

# Clean Energy Development and Policy in the Southeast

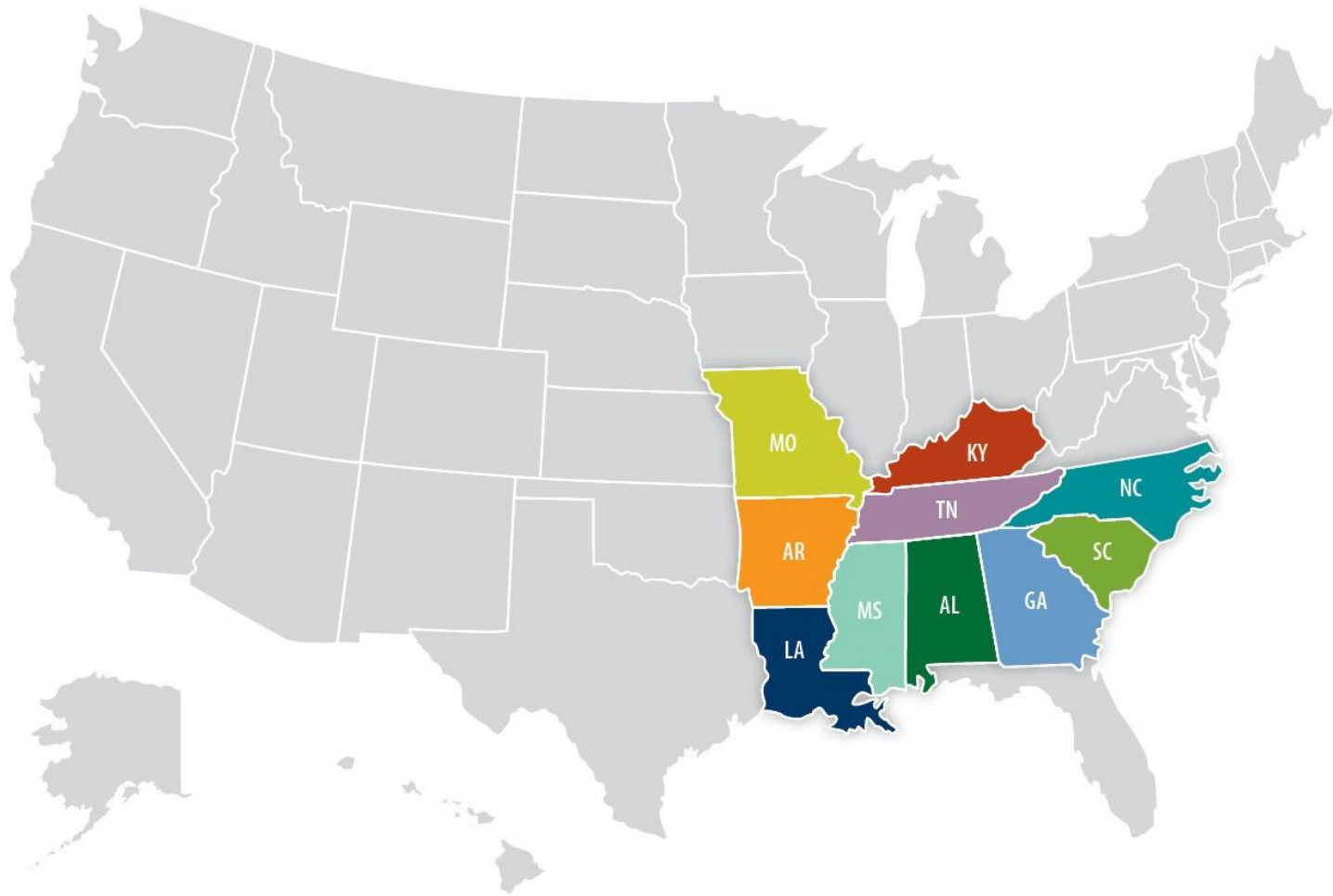


**Joyce McLaren**

**Renewable Energy Markets  
Conference 2010**

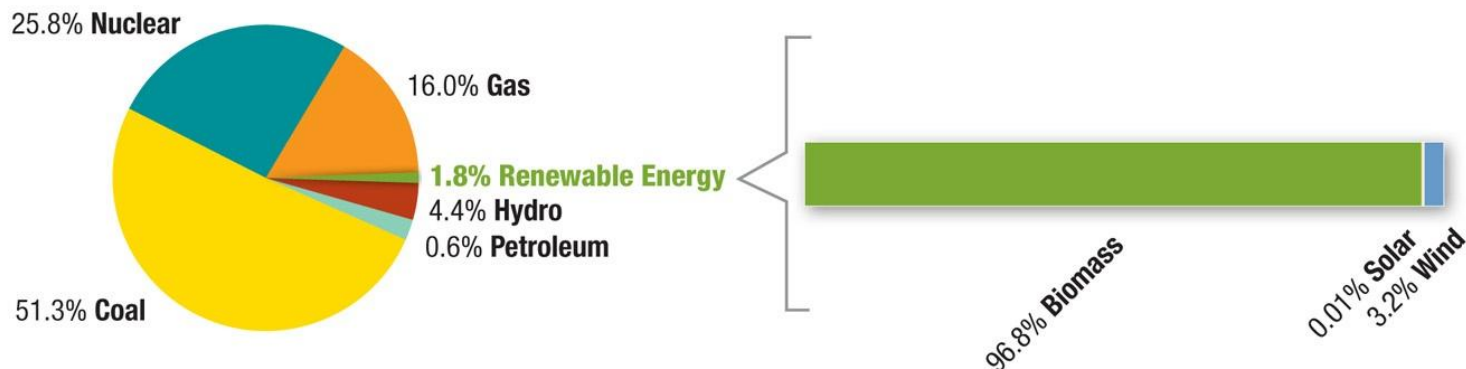
**October 20, 2010**

# Modified-SERC Region

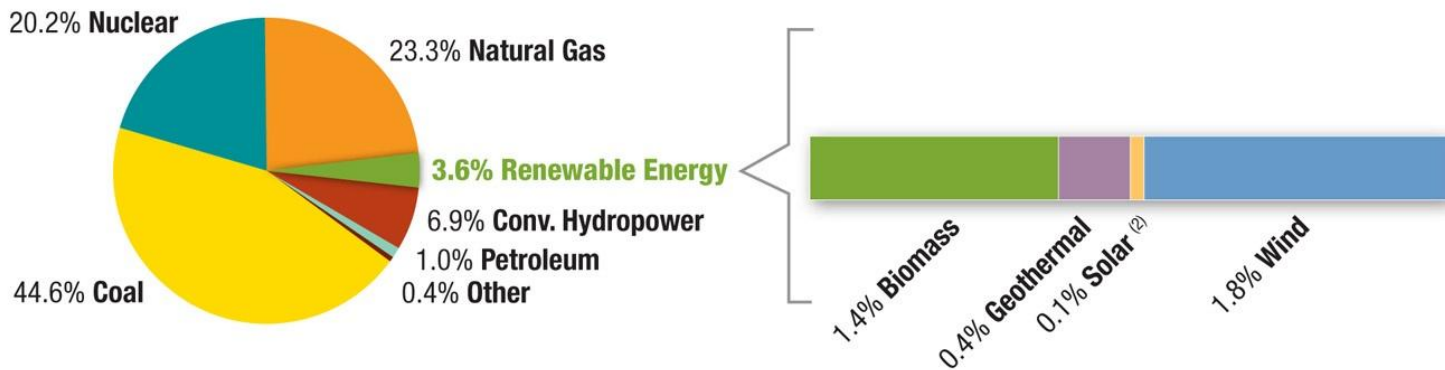


# Southeast fuel mix compared to overall US fuel mix

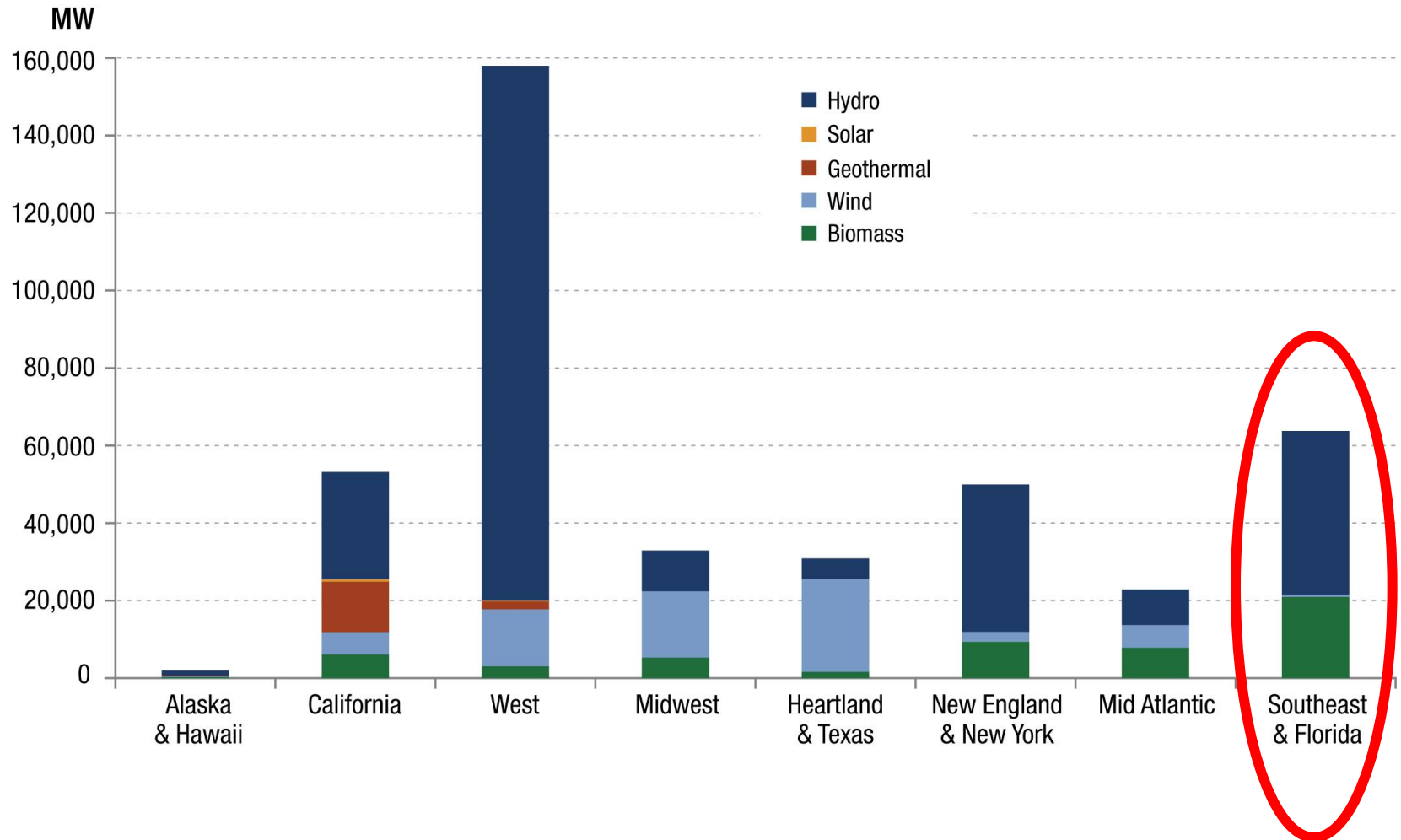
## Electricity Generation Mix in the Southeast (2009)



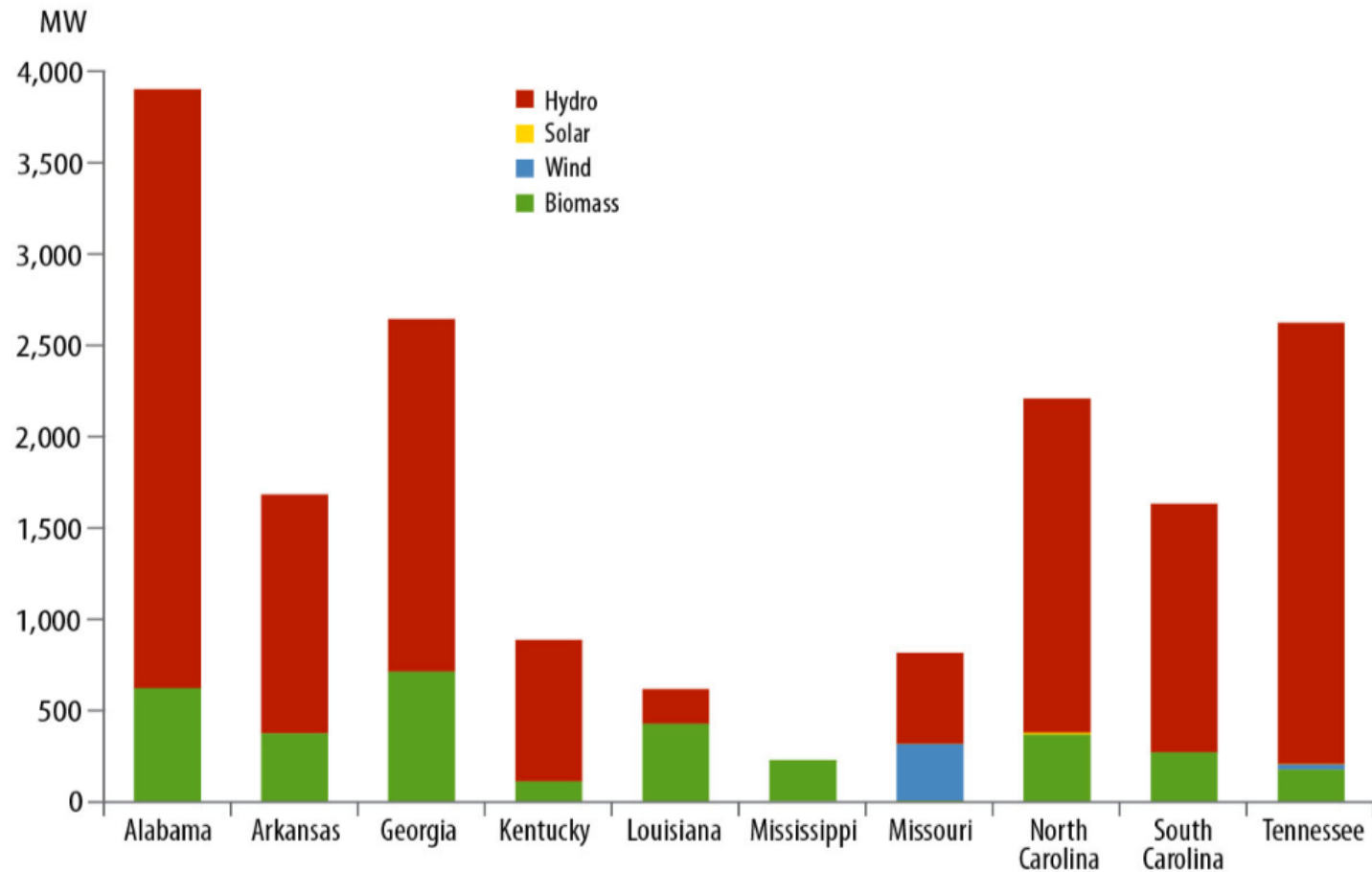
## Electricity Generation Mix in the U.S. (2009)



# Renewable Energy Capacity in the Regions (2009)



# Southeast RE Capacity by State 2009





# Renewable Energy Policies

## State-level Renewable Energy Policies and Incentives

	Access Laws	Bonds	Construction & Design	Contractor Licensing	Corporate Tax Incentives	Equipment Certification	Generation Disclosure	Grants	Industry Support	Interconnection	Line Extension Analysis	Loans	Net Metering	Personal Tax Incentives	Production Incentives	Property Tax Incentives	Public Benefit Funds	Rebates	Required Green Power	Renewable Portfolio Standard	Sales Tax Incentives
Alabama								•				•		•							
Arkansas			•							•			•								
Georgia	•		•		•					•			•	•				•			•
Kentucky	•				•					•		•	•	•							•
Louisiana					•					•		•	•	•		•					
Missouri	•		•		•					•		•	•							•	
Mississippi												•									
North Carolina	•		•		•			•		•		•	•	•		•				•	•
South Carolina			•		•					•		•	•	•	•						•
Tennessee	•							•	•			•				•					

Updated from sources as of October 1, 2010

Note: State incentives only. Does not include utility, local, or non-profit incentives.

Source: DSIRE, <http://www.dsireusa.org/summarytables/index.cfm?ee=1&RE=1>

# Renewable Energy Policies

## State-level Renewable Energy Policies and Incentives

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Alabama								•				•		•								
Arkansas			•							F			C									
Georgia	•		•		•					F			F	•				•				•
Kentucky	•				•					F		•	B	•								•
Louisiana					•					F		•	B	•		•						
Missouri	•		•		•					F		•	B									•
Mississippi										B		•	C									
North Carolina	•		•		•			•		F		•	D	•		•					•	•
South Carolina			•		•					•		•		•	•							•
Tennessee	•							•	•			•				•						

## NEEC's "Freeing the Grid" Scores

Updated from sources as of October 1, 2010

Note: State incentives only. Does not include utility, local, or non-profit incentives.

Source: DSIRE, <http://www.dsireusa.org/summarytables/index.cfm?ee=1&RE=1>

# What could help spur interest in RE in the Southeast?

Clarify two common misconceptions:

1. “We have great coal resources.”
2. “We don’t have a lot of renewable energy resources.”

# Coal use and Imports in the Southeast (2008)

	<b>% of Electricity Produced with Coal</b>	<b>% of Coal Imported</b>	<b>Expenditures on Net Coal Imports</b>
<b>Alabama</b>	51%	79%	\$1.39 billion
<b>Arkansas</b>	47%	100%	46 million
<b>Georgia</b>	63%	100%	\$2.62 billion
<b>Kentucky</b>	94%	38%	(\$5 billion)
<b>Louisiana</b>	26%	75%	\$489 million
<b>Mississippi</b>	35%	70%	\$457 million
<b>Missouri</b>	81%	99%	\$1.13 billion
<b>North Carolina</b>	61%	100%	\$2.35 billion
<b>South Carolina</b>	41%	100%	\$1.1 billion
<b>Tennessee</b>	62%	99%	\$1.21 billion

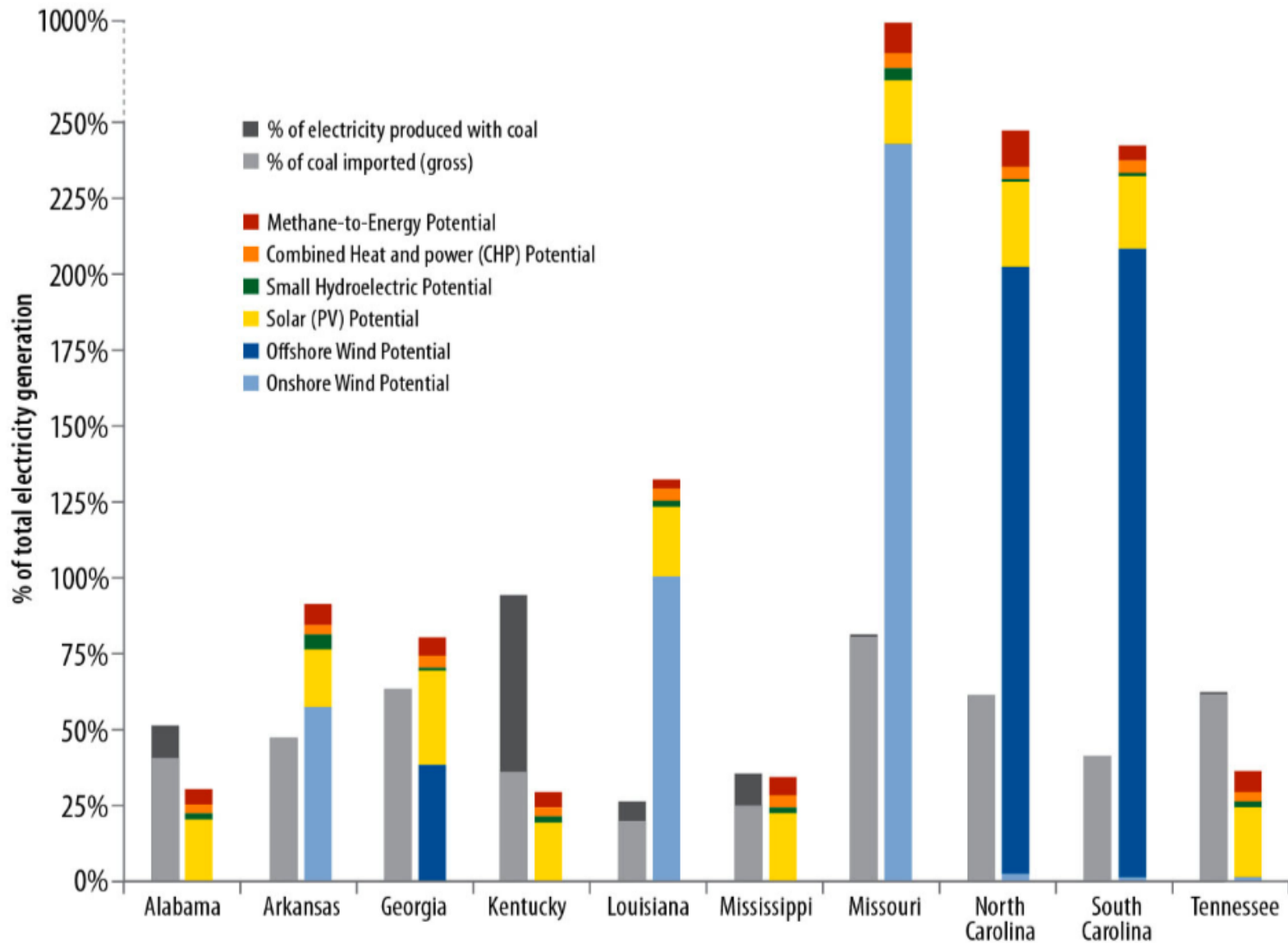
# Coal expenditures compared with Efficiency expenditures

	<b>Expenditures on Net Coal Imports per person</b>	<b>Expenditures on Energy Efficiency programs per person</b>
<b>Alabama</b>	\$297/person	\$0.49/person
<b>Arkansas</b>	\$162/person	\$0.55/person
<b>Georgia</b>	\$270/person	\$0.50/person
<b>Kentucky</b>	(\$1170/person)	\$0.40/person
<b>Louisiana</b>	\$110/person	\$0.00/person
<b>Mississippi</b>	\$155/person	\$0.11/person
<b>Missouri</b>	\$190/person	\$0.22/person
<b>North Carolina</b>	\$254/person	\$0.75/person
<b>South Carolina</b>	\$245/person	\$2/person
<b>Tennessee</b>	\$194/person	\$1.62/person

# % Coal Imports compared to % RE potential

	<b>Net Coal Imports Relative to State's Total Electricity Use</b>	<b>Renewable Energy Potential (excluding solid biomass) Relative to State's Total Electricity Use</b>
<b>Alabama</b>	36%	25%
<b>Arkansas</b>	50%	84%
<b>Georgia</b>	65%	74%
<b>Kentucky</b>	-158%	24%
<b>Louisiana</b>	22%	30%
<b>Mississippi</b>	34%	29%
<b>Missouri</b>	82%	977%
<b>North Carolina</b>	57%	237%
<b>South Carolina</b>	37%	236%
<b>Tennessee</b>	63%	29%

# Coal use compared to RE potential



# RE Potential in the Southeast

State	Onshore Wind Potential	Offshore Wind Potential	Solar (PV) Potential	Small Hydroelectric Potential	Combined Heat and power (CHP) Potential	Methane-to-Energy Potential	Total Renewable Energy Potential (excluding solid biomass potential)	Solid Biomass Potential (Forest, Mill, Urban and Farm Residues only)
Alabama	0%	0%	20%	2%	3%	5%	<b>30%</b>	895%
Arkansas	57%	0%	19%	5%	3%	7%	<b>91%</b>	2343%
Georgia	0%	38%	31%	1%	4%	6%	<b>80%</b>	911%
Kentucky	0%	0%	19%	2%	3%	5%	<b>29%</b>	608%
Louisiana	100%	0%	23%	2%	4%	3%	<b>132%</b>	1168%
Mississippi	0%	0%	22%	2%	4%	6%	<b>34%</b>	1809%
Missouri	950%	0%	21%	4%	5%	10%	<b>990%</b>	1271%
North Carolina	2%	200%	28%	1%	4%	12%	<b>247%</b>	965%
South Carolina	1%	207%	24%	1%	4%	5%	<b>242%</b>	624%
Tennessee	1%	0%	23%	2%	3%	7%	<b>36%</b>	510%

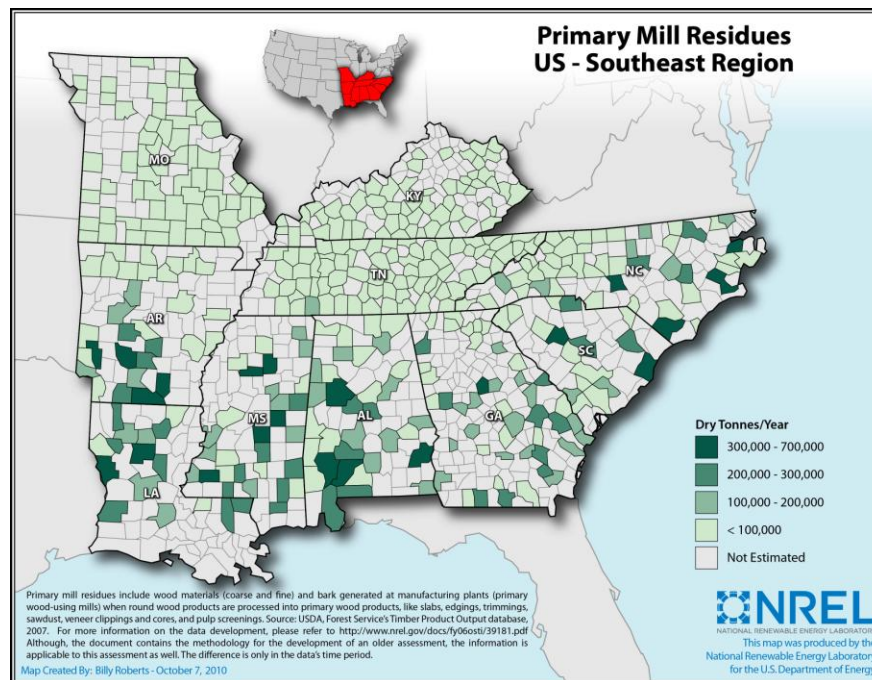
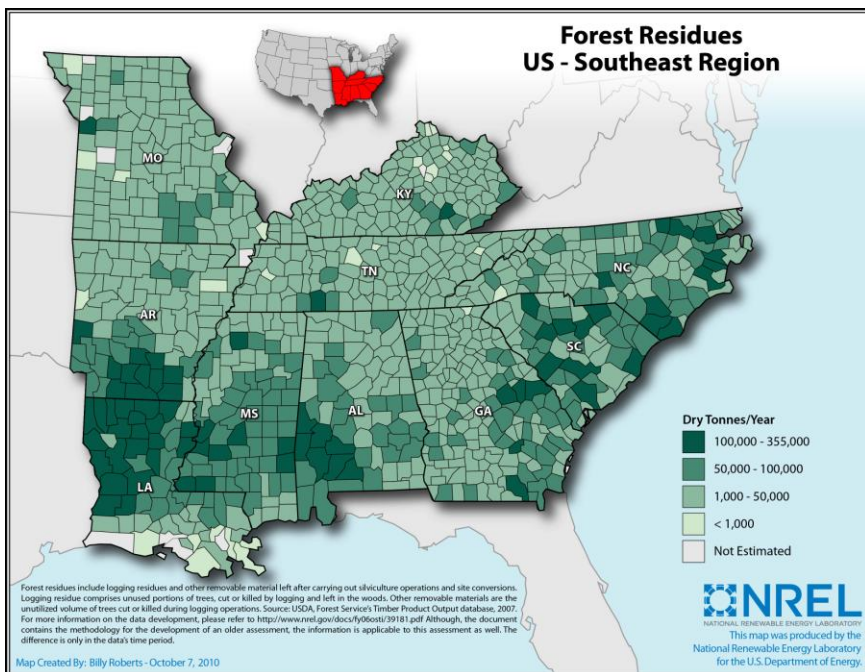
# RE Opportunities for the Southeast

## Opportunity

Encourage co-firing of biomass in existing coal facilities.

## Policy Support

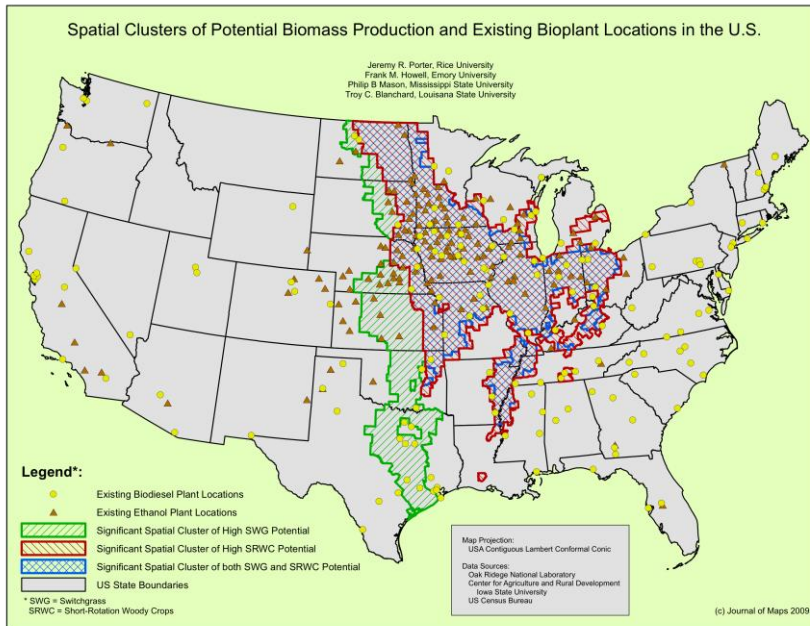
- Tax incentives for co-firing biomass.
- Facilitate supplier/demand connections



# RE Opportunities for the Southeast

## Opportunity

Encourage growth of **dedicated biomass crops** on Conservation Reserve Program lands and in defined “optimal zones”.



## Policy Support

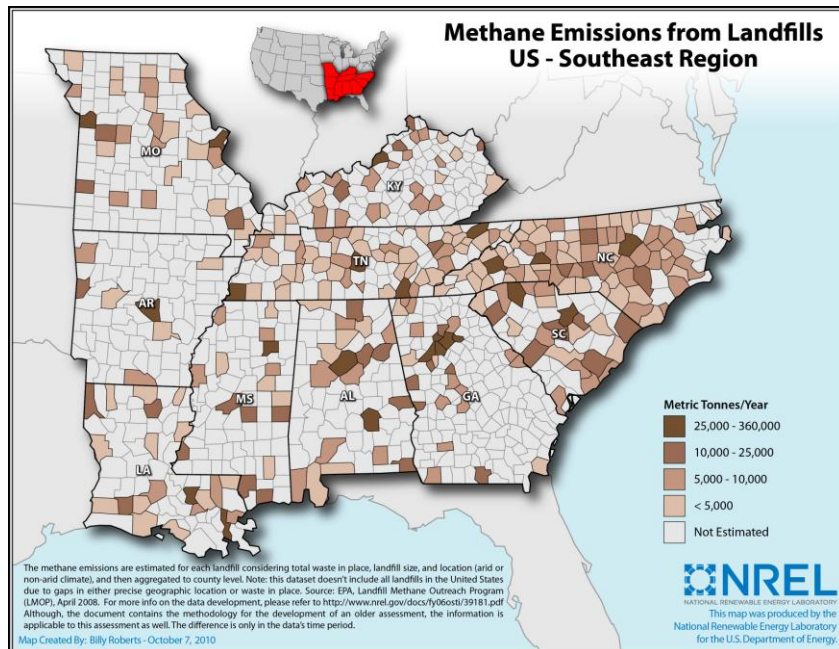
Encourage the use of the optimal biomass production zones by:

- Biomass tax incentives
- Land use zoning for biomass
- Farmer education
- Facilitating supplier/demand connections

# RE Opportunities for the Southeast

## Opportunity

Encourage third-party power production by removing the current barriers to market entry.



## Policy Support

- Change regulatory pricing rules to allow third-party producers to earn closer to retail electricity rates.
- Make tax credits, rebates, low-interest loans available to third-party power producers.
- Establish interconnection and net metering policies that meet best practice guidelines.
- Clarify and standardize permitting processes.

# Clean Energy Policy Analyses (CEPA)

[www.nrel.gov/cepa](http://www.nrel.gov/cepa)

## National-Regional-State-Local

CEPA is a DOE-EERE Weatherization and Intergovernmental Office funded project designed and implemented at the National Renewable Energy Laboratory

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