biofuel production. Ongoing and growing research will optimize cellulosic feedstocks, including residues such as corn stalks, wheat straw, forest trimmings, sawdust, wood chips, yard waste, municipal solid waste and even animal wastes; and energy crops such as switchgrass, hybrid poplars and other prairie grasses.

The U.S. could produce 40 billion gallons of ethanol a year—equivalent to 20 percent of current gasoline demand—from agricultural residues alone. And energy crops such as switchgrass can be planted on marginal land, reducing the need to use productive cropland or forests for energy crop production (Oak Ridge National Lab).

The production of ethanol yields a by-product called dried distillers grains (DDG) that is a high-protein cattle feed and can replace corn for half of the animal’s diet. (Advancing technology is expected to make distillers grains a more useful substitute for pork and poultry.) One-third of every bushel of corn used to make ethanol is returned to the feed market as DDG.

**Crop Production and Export**

The overwhelming majority of U.S. corn production, including exported corn, feeds livestock, not humans. The 2010 U.S. corn harvest was large enough to meet ethanol demand, while also allowing for near-historic rates of exports.

Food prices are up in early 2011 and expected to continue a slightly more upward trend. While some critics claim that ethanol production is driving up costs, most analysts cite growing global demand and weather shocks. Demand and the increase in prices are inherently tied, and both are expected to ease in the coming months. The market will drive farmer’s decisions as to which crops to plant.

**Technological Advancements**

With continued advancements in technology, shifts in cropping patterns and widespread adoption of sustainable crop management practices, U.S. farmers, ranchers and foresters can meet the 25x’25 energy goal while still providing abundant supplies of food, feed and fiber.

The Biotechnology Industry Organization reports that with the help of biotechnology, corn crop yields have increased over 30 percent since the technology was introduced in 1996, and yield increases are expected to continue into the future. Soybean yields have increased over 20 percent in the same time period.