STATEMENT OF

DR. HENRY KELLY

ACTING ASSISTANT SECRETARY FOR ENERGY EFFICIENCY

OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY

U.S. DEPARTMENT OF ENERGY

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

APRIL 7, 2011

Chairman Bingaman, Ranking Member Murkowski and Members of the Committee, thank you for the opportunity to discuss the Department of Energy's biofuels program and the "Biofuels Market Expansion Act of 2011" (S. 187).

The transportation sector accounts for approximately two-thirds of the United States' oil consumption and contributes to one-third of the Nation's greenhouse gas emissions[1]. After housing, transportation is the second biggest monthly expense for most American families[2]. As the President said last week, "In an economy that relies so heavily on oil, rising prices at the pump affect everybody." Biofuels are a key part of the solution. They can provide a cost-effective alternative to oil imports that create business opportunities and jobs in the U.S. economy – including the economies in rural areas. The Administration has set a goal to help fueling station owners install 10,000 blender pumps over the next five years, to enable widespread use of E-15. DOE is supporting this goal through investment in research and development for the next generation of biofuels and new fueling stations technologies.

The Administration is focused on a range of challenges, and is prioritizing efforts that can accelerate the substitution of imported petroleum with home grown bio-based and renewable fuels. This requires a research and programmatic balance to help both new and existing biomass technologies permeate the market. I am pleased to report that we have made significant progress in this area. The Administration's Fiscal Year (FY) 2012 budget proposes to maintain this momentum.

The "Biofuels Market Expansion Act of 2011" addresses several key barriers to increased use of biofuels. The bill would require automakers to make an increasing percentage of "flex-fuel" vehicles, and includes a number of provisions to expand fueling infrastructure capable of handling higher ethanol blends. DOE is currently taking a number of steps to address these challenges.

Prior to October 2010, the amount of ethanol that could be blended in gasoline for use in standard vehicle engines without modification was limited to 10 percent by volume. Through extensive vehicle testing, DOE worked closely with EPA to provide data needed to determine the potential impact of E15 (gasoline containing more than 10 volume percent and up to 15 volume percent ethanol) on compliance with vehicle and engine emission standards established under the Clean Air Act. EPA ultimately decided, based on DOE and other test data and analysis, that E15 may be introduced into commerce for use in model year (MY) 2001 and newer passenger vehicles once several conditions are met. This would allow the approximately 150 million MY 2001 and newer passenger vehicles on the road today to fuel with E15.

DOE is also working with auto manufacturers to assess the viability of making new vehicles compatible with higher ethanol blends. DOE estimates approximately 3 percent (8 million out of approximately 240 million) of passenger vehicles on the roads today are already manufactured to be compatible with blends up to 85 percent. Roughly 15 percent of new vehicle sales are also compatible and domestic manufacturers have pledged to increase this fraction to 50

[1] http://www1.eere.energy.gov/vehiclesandfuels/pdfs/vehicles_fs.pdf
[2] http://www.bls.gov/news.release/cesan.nr0.htm

percent by model year 2012 (18-20 percent of total sales, including a few non-domestic models). DOE estimates that the per-vehicle cost is in the range of $50-$100/vehicle.

Moving E15 and higher blends also requires work to ensure that fuel pumps and underground fuel storage tanks are equipped to handle these fuels. DOE is working with pump manufacturers to accelerate production of new pumps that can operate with E15 and higher ethanol blends. While pumps capable of dispensing very high ethanol blends such as E85 currently cost 1.6 times as much as the conventional pumps (conventional pumps cost ~$15,000, E85 pumps cost ~$25,000) DOE analysis suggests that the cost differential could be driven down to a few hundred dollars if the high-blend pumps were manufactured in volume. DOE is working with pump manufacturers to develop and market retrofit kits to upgrade existing pumps to be compatible with E15. In addition, DOE is working with states, who are able to use State Energy Program or Recovery Act funding, to upgrade existing fuel pumps to be compatible with higher ethanol blends. DOE is also collaborating with the U.S. Department of Agriculture in this area. The Department welcomes the opportunity to work with this Committee to further encourage the installation of new pumps equipped to handle higher ethanol blends and to retrofit existing pumps.

As we take steps to break down barriers to greater use of today's biofuels, DOE is also making investments in next-generation biofuels technologies. The American Reinvestment and Recovery Act of 2009 (the Recovery Act) accelerated investment in innovative biorefineries, providing funding for an additional 18 RD&D projects, in addition to the 11 projects previously funded in 2007 and 2008. Through these projects, DOE is helping scientists and entrepreneurs explore technologies for converting cellulose such as wood waste and corn stover, as well as technologies for products other than ethanol – including drop-in substitutes for gasoline, diesel, and jet fuel. To help accelerate the development of these technologies, President Obama announced a goal of breaking ground on four commercial-scale cellulosic or advanced biofuels plants over the next two years. To help meet this goal, the FY 2012 budget includes funding for a reverse auction in which cellulosic and advanced biofuels project sponsors would compete for additional support.

With support for such plants, advanced conversion technologies could play a significant role in a commercial biofuels market within a few years. DOE is supporting two main pathways to convert biomass into biofuels in a cost-effective manner: (1) thermo-chemical conversion, based on pyrolysis or gasification, and (2) biochemical conversion using enzymes, fermentation, and other mechanisms, including algae. Over the longer term, research advances showing promise in the laboratory could greatly increase the productivity and reduce the cost of biochemical processes using engineered yeast, bacteria, and other organisms.

The President recently set a goal of reducing petroleum imports by one third by 2025. Together with increased fuel economy in vehicles, and acceleration of electric vehicle deployments, biofuels are a critical part of a national effort to achieve this goal. The Administration is still formulating its position on the bill before this committee and welcomes the opportunity to continue working with the committee to advance our energy goals.