House Study Committee on Bioeconomic Development

House Resolution 662

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Bio energy and industrial production sector

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Madam Chair, thank you for the opportunity to testify today on the significant opportunities available to the State of Georgia through the development of a sustainable Bio fuels industry.

I represent the Herty Advanced Materials Development Center, a Georgia Authority formed in 1938 to act as the catalyst for the growth and development of the States' Forestry Industry. Herty is headquartered in Savannah and is a unique and valuable part of the States economic development teams. Herty provides materials based manufacturing industry with access to cost effective and world-renowned materials testing and production scale up equipment and expertise. Operating as a for fee facility, industry is able to prove technology at semi commercial scale. This allows industry to reduce the risk of capital decisions and increases their speed to market. A critical player in the past commercialization of the States Forestry Industry, the Herty model of industrial recruitment and production scale up is a proven success formula and a unique strategic asset of the State of Georgia.

Georgia can and should position itself as a global leader in commercializing cellulose fuels. We have the basic forest resource the logistics the technical skills and industrial scale up expertise to rapidly build a new $5 Billion industry in Georgia over the next 10 year that will be locally grown, locally converted and locally consumed. It will provide significant economic benefit to rural Georgia, significant environmental benefit to urban Georgia and strategic energy self-sufficiency to all Georgia. Focused investments to strengthen and expand our States' capabilities will be required to maximize the economic benefit available.

My comments today will focus on the cellulose based fuels and the resources and capabilities required for industry to make rapid decisions to build new manufacturing plants in Georgia and operate them at peak production capacity.

Cellulose based biofuel include the use of forestry and agricultural materials to produce a range of value added energy products for local consumption and export including:

- Solid shredded and chip material for combustion to generate stream, heat and electricity
- Pelletized material for use in power generation
- Liquid fuels such as ethanol and butanol and bio-oils for gasoline and petroleum oil replacement
- Other value added primary and byproduct materials

Herty has key strengths and is globally recognized for its expertise in cellulose processing. Herty has identified four key deliverables within 10 years for the States' cellulose based fuels industries:

- **Returning the states Forestry Industries to robust growth and building it back to $30 Billion State economic impact**
- **60,000 new jobs created**
- **20% of the States gasoline consumption replaced by locally produced cellulose based fuels**
- **30 new fuel production facilities in rural Georgia**

While Georgia has been blessed with abundant biomass including our 24 Million[i] acres of forest resource, we are not alone in this natural bounty. Many states have abundant biomass. Not only should our objective be to develop this economic and strategic resource but also our investments should position Georgia to receive maximum Economic Impact for every dollar invested and not simply be a resource to be used to the benefit of our neighbors. Georgia needs to be "top of mind" for industrial investment in biofuels and the first place industry thinks of when planning new growth and expansions.

The cellulose biofuels industry is a new industry. It will require the combination of new and existing technologies with new and existing business processes. There will be investment risks as this develops. Herty Advanced Materials Development Center through its expertise in cellulose processing can help the biofuels industry reduce these risks, through access to cost effective materials testing and scale up expertise, just as it helped catalyze the development of the Georgia Forestry industry that at its peak that had a $30.5 billion[ii] positive economic impact on the state.

To maximize the potential economic return, Georgia needs to ensure that industry sees Georgia as a low risk location that provides fast implementation and predictable returns in a new and risky market. Industry needs to know that in Georgia they can access and test the best technology available world wide to make their facilities the most efficient and cost effective in a competitive world market. Georgia will need to create an environment where industry has:

- Access to cost effective and reliable feedstock
- Continuous technology innovation that is proven at industrial scale
- Access to end customers through robust distribution channels.

***Our Forestry Industry again can be a fast growing and dynamic contributor to the States' growth* - Herty has successfully assisted in catalyzing the growth of the Forest industry in Georgia through the development of the Pulp and Paper Industry. Herty can again help to catalyze the use of the Forest resource to help position Georgia as a world leader in renewable cellulose based fuels.**

- Georgia's Forests are a key state strategic resource, that largest such resource in the Nation.
- In 2001 the Forest Industry hit its high point with 204,000 jobs and $30.5 Billion of Economic Impact[iii].
- The decline of the States' Forestry Industry has seen a loss of 68,000 jobs and $10 Billion of Economic Impact[iv] – hard felt in rural Georgia.
- Renewable forest based fuels can return the Forest industry to over $30 Billion of impact.

Herty has made estimates of the positive economic benefit that the biofuels industry can make to the State of Georgia. A fully commercialized biofuels industry could return in excess of $4 Billion a year of economic benefit to the state.

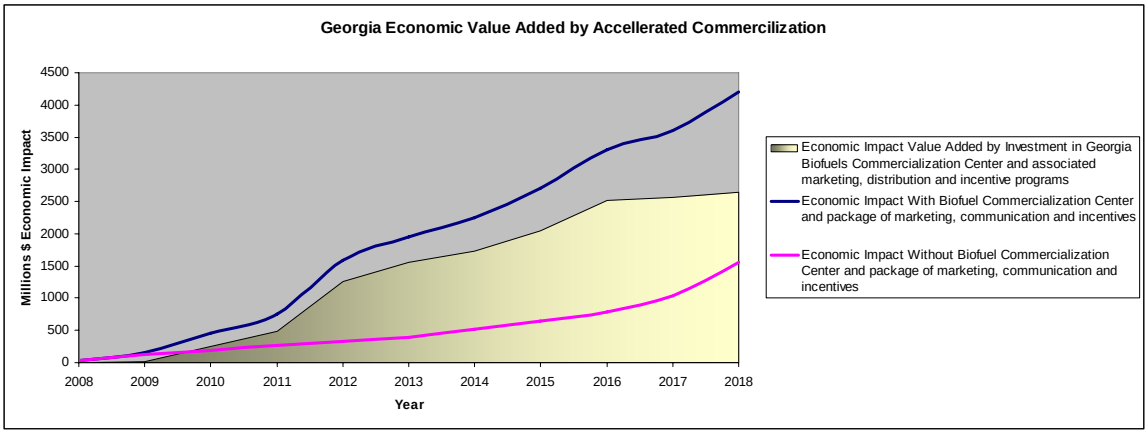

Figure 1 - Estimate of Economic Impact of Biofuels Commercialization, Herty 2007

***The cellulose fuel industry can develop very quickly in Georgia* - Ethanol from corn quickly grew over 10 year to a $20 Billion industry in the mid west creating 136,000 jobs[v], we can see fast growth and benefits in Georgia.**

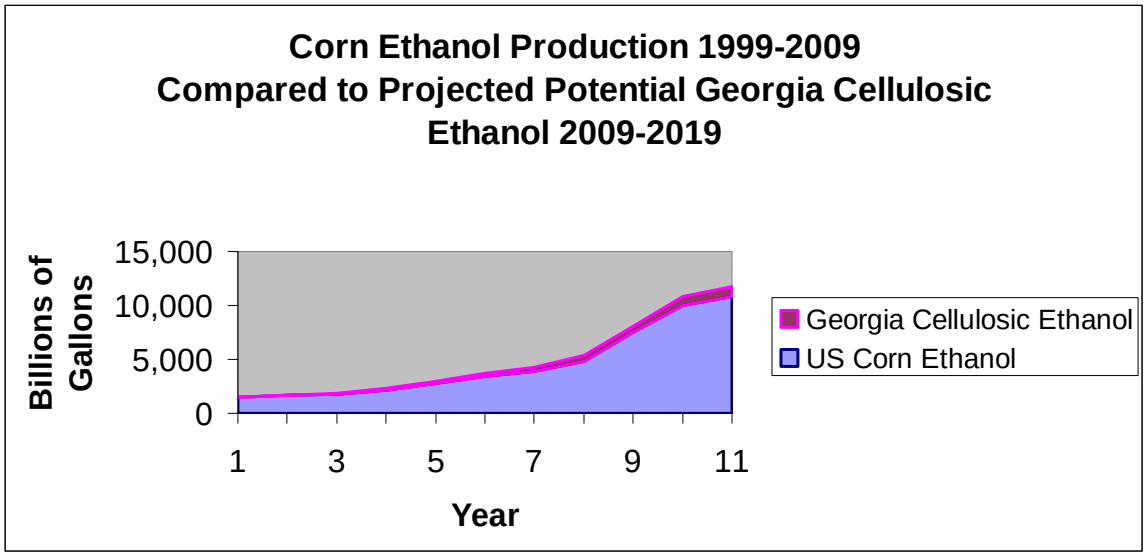

Figure 2 - 10 year US Corn Ethanol Growth and Potential Georgia Cellulose Ethanol Growth

Ethanol from corn has added over 6 Billion gallons [vi]of national fuel self-sufficiency. Ethanol from cellulose has three times the net energy value per gallon than ethanol from corn[vii] while utilize existing waste and surplus forest resources. A cellulose based fuel industry will grow in Georgia. We have the opportunity to ensure we maximize the impact of that growth for the long-term economic and environmental benefit of the people of Georgia.

Recommendations

1. **Support the implementation by the Georgia Environmental Facilities Authority of the renewable fuels recommendations of the State Energy Strategy.**
2. **Continue to invest in the states academic institutions as they develop new innovative and cost effective technologies for biofuels production.**
3. **The development of the "Georgia Biofuels Commercialization Center" a unique strategic State asset. This facility will provide a hub of innovation and new industrial growth. It will follow the proven Herty model of technology scale up and commercialization demonstrated for 70 years in the Georgia Forest industry by expansion of this capability to include biofuels. The existing Forestry industry and new cellulose fuel companies have expressed the need and willingness to pay for the use of a scale up and testing facility. Herty can reduce their risk and increase their speed to market as they build new factories and processes to produce ethanol and other valuable products from forest resources. The "Georgia Biofuels Commercialization Center" will draw in global best practices and technologies making Georgia the place to come to build and world class, competitive and profitable biofuels production facilities.**

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[i] State of the Forest: A Report on Georgia Forests 2007. Georgia Forestry Association

[ii] Economic Benefits of the Forestry Industry in Georgia 2003. Economic Development Institute,

[iii] Economic Benefits of the Forestry Industry in Georgia 2003. Economic Development Institute, Georgia Institute of Technology October 2004 Riall, BW

[iv] Economic Benefits of the Forestry Industry in Georgia 2003. Economic Development Institute, Georgia Institute of Technology October 2004 Riall, BW

[v] Contribution of the Ethanol Industry to the Economy of the United States – Prepared for the Renewable Fuels Association LECG LLC February 19 2007

[vi] Renewable Fuels Association www.ethanolrfa.org/industry/statistics

[vii] Outlook for Biomass Ethanol Production and Demand – Department of Energy, Energy Information Administration www.eia.doe.gov/oiaf/analysispaper/biomass