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Key Findings for Univ. of Tennessee Energy, Carbon Policy Study *Implications of RES, Carbon Payment Policy for the Agricultural, Forestry Sectors*

The study, titled *Implications of Energy and Carbon Policies for Agriculture and Forestry Sectors*, and undertaken at the request of 25x25 by the [University of Tennessee's Bio-based Energy Analysis Group](#), projects how proposed energy/carbon payment policy instruments might impact the U.S. agricultural and forestry sectors. The policy instruments used in the analysis include a baseline scenario in which the Renewable Fuels Standard (RFS) implemented by the Energy Independence and Security Act of 2007 (EISA) is met; meeting the RFS requirement of EISA and implementing a properly designed Renewable Electricity Standard (RES); and meeting the RFS requirement of EISA, implementing an RES and putting in place a carbon mitigation payment program.

Key Findings

Meeting the RFS and adding a properly designed RES:

- Economic returns to the agriculture and forestry sectors are significant and are projected to be widespread across the United States. The returns include \$215 billion of additional economic activity, the creation of over 700,000 jobs, \$84 billion added to the nation's GDP, and up to \$14 billion in accumulated additional revenues for agriculture and forestry.
- Demand and production of biomass feedstocks in the form of dedicated energy crops are expected to increase, causing shifts to more intensely managed pasture land. Forest residues, thinnings and tree harvest will play a significant role in meeting feedstock demands.
- There would be no significant changes to commodity cropland use, or crop and livestock prices.
- Greenhouse gas emissions from the agricultural and forestry sectors are reduced by 2025.
- Both prices and production increase over time for beef, pork, and poultry; thus increasing gross returns.

Meeting the RFS, and adding a properly designed RES and carbon payment mechanism:

- Economic net returns are projected to be up to \$57 billion in accumulated additional revenues for agriculture and forestry across the United States, compared with meeting the RFS alone. When multiplied throughout the economy, there is an additional \$226 billion in economic activity, an addition to more than 800,000 jobs and \$87 billion added to the nation's GDP.
- Income from carbon mitigation payments and market revenues are higher than any potential increase in the cost of inputs such as energy and fertilizer.
- Bioenergy feedstock production would increase in the form of dedicated energy crops, causing shifts to more intensely managed pasture land. Forest residues, thinnings and tree harvest will play a significant role in meeting feedstock demands.
- Major shifts in commodity cropland use do not occur, and major crop and livestock prices are not disrupted.
- Prices and production increase over time for beef, pork, and poultry; thus increasing gross returns. Adding the carbon policy to increased energy feedstock demands is projected to decrease production of the three livestock sectors by less than 1 percent each.
- Biomass feedstock production creates significant direct and indirect reduction in greenhouse gases. Net carbon emissions are reduced 76 million tons of carbon dioxide equivalents.

For additional information, contact Ernie Shea at 410-252-7079, or at EShea@25x25.org.