Preliminary Report on Bioeconomy
Regional Forum Series

Wes Jurey
Chairman, and Organizing Member

Rick Brenner, Ph.D.,
Director, ATIP Foundation

ATIP Foundation, 712 West Abram Street, Arlington, TX 76013
www.ATIPFoundation.com
Bioeconomy Regional Forum Series

- **Purpose**: Engage stakeholders on how to build and grow the “Billion Ton Bioeconomy”

- **Goal**: In partnership with U.S. Department of Agriculture and Department of Energy, bring together a mix of stakeholders from six industry sectors to seek their input, relative to the initiative’s vision, strategies, and implementation.
Bioeconomy Regional Forum Series

- Co-host 5 regional forums, each with 40-60 attendees representing 6 sectors:
  - (1) industry;
  - (2) state and local government;
  - (3) economic and workforce development;
  - (4) investment & finance;
  - (5) academia; and
  - (6) agricultural and environmental organizations.

- Regional co-host developed invitation list with some input from BR&D Operations Committee (steering committee for series)
  - Garner input on vision, strategy, and implementation of multi-year initiative
  - Compile regional reports, and comprehensive report of key issues, common themes, and regional uniqueness.
ATIP Foundation 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

NEW HOLLAND AGRICULTURE

POET

DSM Advanced Biofuels
Common Themes Across All Regions

- Finance (Treasury)
- Education & Awareness
- Policy
- Supply Chain
- Workforce (Dept. of Labor, Dept. of Education)
- Federal Resources
Common Themes Across All Regions

- **Finance (Treasury)**
  - Public Funding
    - Incentivize public private partnerships
    - Focus on scalability
    - Consider allocations among bio, fossil, nuclear
  - Access to Capital
    - Govt guarantee loans – Challenges
    - Private sector capital – Risk challenge
Common Themes Across All Regions

- Education & Awareness
  - Articulation
  - Definitions of bioeconomy & sustainability
  - Public awareness
  - Value Proposition
  - Case for support
Common Themes Across All Regions

- **Policy**
  - Create a level playing field
    - Incentives – stability
    - Tax credits – competitive / comparative
    - Loan Guarantees – access / cost / awareness
    - Reduce risk --- purchasing agreements
    - Reduce costs – technology know how
  - **Regulatory**
    - EPA
Common Themes Across All Regions

- Supply Chain
  - Logistics
    - Slowest node
  - Integration
    - Plan for various feedstocks
  - Research
Common Themes Across All Regions

- Workforce (Dept. of Labor, Dept. of Education)
  - Skills Development
    - lack of technical training related to bioeconomy
    - Needs to start in 8th grade
    - Build talent pipeline
  - Rural Development
    - Lack of available employees
    - Lack of training options / opportunities
Common Themes Across All Regions

- **Federal Resources**
  - Lack of awareness / knowledge
    - Patent License Agreements (PLA)
    - Cooperative Research and Development Agreements (CRADA)
    - Research focus needs to address industry problems
  - Regional collaboration
    - Among agencies
    - Align with economic regions
    - Support for co-ops (e.g., biomass accumulators)
Common Themes Across All Regions

- **General Comments**
  - Waste – more focus on how to utilize
  - Balance
    - Fuel vs. bioproducts
    - Waste utilization vs. purposely grown
  - Annual Regional Conferences
  - Regional Projects
Table 1. Demographics (by sector) of invitees and participants, convened by co-host Georgia Tech, in SE Regional Bioeconomy Forum, Atlanta, GA, September 16, 2016.

<table>
<thead>
<tr>
<th>Sector Name</th>
<th>Invited</th>
<th>No. Participants</th>
<th>% RSVP to Attend</th>
<th>% of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>60</td>
<td>7</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>State and local government</td>
<td>12</td>
<td>4</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>Economic and workforce development</td>
<td>18</td>
<td>3</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Investment &amp; finance</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Academia</td>
<td>26</td>
<td>15</td>
<td>58</td>
<td>47</td>
</tr>
<tr>
<td>Agricultural and environmental organizations</td>
<td>7</td>
<td>3</td>
<td>43</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>124</td>
<td>32</td>
<td>26</td>
<td>100</td>
</tr>
</tbody>
</table>
SE Regional Forum (Atlanta)

Challenges: Attendee Inclusion Among Top 3 Priorities (%)

- The need for a strong and capable workforce.
- Growth instability and increased investment risk caused by policy uncertainty.
- Uncertainties about sustainability—understanding environmental, social, and economic outcomes.
- Access to capital for large financial investments.
- A lack of necessary infrastructure.
- Steep competition from traditional petroleum-derived resources.
- Major technical hurdles for development and scale.

SE U.S. Bioeconomy Forum, Atlanta, GA; Sept. 16, 2016
SE Regional Forum (Atlanta)

Opportunities: Attendee Inclusion Among Top 3 Priorities

- Ensure a ready workforce to meet the needs of the bioeconomy
- Support stable, long-term policies.
- Encourage private-sector financing
- Expand the market potential for biomass.
- Enable the testing and approval of new biofuels and bioproducts.
- Develop bioproducts that can accelerate biofuel production.
- Create increased public demand for biomass-derived products in a bioeconomy.
- Quantify, communicate, and enhance beneficial effects and minimize negative impacts.
- Seek opportunities to utilize low-cost waste resources.
- Develop feedstock and fundamental innovations that reduce cost and technology risk in the supply chain.

SE U.S. Bioeconomy Forum, Atlanta, GA; Sept. 16, 2016
Successful pulp and paper industry as springboard for growth of the bioeconomy

- good expertise, infrastructure, supply chains, workforce, and successful operating markets

Wood pellet industry

- strong but could broaden current export focus with modified products for domestic market

Past regional biofuel failures

- fostered caution
- healthy skepticism can create a strong, successful program.

Sample of specific regional strengths / issues identified

SE Regional Forum (Atlanta)
Sample of specific regional strengths / issues identified

- Extensive coastline with excellent ports
- Good rail, and air transport infrastructure supports supply chain for domestic and international markets
- Expansion of wood pellet industry could serve as example for other products to expand domestic / export markets
- *Discussion called for a sustained policy, technology or economic impetus sufficient to support bioeconomy initiatives.*
SE Regional Forum (Atlanta)

Sample of specific regional strengths / issues identified

- Challenges in the southeast
  - current forest ownership and management patterns,
  - workforce availability and training
  - competing industries
  - state and local policies
  - General consensus: issues could be sorted out if there were sufficient impetus for bioeconomy initiatives

- Recommend meeting annually
  - Sign of positive engagement and commitment to the bioeconomy
WesJurey@gmail.com
817.228.9888
RBrenner@atipfoundation.com
410.980.1943

www.atipfoundation.com