

Alternative Jet Fuel Supply Chain Analysis

Washington State University

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Cost Share Partner(s): Washington State University

Objective:

Add incentive analysis options to harmonized TEAs to aid in quantifying the minimum selling price (MSP) benefit of each.

Project Benefits:

Quantifying policy scenarios inform on the impact of various policies and the investment required to reach price parity with petroleum jet fuel.

Research Approach:

Policy incentives were added and tested for a set of harmonized TEA spreadsheets.

TEA spreadsheets can calculate the impact of multiple incentive structures, alone and in combination.

Incentives that have been directly assessed include gasoline, diesel and SAF blenders tax credits (BTC), RINs, local incentives (e.g. LCFS), capital grants, feedstock support, loan interest reductions and multiple tax interventions.

Variations in the method, value or duration of applying each incentive can also be quantified.

Major Accomplishments (to date):

Harmonized TEAs with policy information have been used to inform the Ways and Means committee on the impact of the proposed Sustainable Skies Act for multiple conversion pathways and incentive scenarios.

Utilized TEAs for work in LTAG work as part of CAEP.

Future Work / Schedule:

Complete a paper using the open-source TEAs that demonstrate the impact of existing and proposed incentives alone and in combination.

Analysis Tool



- Harmonized Techno-Economic Analysis
- SAF Minimum Selling Price (MSP) computed

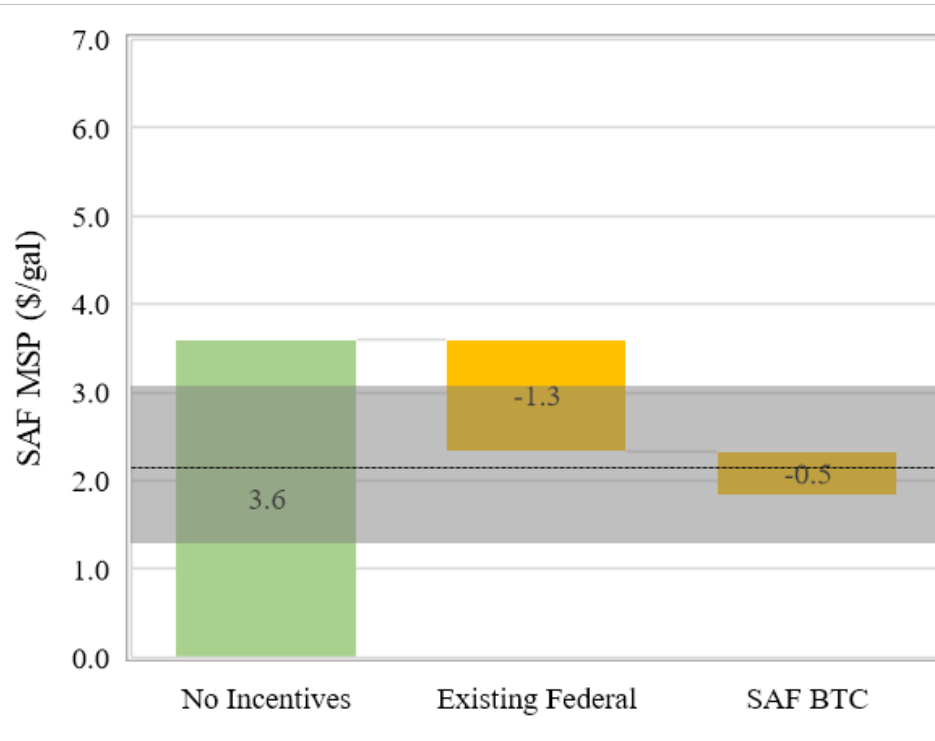
Incentive Scenarios

- Example Cases are MSW and forest residues using FT
- EF = Existing Federal Incentives = RINs, diesel BTC, gasoline BTC
 - Assumed base scenario
- EF + proposed SAF BTC (\$1.5-\$2.0/gal tax free)
 - This models a scenario where producers are blenders
- EF + SAF BTC + LCFS
- Pioneer Plant – EF + SAF BTC + LCFS + capital grant
 - This models a current technology scenario

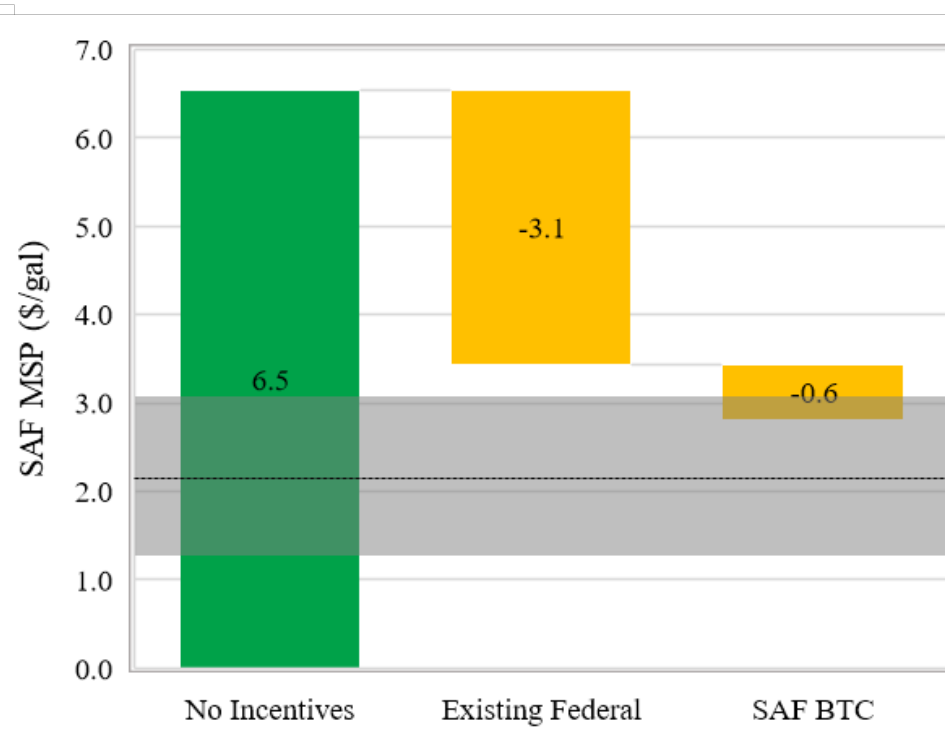
Impact of Existing and Proposed Federal Incentives



FT - MSW

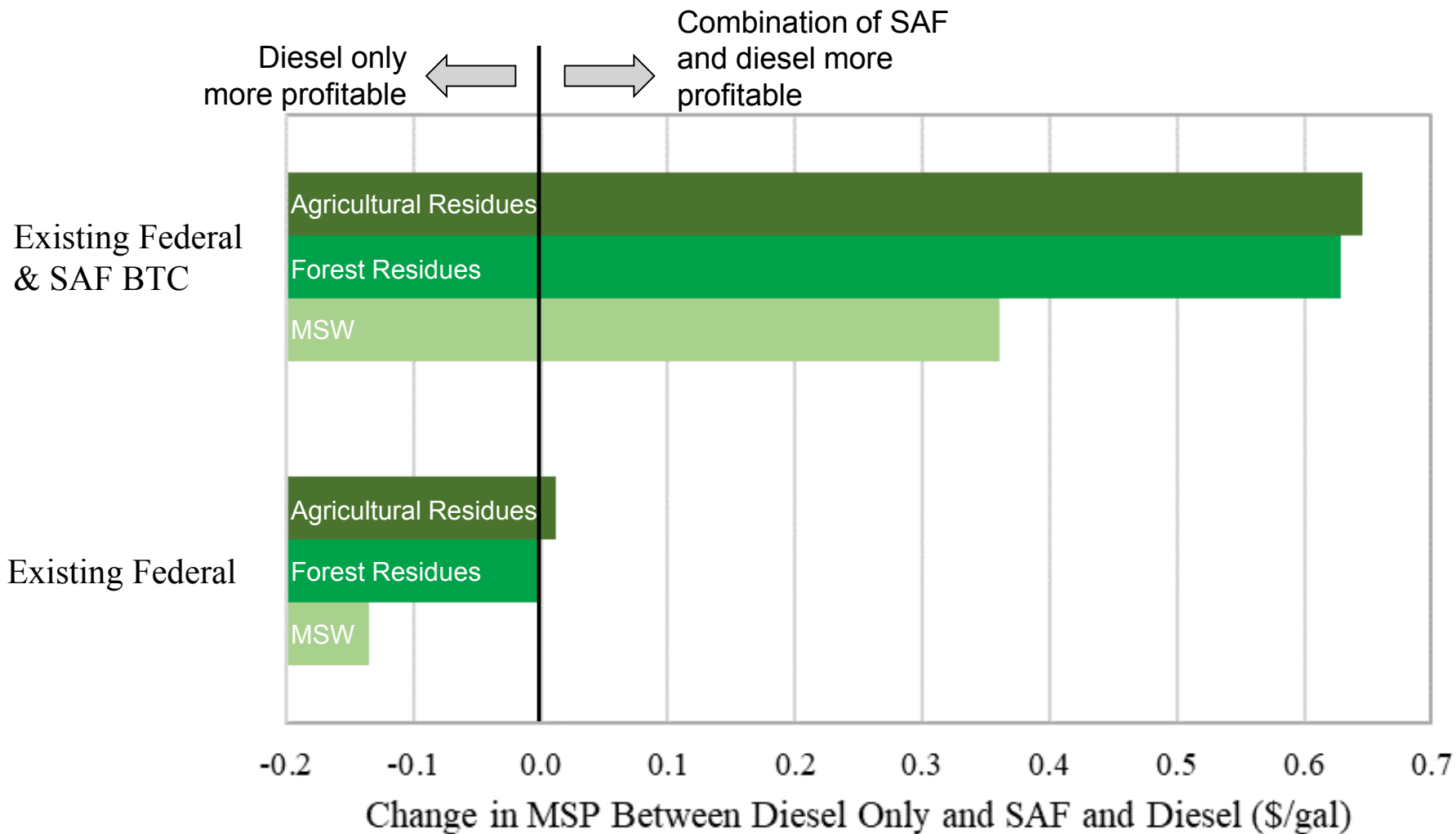


FT - Forest Residues



2011-2020 EIA Range of Wholesale Kerosene Price
 2011-2020 EIA Average Wholesale Kerosene Price

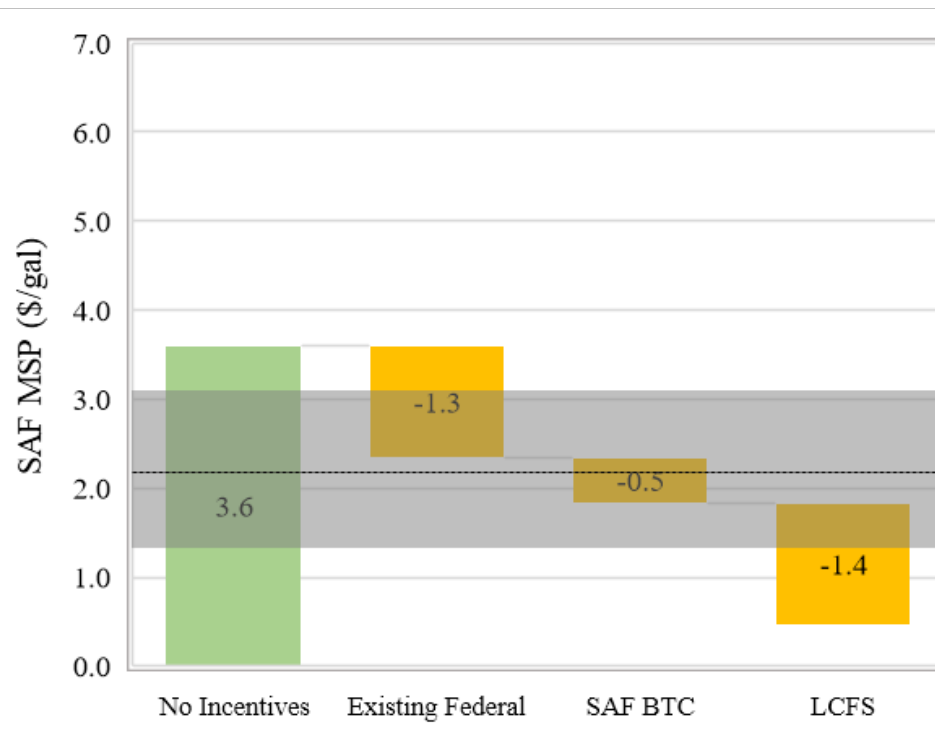
Diesel Only vs. SAF & Diesel



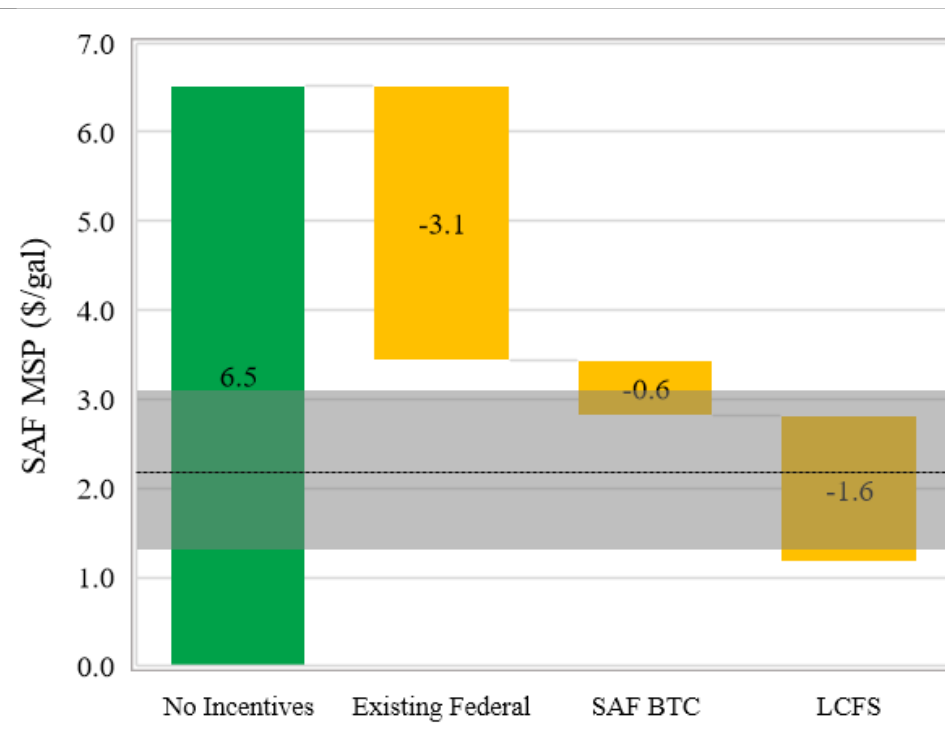
MSP change with the addition of LCFS



FT - MSW

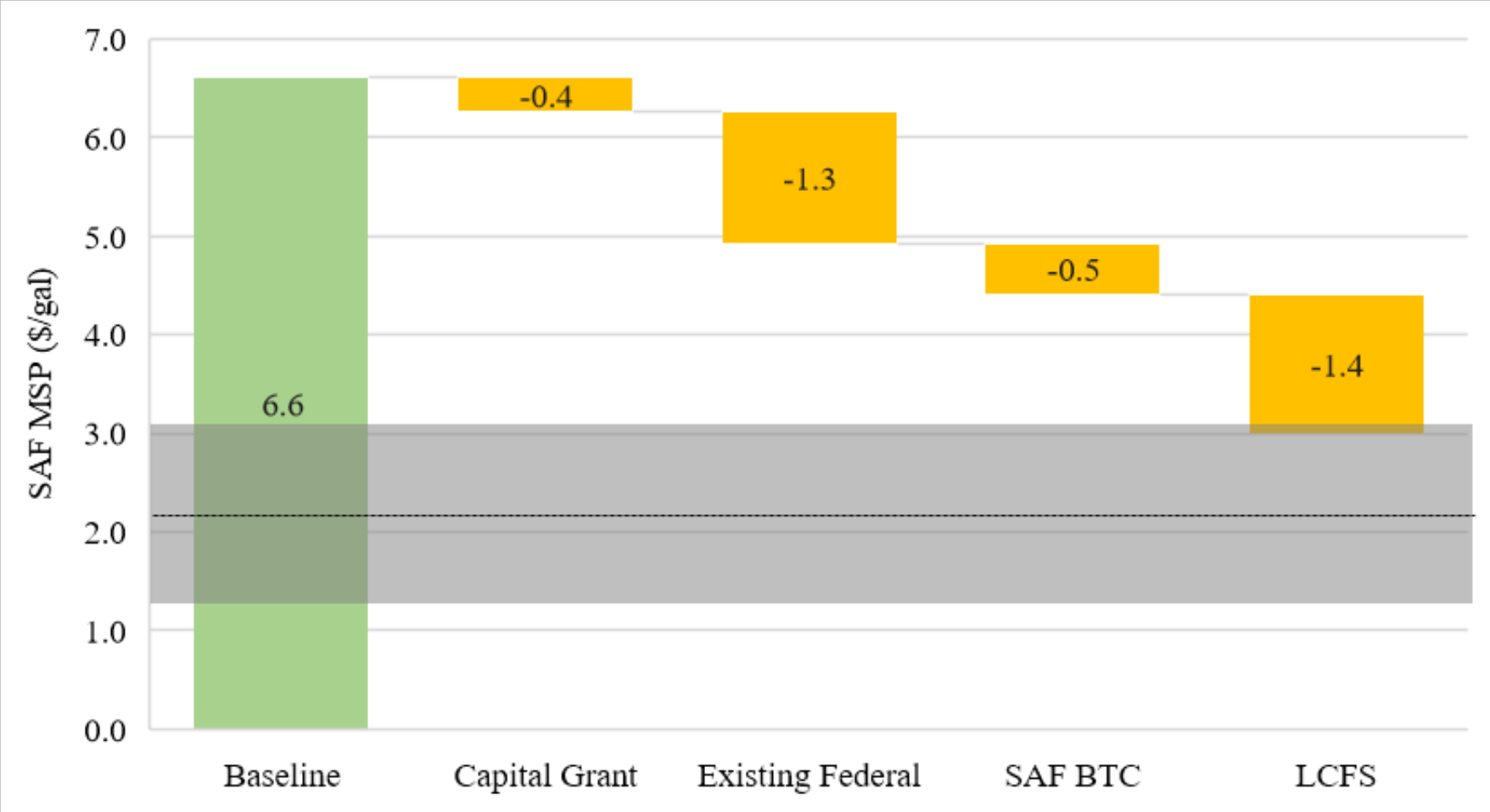


FT – Forest Residues



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Current technology maturity outlook



■ 2011-2020 EIA Range of Wholesale Kerosene Price
..... 2011-2020 EIA Average Wholesale Kerosene Price

Next steps



Law & policy:

- Continue analyzing state laws that might support SAF (e.g., Hawaii landfill regs, LCFS type laws in other states)
- Research federal laws and policies that might support SAF
- Continue to support ASCENT partners with law/policy analysis, publish results

Incentive Analysis:

- Complete alternate scenario analyses for existing and proposed incentives
- Analyze the impact of current and proposed legislation on additional pathways and feedstocks
- Continue to support ASCENT partners with modeling and publish results

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