SBAR

Sustainable Bioeconomy for Arid Regions

Kimberly Ogden
University of Arizona

TAC Panel
11/15/17

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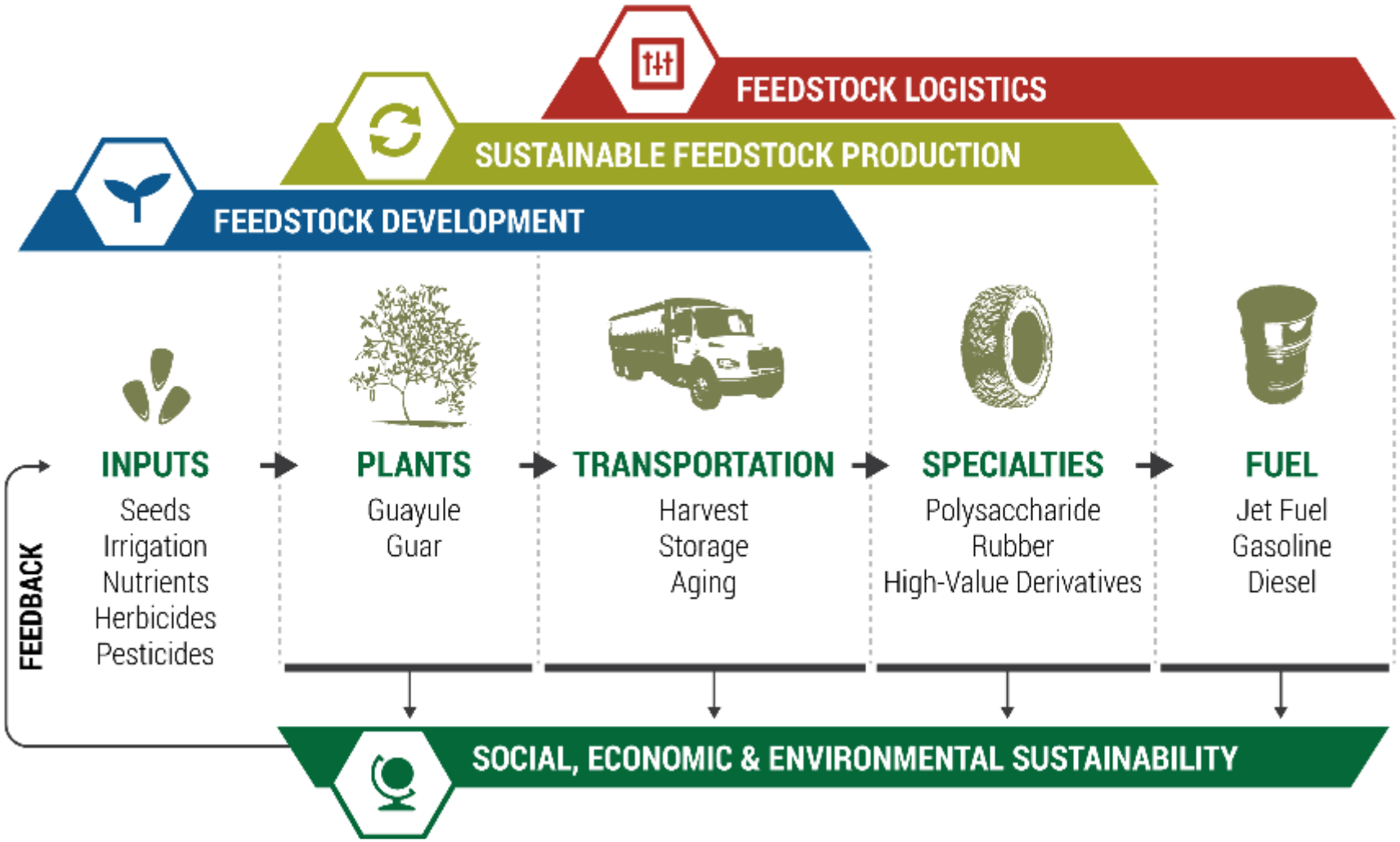

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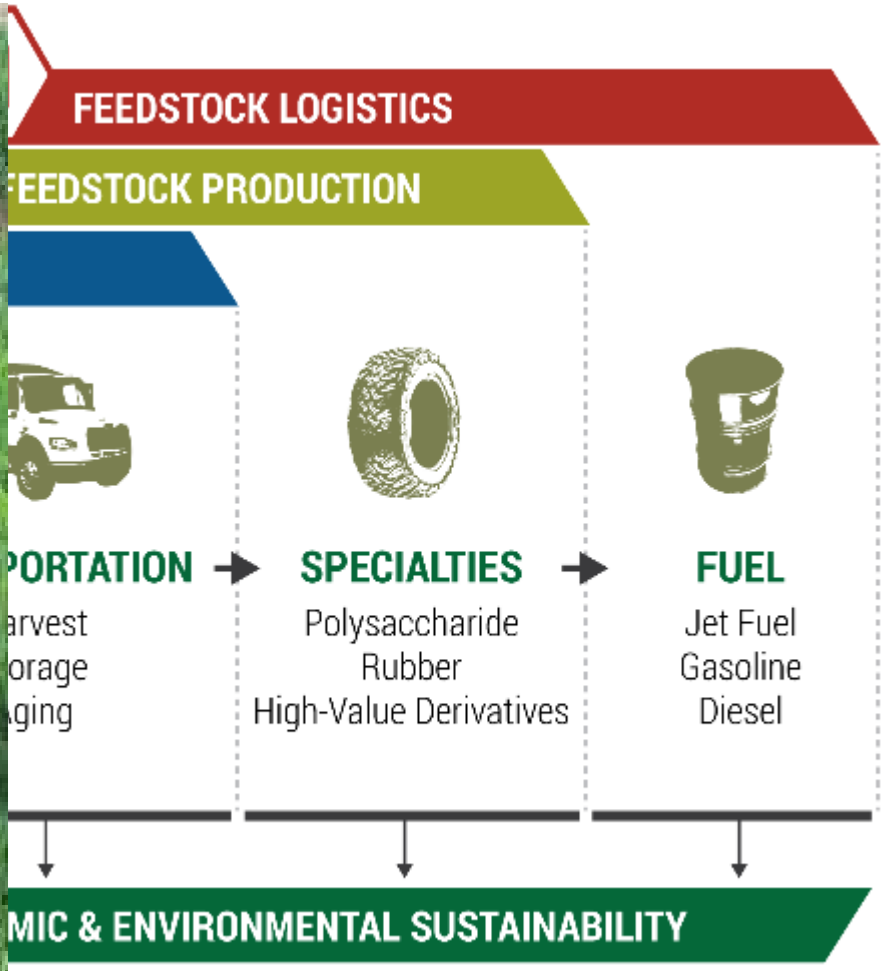

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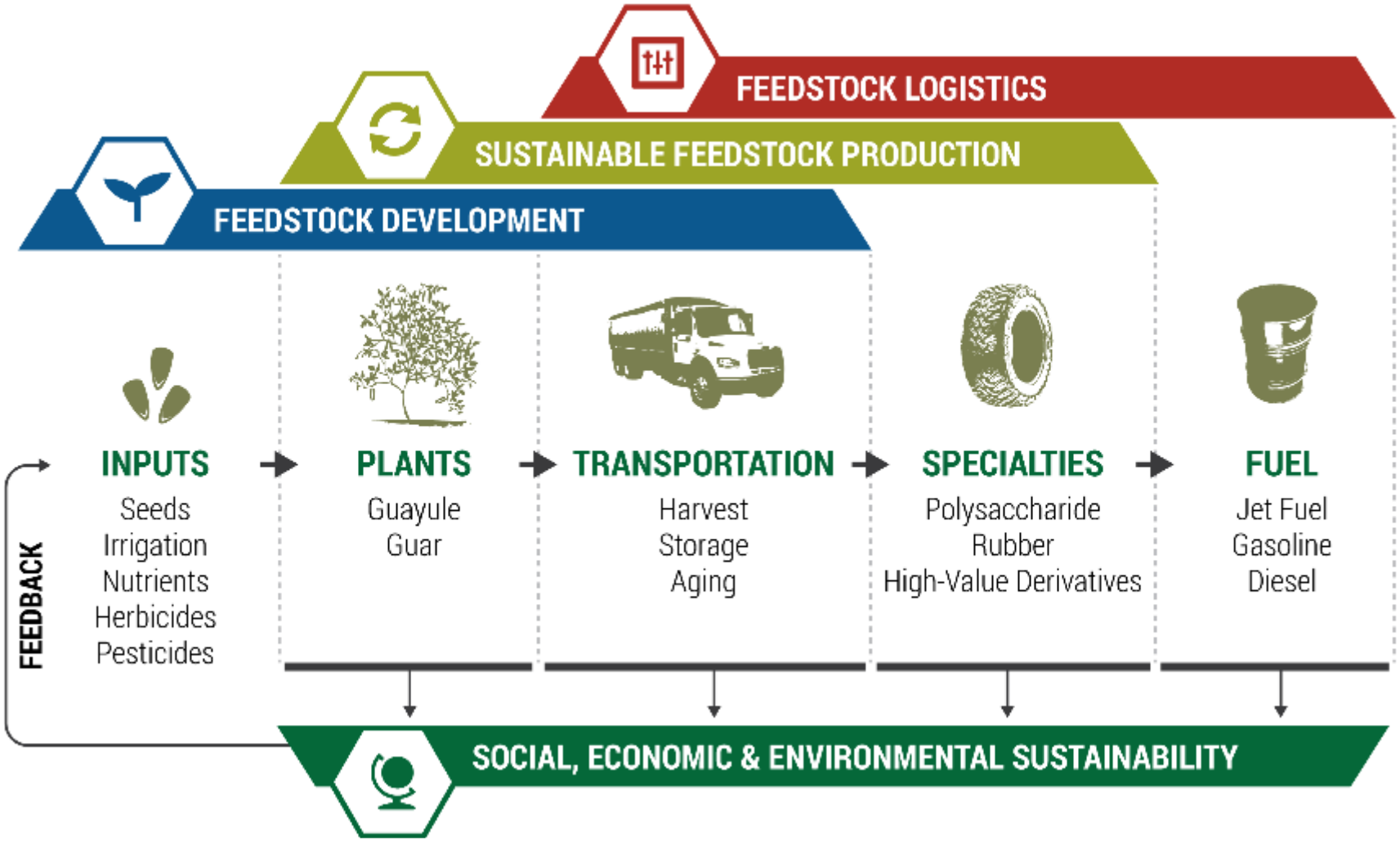


Guayule

Sustainability

Bio-fractionation

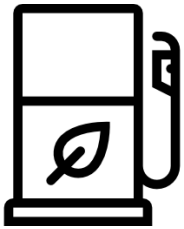
Natural Rubber
440,000 MT/yr

Bagasse
3.65 Million MT/yr

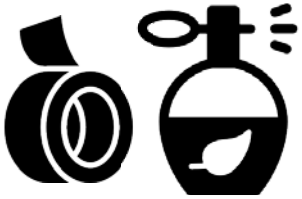
Resin
285,000 MT/yr

Products

$3.10 kg^{-1}

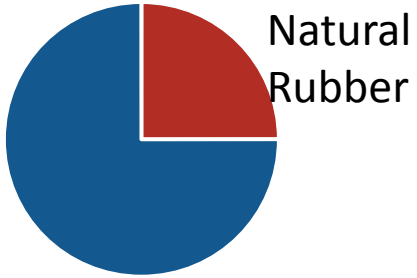


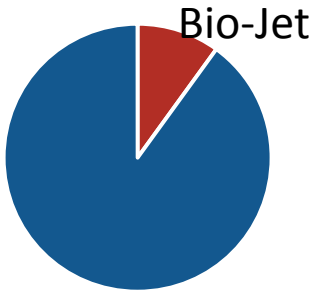
$3 gal^{-1}



$$$$

Market Size





Adhesives (10 billion),
Tackifiers (billions),
Fragrances (billions),
Pharmaceutical (100s billion)

Feedstock Readiness Level Guayule

Sustainability

Feedstock: Guayule Region: AZ/SW US

FSRL Scoring Summary	Production	Market	Policy	Rubber Conversion	Linkage to Conversion
Current Status	6.2	5.3	4.2	4.3	4.3
Anticipated Status	7	6.2	5.4	7	6

BRIDGESTONE

Guar

Sustainability

Bio-fractionation

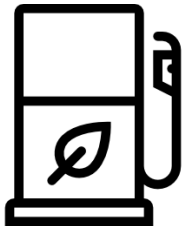
Seeds
340,000 MT/yr

Bagasse
1 Million MT/yr

Products

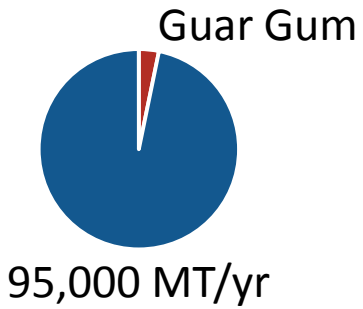
$3.30 to $26 kg^{-1}

$0.10 kg^{-1}

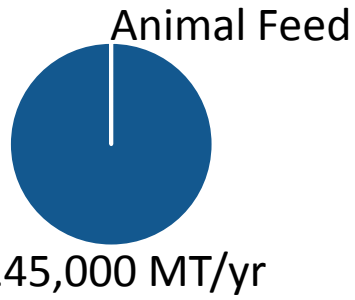


$3 gal^{-1}

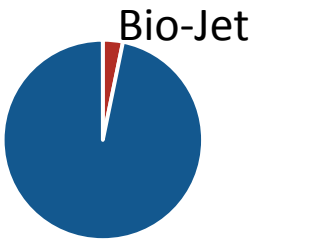
Market Size



95,000 MT/yr



245,000 MT/yr



Total Market $88 Billion

Impacts

Center of Excellence

- Add value to the bioeconomy for rural, arid regions through production of rubber, fuel, guar gum, and high value products
- Long term sustainability of water usage in Southwest through cultivation of drought resistant crops
- Increase student diversity in STEM fields

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