EXECUTIVE SUMMARY

- The SBAR Center of Excellence has identified opportunities for growing, harvesting and processing guayule (*Parthenium argentatum*) in the arid Southwest as part of a larger regional bioeconomy. The potential value of guayule coproducts (like resin adhesives, termite repellants, and insecticides) is even higher. Guayule production can be a sustainable driver for job creation in the Southwestern U.S.

- All parts of growing guayule present opportunities for job growth from planting and harvesting, to the extraction process that produces the rubber and other coproducts. Additional sectors for growth include education for training bioeconomy workers, business entrepreneurs for product promotion and marketing, and transportation specialists, among others.

- The significant job creation necessary to build a bioeconomy in the Southwest confirms the sustainability of guayule.

SBAR ACCOMPLISHMENTS

- Demonstrated guayule as a sustainable commercial crop for the arid southwest.

- Designed sustainable biomass supply chain optimization, including the location of processing facilities, transportation, and harvesting logistics.

- Completion of the BENCO model: a dynamic tool that supports evaluation of the economic, financial, and resource implications of crop adoption.

- Development of an SBAR internship program available for experiential learning to support jobs in guayule-based technology and production.

KEY DETAILS

- Job creation is a key element of a sustainable bioeconomy

- Guayule job opportunities range across multiple sectors

- Non-formal learning (like 4-H) increases awareness of bioeconomy job opportunities
KEY TAKE-AWAYS
> Potential $1.4B market for guayule production in US
> Thousands of future guayule-based jobs will cross multiple economic sectors
> Job training opportunities abound via internships, community colleges, and universities

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BIOECONOMY JOB CREATION
> Increased guayule production in the arid Southwest will support an increase in jobs across different areas of the economy. Anticipated jobs cross six primary economic sectors: agriculture, transportation, bioproduct refinement, research and development, business, and education.
> Job growth from bioeconomic innovation is a key part of a sustainable future for arid regions.

Job Creation in Guayule-Based Bioeconomy

- **Agriculture**
  - Equipment Operator
  - Greenhouse Worker
  - Irrigation Technician
  - Agricultural Worker
  - Farmer & Rancher

- **Transportation**
  - Truck Driver
  - Railroad Engineer
  - Mechanic
  - Logician
  - Machine Operator

- **Bioproduct Refinement**
  - Lab Technician
  - Cleanroom Worker
  - Mechanical Engineer
  - Equipment Operator
  - Materials Scientist

- **Research & Development**
  - Plant Geneticist
  - Chemical Engineer
  - Weed Scientist
  - Soil Scientist
  - Microbiologist

- **Business**
  - Product Developer
  - Marketing Manager
  - Sales Manager
  - Logisticians
  - Cost Estimator

- **Education**
  - Middle School Teacher
  - High School Teacher
  - Laboratory Instructor
  - Career & Tech Ed
  - Youth Leader

For more information: https://sbar.arizona.edu

Any opinions, findings, conclusion or recommendation expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture. Grant #: 2017-68005-2686

SBAR Center of Excellence Briefing Paper (Guayule-Based Job Creation in the Arid Regions’ Bioeconomy). January 2022.