



**Jill Stuckey, Director**  
**404-584-1041**

## **Center of Innovation - Energy**

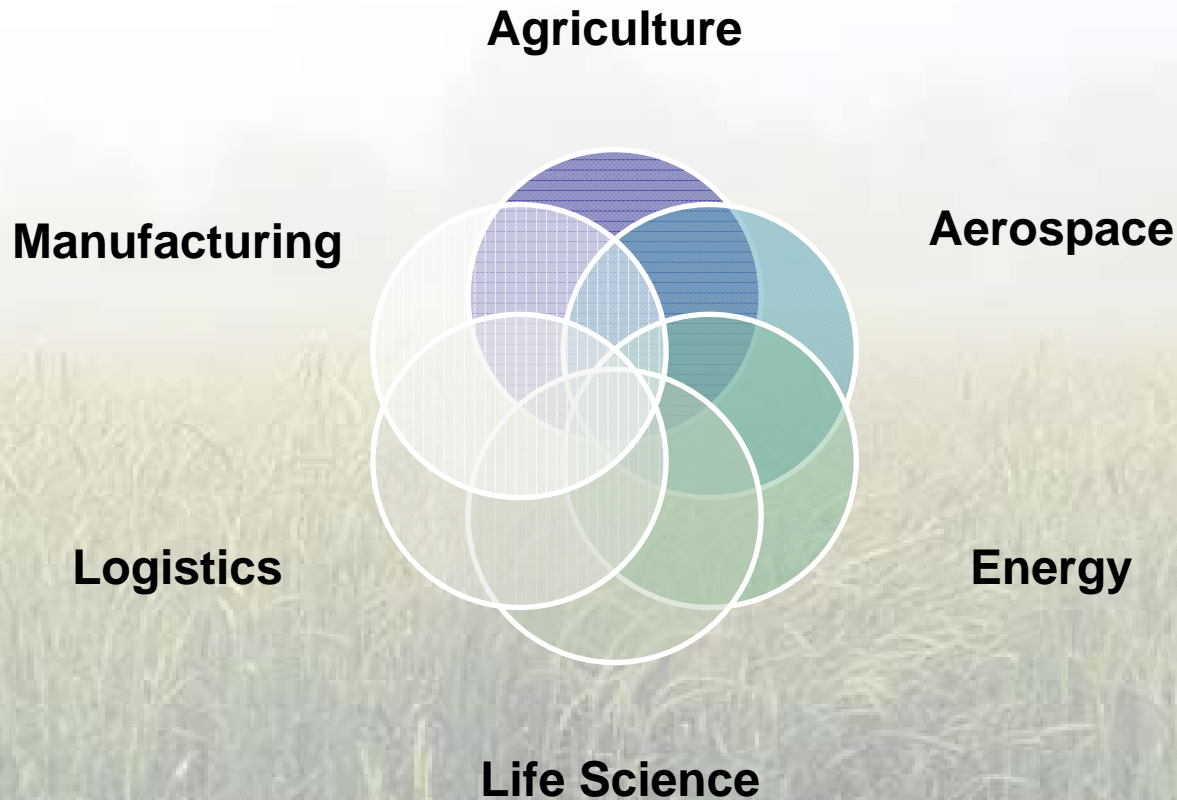


# What is a Center of Innovation?



**The Georgia Centers of Innovation  
are the critical link between  
strategic industries, research  
universities, financial resources,  
and the regulatory community.**

# Georgia Centers of Innovation



# Our Mission



***“To increase production and use  
of renewable energy and  
alternative fuels in Georgia”***

# The Governor's Directive

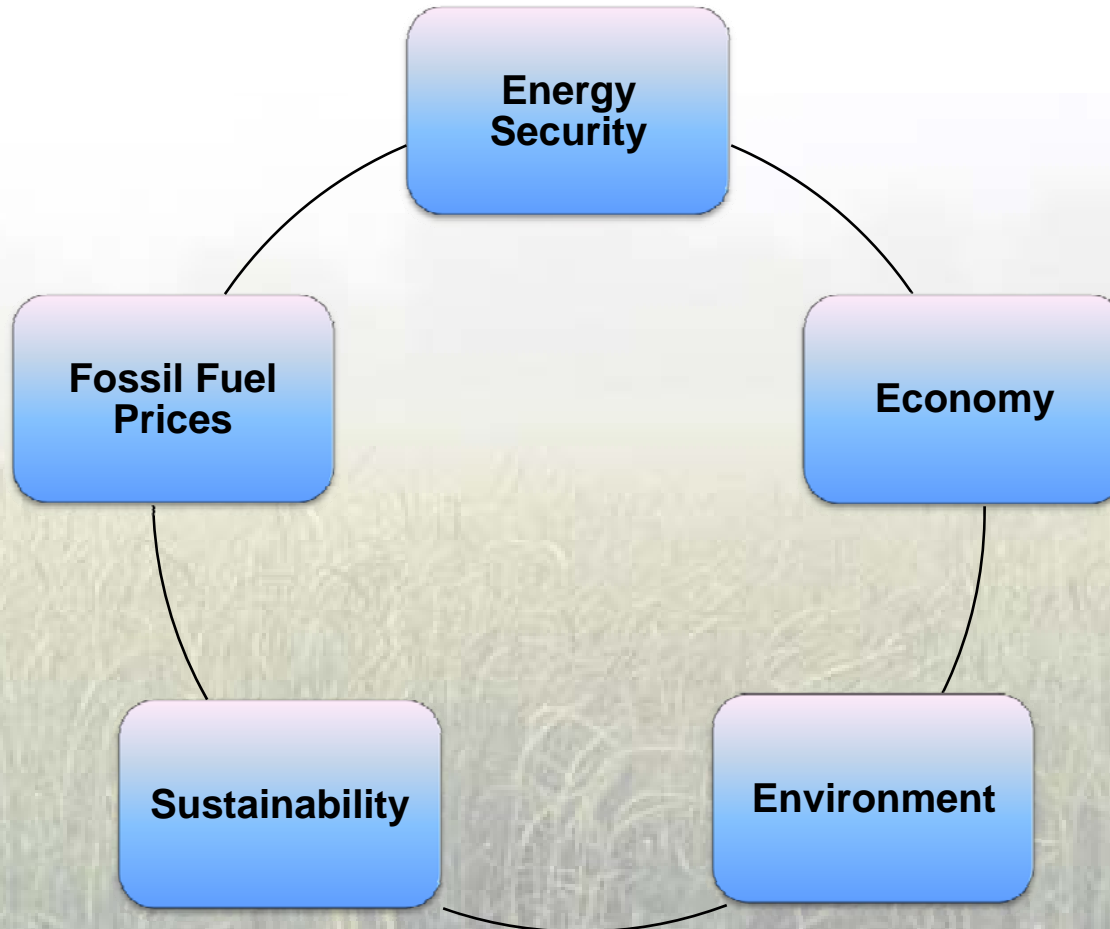


- ***Grow the Feedstock in Georgia***
- ***Produce the Fuel in Georgia***
- ***Use the Fuel in Georgia***

# Drivers



Georgia<sup>®</sup>  
Centers of Innovation  
Energy





# One Stop Shop



- **Pre-screened**
- **Invitation only**
- **Contact Info**
- **Permitting Checklist**
- **One Hour**
  - -- Present
  - -- Q & A
  - -- Roundtable

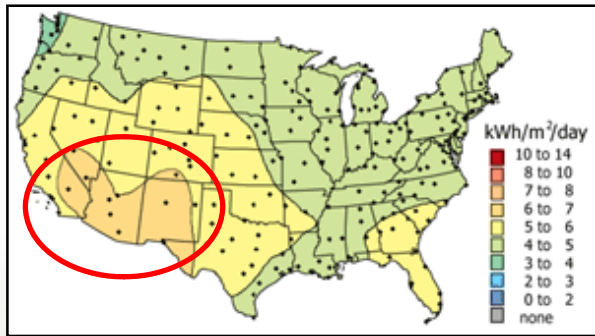
# One Stop Shop



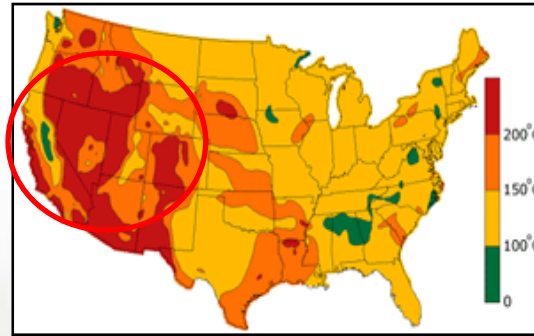
- **Energy Innovation**
- **Agriculture Innovation**
- **Governor's Office**
- **Lieutenant Governor's Office**
- **GA Environmental Facilities Authority (GEFA)**
- **GA Department of Agriculture**
- **GA Department of Natural Resources**
- **GA Department of Revenue**
- **U.S. Environmental Protection Agency**
- **GA Department of Community Affairs**
- **GA Department of Economic Development**
- **Division**
- **GA EPD Small Business Environmental Assistance Program**
- **GA EPD Air Protection Branch**
- **GA Forestry**
- **Herty Advanced Materials Development Center**
- **State Fire Marshall**
- **United States Department of Agriculture**
- **University of Georgia**
- **Georgia Tech**
- **Georgia Railroad Association**
- **UGA Small Business Development Center**



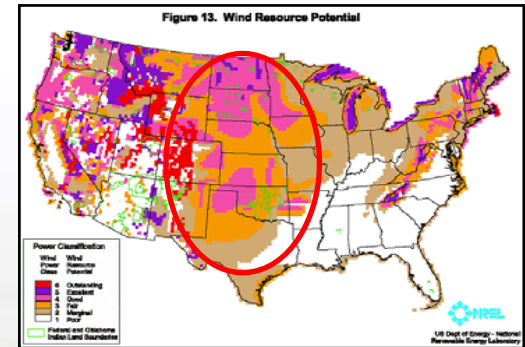
# Regional Strength



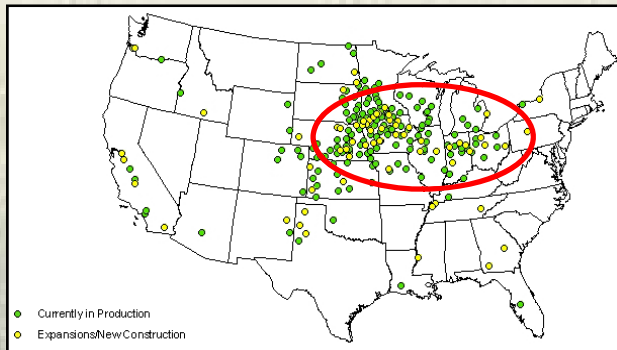
Solar



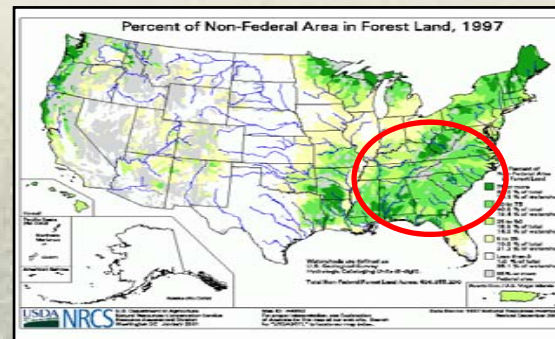
Geothermal



Wind



Biofuel / Corn Ethanol



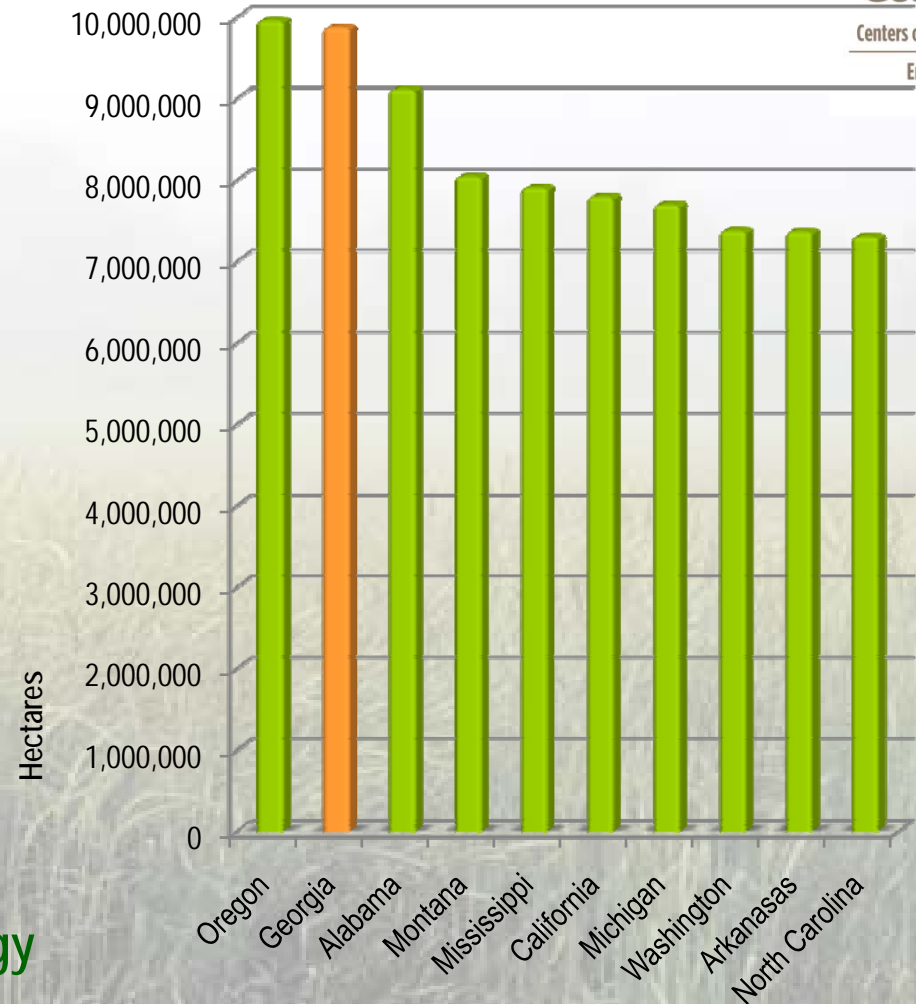
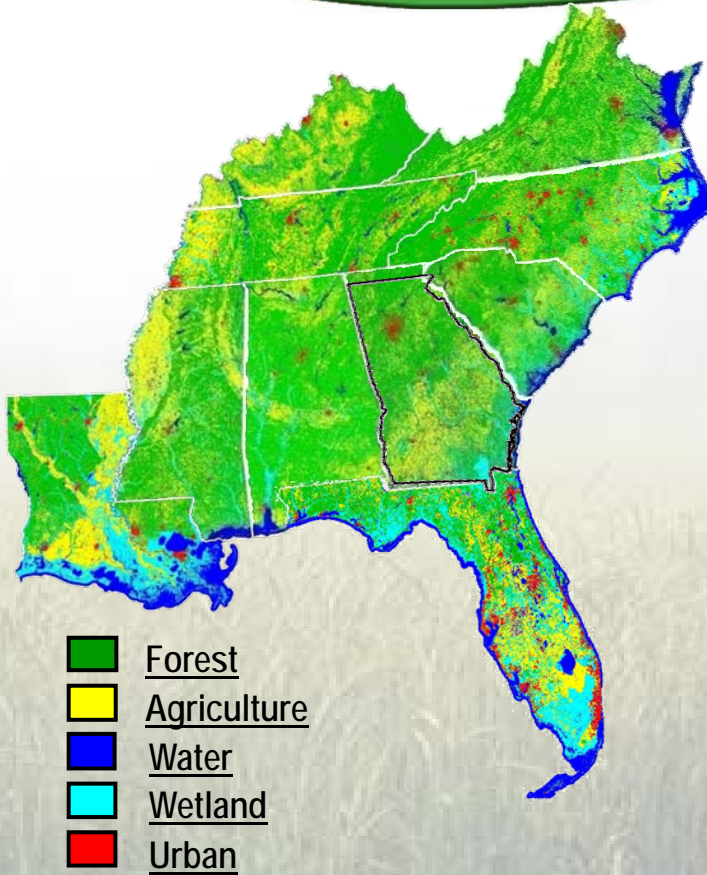
Biomass

Not one market – but several each focused on a primary renewable energy source for region

# Forests Dominate Georgia's Land Use



Georgia®  
Centers of Innovation  
Energy



Georgia Forestry = Biomass Energy

# Biomass to Electric



- **Twelve biomass to electricity projects have been announced in Georgia**
- **Total of 689 megawatts of renewable energy**
- **\$1.8 billion investment**
- **570 direct jobs / 1700 indirect jobs**

# Alternative Fuels



- **Fifteen alternative fuel companies launched**
- **372 million gallons of production capacity**
- **215 direct jobs / 645 indirect jobs**



# Laboratory Research Emphasis



- **Biochemical** - Enzymatic & Microbial,  
Fermentation



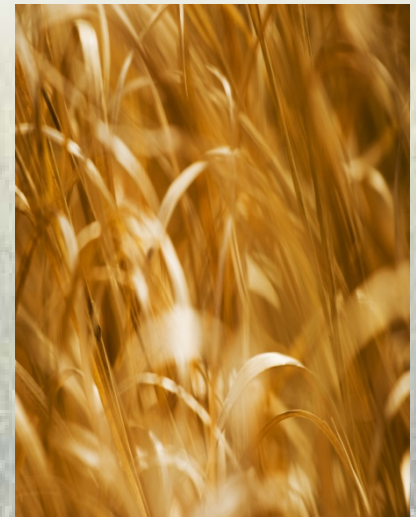
- **Thermochemical** – Acid hydrolysis, Gassification,  
Pyrolysis, Torrefaction
- **Gas to Liquids**



# Field Research Emphasis



- Genetics / Genomics
- Energy Crops
  - Short Rotation – Grasses/Woody
  - Trees
  - Modified Food Crops
  - Algae
  - Oil Crops





# Considerations



- Greenhouse Gases (GHG)
- Environmental Constraints – Air & Water
- Permitting Issues
- Competing Land Use
- Diversion of Food Crops

# American Recovery & Reinvestment Act



- \$400 M to add electric technologies to vehicles
- \$300 M to support Alternative Fueled Vehicles Pilot Grant Program
- \$ 300 M Federal acquisition of greener vehicles
- <http://www.recovery.gov/>
- Alternative Fuels and Advanced Vehicles Data Center <http://www.afdc.energy.gov/afdc/>

# State of the Bioenergy Industry



## Ethanol

Company	Location / County	Feedstock	Production Capacity (gallons/year)	Status
First United Ethanol	Camilla / Mitchell	Corn	110 Million	Operational
US Ethanol	Cordele / Crisp	Waste Liquid	4 Million	Operational
Windgap Farms	Baconton / Mitchell	Yeast	.05 Million	Operational

## Pellets

Company	Location / County	Feedstock	Production Capacity (tons/year)	Status
Fram Fuels	Baxley / Appling	Dirty & Clean Chips	145,000 Tons	Operational
Woodlands Alternative Fuels	Meigs / Thomas	Sawmill residue	150,000 Tons	June, 2009

## Electricity

Company	Location / County	Feedstock	Production Capacity (per year)	Projected In Service Date
Rollcast	Heard County	Dirty Chips	50 Megawatts	2010
BG & E	Cumming / Forsythe	Dirty Chips	30 Megawatts	2009
Decker Energy	Fitzgerald / Ben Hill	Dirty Chips	50 Megawatts	2012
Georgia Power	Albany / Dougherty	Dirty Chips	96 Megawatts	2010
Oglethorpe Power	Pending 2 or 3 sites	Dirty Chips	(3) 100 Megawatts	2014
Rollcast	Lagrange / Lamar	Dirty Chips	(2) 50 Megawatts	2010; 2012
Summit Energy	Ft. Gaines / Clay	Dirty Chips	100 Megawatts	2010
Tyson	Cartersville / Bartow	Waste (Chicken)	5 Megawatts	2008

\*Dirty Chips = whole tree with bark &/or leaves; manufacturing residue. \*Clean Chips = wood only

# State of the Bioenergy Industry



## Biodiesel

Company	Location / County	Feedstock	Production Capacity (gallons/year)
Alterra Biofuels	Gordon /Williamson & Plains/Sumter	Soy Oil	15 Million
Bulldog Biodiesel	Ellenwood / Clayton	All	25 Million
Farmers & Fleet	Augusta / Richmond	All	5 Million
Georgia Mountain Biofuels	Toccoa / Stephens	All	2 Million
Inland Oil	Bainbridge / Decatur	Soy Oil	10 Million
Middle GA Biofuels	Dublin / Laurens	Waste Grease	1 Million
Soy Met	Rome / Floyd	Soy Oil	4 Million
Sunshine Biofuels	Camilla / Mitchell	Soy Oil	6 Million
U.S. Biofuels	Rome / Floyd	Chicken Fat	14 Million

## Under Construction

Company	Location / County	Feedstock	Production Capacity (gallons/year)	Status
East Coast Ethanol	Mt. Pleasant / Banks	Corn	110 million	November, 2009
Georgia Alternative Energy	Ashburn / Turner	Corn	55 million	January, 2010
Range Fuels	Soperton /Treutlen	Dirty Chips	10 million	November, 2009

# Who to Call



**If you have invented a:**

- **Car that runs on water**
- **Gravity powered generator**

**Call Ken Stewart 404-555-1212  
(Personal cell number)**

# Who to Call



**To Complain about the High Price of Gasoline call:**

**Call Chris Clark at 404-867-5309  
(Personal cell number)**



# For More Information Contact:



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Or visit **<http://energy.georgiainnovation.org>**