

“Advancing the Bioeconomy in Texas”
*Building a Sustainable, Replicable, Scalable
Partnership Model for Job Creation & Wealth
Generation in Rural Communities*


**A Briefing of Key Thought Leaders in 3
Regional Meetings (by invitation only)**

**Stephenville, May 9
Granbury, May 15
Mineral Wells, May 21**

The fundamental premise : demonstrate how the informed integration of six stakeholder sectors can serve as a catalyst for a strategic approach that will translate federal research outcomes, market assessments, and patented technologies into rural wealth creation, thereby fostering the bioeconomy.

The approach: ATIP Foundation will work with USDA and other federal agencies to establish and work with a regional project steering committee and County Steering Committees, to develop paths forward to establish a Bioeconomy industry in the identified region.

Background





Agricultural Technology Innovation Partnership

ATIP Foundation 2016 Regional Bioeconomy Forums:
“Addressing the Challenges & Opportunities of Advancing the Billion Ton Bioeconomy”

Venues and Regional Co-hosts

- Southeast: September 16, Atlanta, GA** (Georgia Institute of Technology)
- Southwest: September 29, Mineral Wells, TX** (Chamber of Commerce)
- Northwest: October 3, Seattle-Tacoma, Washington** (Washington State University)
- Northeast: October 18, Orono, ME** (University of Maine)
- Midwest: November 15, Columbus, OH** (The Ohio State University)

National Sponsors



Background



Agricultural Technology Innovation Partnership

ATIP Foundation Biojet Fuel 2017 Regional Forum Series:
“Accelerated Commercial Development of Hydrotreated Renewable Jet Fuel (HRJ) from Redesigned Oilseed Feedstocks Supply Chains”

Venues and Regional Co-hosts

June 5-6, Richland, WA
 (Washington State University)



June 13, Fargo, ND
 (ND Department of Commerce / ND State University)



July 11, Wichita, KS
 (Wichita State University / Kansas State University)



Research Grant Participants & Partners

AeCAP
Agrisoma Biosciences
 ATIP Foundation
 Cornell University
 Kansas State Univ.
Keyaene

Michigan Technological Univ.
 North Central Regional Sun Grant Center
 South Dakota School of Mines and Technology

University of Idaho
 University of Maryland
 University of Tennessee
 UOP/Honeywell

USDA Agriculture Research Service
 USDA National Institute of Food and Agriculture
 USDA Natural Resource Conservation Service

Stakeholders

- **Local, County & State, Governments**
- **Workforce and Economic Development Organizations**
- **Academic institutions**
- **Financial/services**
- **Business and industry**
- **The supply chain, from biomass producer to end-users of products**

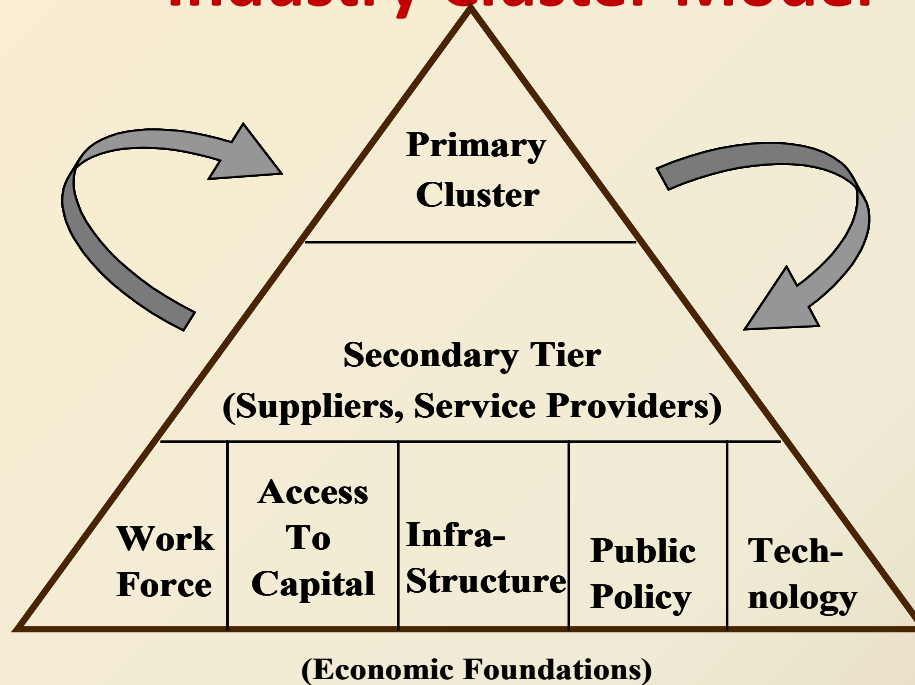
Project Themes

- **Finance**
 - Public funding
 - general access to capital
- **Public Education & Awareness**
 - Clear definitions of “bioeconomy” and “sustainability”
 - Articulate value proposition & case for support
- **Public Policy**
 - Government incentives ; tax credits; regulatory issues
- **Supply Chain**
 - Logistics / capacity / capabilities (e.g., biomass depots?)
- **Workforce**
 - Need to engage U.S. Departments of Education, and Labor
 - Local education curriculum
 - Training opportunities
- **Federal Resources**
 - Request for federal support of regional collaboration

Economic Realities

- **Three things that happen in an economic region:**
 - **Generate wealth**
 - **Recirculate wealth within regions**
 - **Wealth migrates to other regions**
- **You must be able to move people, product and information – rapidly, effectively & efficiently – that requires mobility**
- **Innovation drives economic development – which demands technology discovery and smart people**
- **97% of the world’s consumers live in other countries – that means international trade**

Strategic Plan Based on Industry Cluster Model



Strengthening the 5 primary economic foundations in alignment with and support of our primary industry clusters is equally critical to our economic sustainability.

Economic Foundations

- 1. Public Policy / Regulatory Structure**
 - Municipal, county, state, & federal regulations all play a role
 - Support of local and state governments
- 2. Infrastructure**
 - Assessing region's infrastructure (people, product, information flow)
- 3. Access to capital**
 - Participation of the financial services sector
- 4. Access to Technology**
 - Logistics / capacity / capabilities (e.g., biomass depots?)
- 5. Access to a Trained Workforce**
 - Alignment of public education, higher education, publicly-funded workforce system

Project Structure

- A. Regional & County Steering Committees**
 - Stakeholders representing 6 sectors
- B. International Leadership**
- C. Economic Development Leadership**
 - Economic Development entities
 - Chambers of Commerce
- D. Workforce Sector Leadership**
 - North Central Texas Workforce Board, Chambers & EDs
 - Texas Education Agency Region 11 Educational Service Center
- E. City/County Sector**
 - City Councils and County Commissioners Courts
- F. Academic Sector Leadership**
 - Tarleton State University
- G. Financial Sector Leadership**
 - ???
- H. Supply Chain Sector Leadership**
 - Local USDA offices for Rural Development
 - Agricultural Extension Service
- I. State Sector Leadership**
 - Texas Workforce Commission (Labor Commissioner)

Goals & Objectives

- 1.** To demonstrate a methodology that will bring stakeholders together from our six identified sectors into a formal partnership
- 2.** To demonstrate the use of federally-funded research outcomes in a manner that supports wealth creation through the establishment of sustainable industry sectors in the bioeconomy, thereby stimulating job creation and economic development in rural America.
- 3.** To demonstrate the role USDA, and other federal agencies, can play in the development of the model, relative to existing research and technical assistance programs.

Special Objectives

To establish, in an identified rural region in Texas, the initial elements that will serve as the foundation for the emergence of the Bioeconomy as an industry sector.

Four Critical Issues

- **Development of diversified supply chains that are financially sustainable**
- **The support of the financial investment community**
- **Consistent public policy at municipal & county levels**
- **An extensive public education and awareness campaign**

Fundamental To Our Approach

- **Sustainable**
- **Replicable**
- **Scalable**

Understanding the Bioeconomy

Simply stated, it is the utilization of **renewable biomass** resources (agricultural production of plants & animals, dairy, poultry, hog wastes, crop residues, invasive plants, forest residues, downed trees, etc.) to produce goods and services such as bioproducts, co-products, electricity, and biofuel for job & wealth creation, community economic development, and environmental enhancement such as improved soil fertility, reduced leaching and runoff, waste water treatment, etc.

From the Biomass Research & Development Board: *By increasing use of renewable plant material and waste feedstocks for biofuels, bioproducts, and biopower, advancing the bioeconomy will stimulate job growth and economic opportunities; increase the nation's competitive advantage; support a secure, renewable energy future; and contribute to improved environmental quality*

Benefits of Advancing the Bioeconomy

“This effort will increase

- the sustainable production of biomass feedstocks and capture of usable wastes;
- development of innovative and more efficient technologies to transform renewable carbon to intermediates and products;
- construction of more biorefineries and manufacturing facilities; and
- expansion of the market for biofuels, biochemicals, biopower, and other biomass-derived products.

As a result, the bioeconomy will provide multiple economic, environmental, and social benefits to the region and the nation. “

Translating the Opportunity: Dairy Operations

- **Animal Waste-- Primary Input (feedstock)**
- **Primary Products**
 - **Bio-Gas (Energy)**
 - **Solid Components (for biochar production and subsequent products)**
 - **Waste Water Treatment (remediated with biochar)**

Other animal /plant feedstocks can also be used

Steering Committee Members – May 2019

Critical Sectors Represented

- Federal Agencies
- Academia
- Agricultural-related Enterprises
- State and Local Government
- Workforce & Economic Development Entities
- Investment Community

Name	Title	Company
Alvarez, Julian	Commissioner	Texas Workforce Commission
Baker, Alison	Director	Parker County Economic Development Foundation
Barger, Eric	CEO	BargerTech
Biss, Bryan	CEO	Proton Power, Inc.
Brenner, Rick	Director	ATIP
Butcher, Steve	Economic Development Director	Area Growth Council
Campbell, Todd	Consultant	ATIP
Choi, Yong-Keun	Visiting Scholar	Tarleton State University
Cox, Henry	Director	Ventamatic
Dalton, Robin	Assistant	Parker County Economic Development Foundation
Dvorak, Steve	CEO	DVO
Glover, Gary	Pct. 1 Palo Pinto County Commissioner	Palo Pinto
Greenwood, Raym	Interim President	Mineral Wells Chamber of Commerce
Hons, Kayla	Vice President	Community National Bank & Trust
Howerton, Lance	Former City Manager	City of Mineral Wells
James, Joseph	President	Agri-Tech Producers, LLC
Joblin, Robert	President, Cenergy USA, Inc.; Co-manager, Magic	Magic Dirt Horticultural Products, LLC
Johnson, JJ		Independent
Jurey, Wes	President/CEO	ATIP
Kan, Dr. Eunsung	Professor	Tarleton State University
Kennel, Tim Von	Executive Director	Parker County Economic Development Foundation
Kern, Adam	Business Development Liaison	Workforce Solutions North Central Texas
Klahn, Bobby	Business Development Liaison	Workforce Solutions North Central Texas
Lehmann, Johanne	Professor	Cornell University
Logan, Tony	Consultant	Former State Director (OH), USDA, Rural Development
Moss, Georgeann	District Executive Administrator of Sustainability	DCCCD
Nix, Randy & Misty		Nix Rental Homes
Porter, Jeff	NAMNMT Leader	USDA-NRCS-ENTSC
Roach, Ryan	President/CEO	Bureau
Rose, Margie	Interim City Manager	City of Mineral Wells
Rose, Mark	Local business owner	MXROS INC
Sanford, Jeff	President	Stephenville Economic Development Authority
Scott, Mike	President & CEO	Granbury Chamber of Commerce
Smith, Roger	President/CEO	Genesys Aerosystems, Inc.
Strong, Robert	Ex VP	Mutual of Omaha Bank
Thomas, Peter	Special Consultant	CoalTec Energy USA
Walsh, Peter	CEO	Velocity Intelligence Group
Warren, Rhett	Chairman	Mineral Wells Chamber Board
Weaver, Sam	President	Proton Power, Inc.
Weldon, Kenny	Immediate Past Mayor	Stephenville
Westbrook, Jason	Extension Agent,	Texas Agrilife Extension Service, Palo Pinto County
York, Nick	Legal Counsel	BargerTech

Corporate Donors and Affiliates

Donors

- Magic Dirt
- DVO



Affiliates

- Agri-Tech Producers, LLC (ATP)



- ProtonPower



- Coaltec Energy USA, Inc
- Barger Tech



This initiative is partially funded by a grant from USDA Rural Development

Next Steps

- 1. Identify & analyze business opportunities**
- 2. Identify, train, and provide technical assistance to regional economic development authorities**
- 3. Assist in the creation/recruitment of new rural business**
- 4. Conduct local community or multi-county economic development planning**
- 5. Establish centers for training, technology & trade**

Identify & Analyze Business Opportunities

Task-1: Generate a resource assessment report and heat maps to identify and quantify regional available feedstocks and to support business attraction and preliminary information for project feasibilities.

Timeline - May 2019/July 2019

Identify, train, and provide technical assistance to regional Economic Development Authorities

Task-2: Begin the engagement process with related feedstock stakeholder to initiate feedstock supply agreement planning and documentation to attract business development; if there are complementary advantages for co-location, make assessments on site locations and availability; Provide technical assistance on determining optimal incorporation to existing business, ongoing activities and associated programs.

Timeline -May 2019/April 2020

Assist in the creation/recruitment of new rural businesses

Task-3: Assess infrastructure and logistics for collecting and processing dairy wastes. This process will involve determining whether piping systems are available, manure pits, lagoons, and how the dairy material will be collected and transported. Road infrastructure and availability of vehicles and trained workforce also will need to be assessed.

Timeline -May 2019/April 2020

Conduct local community or multi-county Economic Development Planning

Task-4: Engage with six identified industry segments of stakeholders through a series of community stakeholder meetings, industry segment specific forum, and ongoing steering committee meetings; Provide education and training on the technology, processing, and material quality including beneficial use for market creation and utilization in the immediate area as well as for export from the region.

Timeline -May 2019/April 2020

Establish centers for training, technology & trade

Task-5: Work directly with partnering businesses, technology companies, and biodigesters/biochar manufacturers to provide technical assistance, connecting to regional markets, supplementing with information to determine project feasibility, supporting workforce needs, and other business planning aspects.

Timeline - May 2019/June 2020

Discussion