GHG Biofuel Modeling in the U.S.: Summary of the RFS statutory Requirements and Future Needs

Karl Simon, EPA
Statutory Definition and LCA Methodology

- EISA definition at CAA 211(o):
- “The term ‘lifecycle greenhouse gas emissions’ means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), as determined by the Administrator, related to the full fuel lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential.”

U.S. Environmental Protection Agency
Literature Review of Corn Starch Ethanol Well-to-Wheel Emissions

- This chart shows a sample of recent emissions estimates from the literature.

- A review of soybean oil biodiesel well-to-wheel emissions shows a similarly wide range of results.