Southeast, U.S. and International Clean Energy Trends

Building Your Clean Tech Company in the South
Georgia Tech Clean Energy Speakers Series
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North Carolina Sustainable Energy Association
www.energync.org
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ENERGY ASSOCIATION

Agenda

- Comparing Southeast & U.S. Markets
- Understanding International Trends
- Business Development Implications
- Questions

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- **Comparing Southeast & U.S. Markets**
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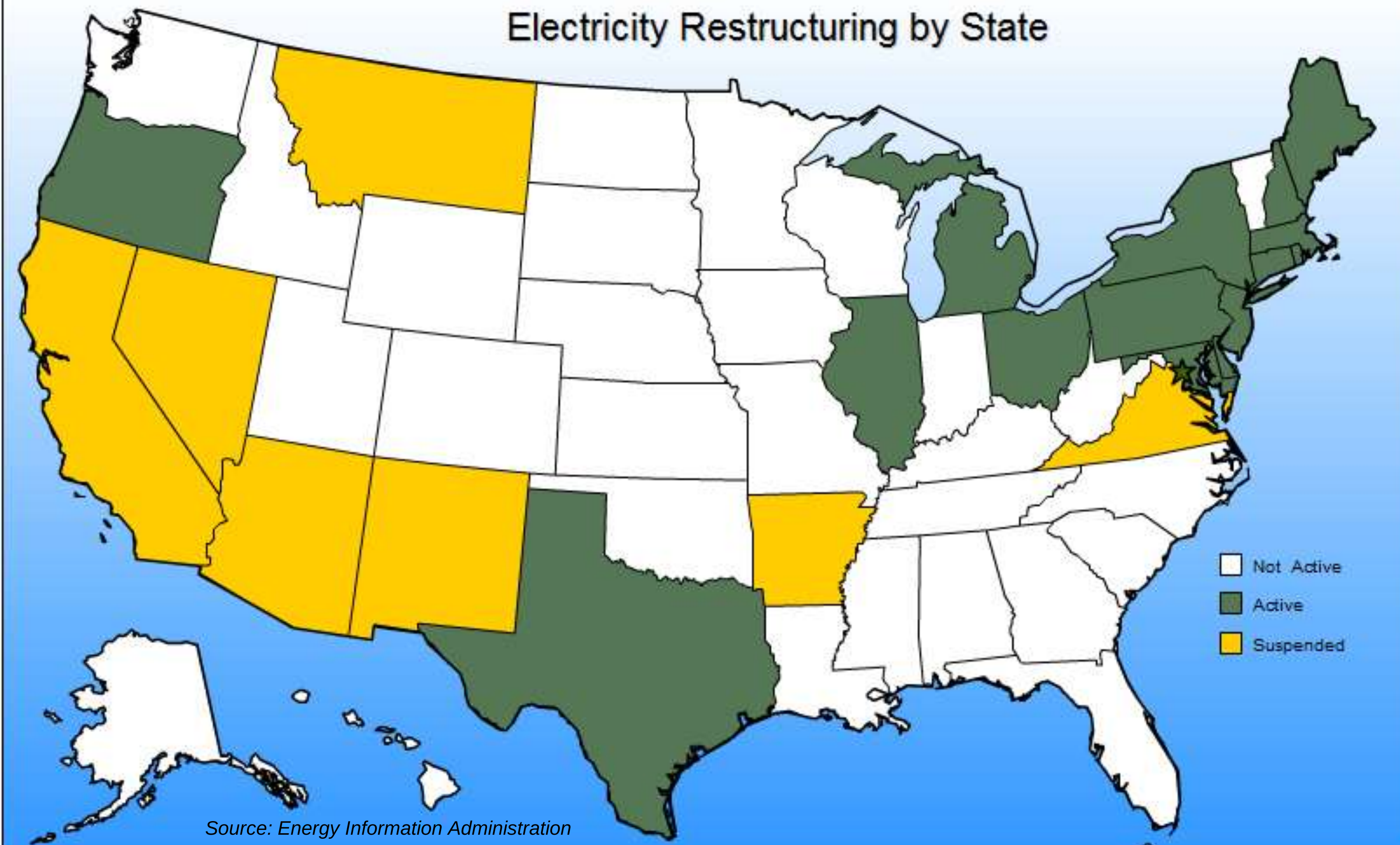
Southeast Electric Markets are Regulated



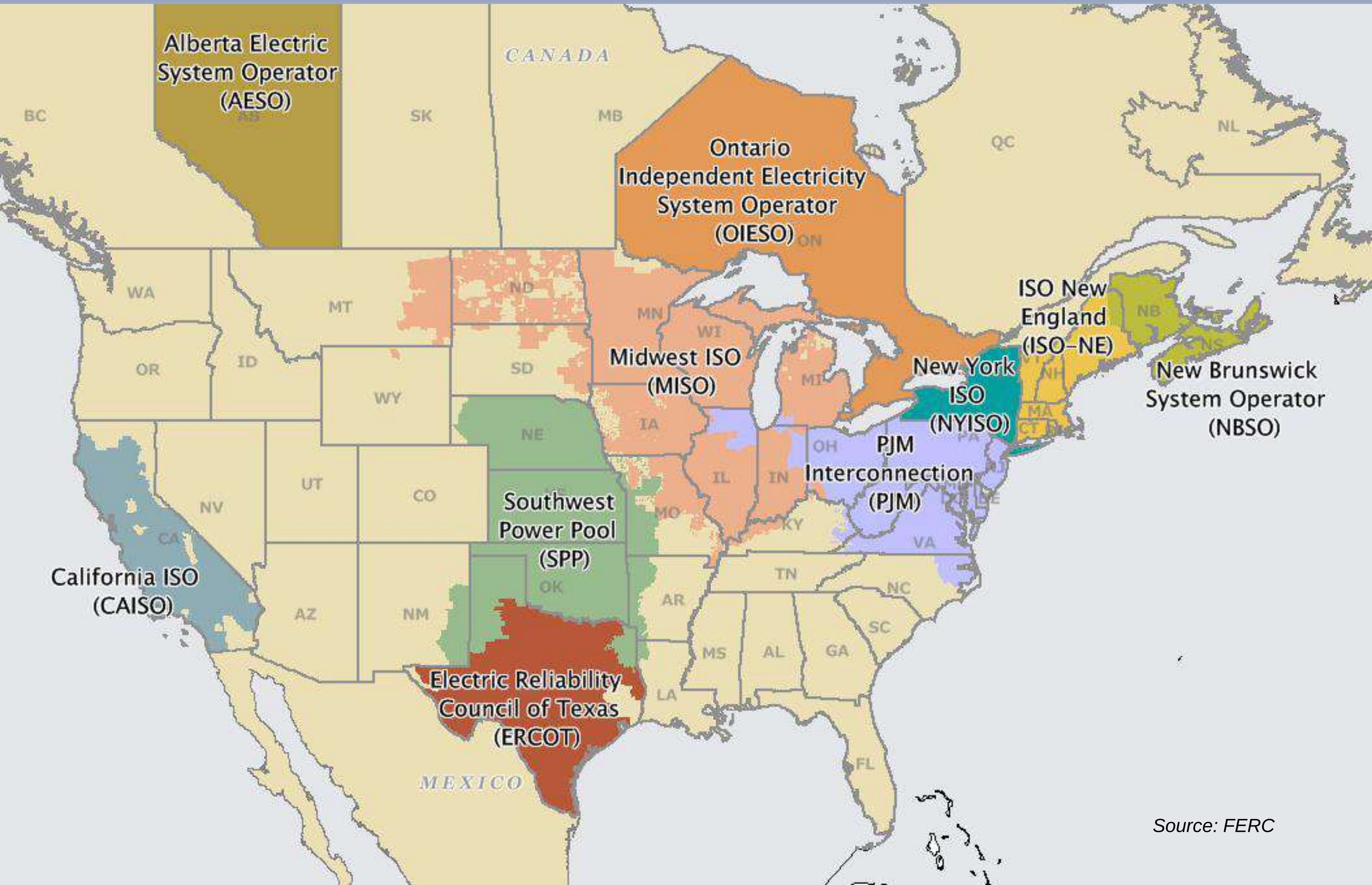
Source: Energy Information Administration

Southeast Primarily Served by Regulated Utilities

	VA	NC	SC	GA	FL
	2010 Retail Sales				
Investor Owned	85%	74%	62%	62%	76%
Cooperative, Municipal & State	15%	26%	38%	38%	24%
	2010 Retail Customers				
Investor Owned	81%	67%	56%	51%	75%
Cooperative, Municipal & State	19%	33%	44%	49%	25%

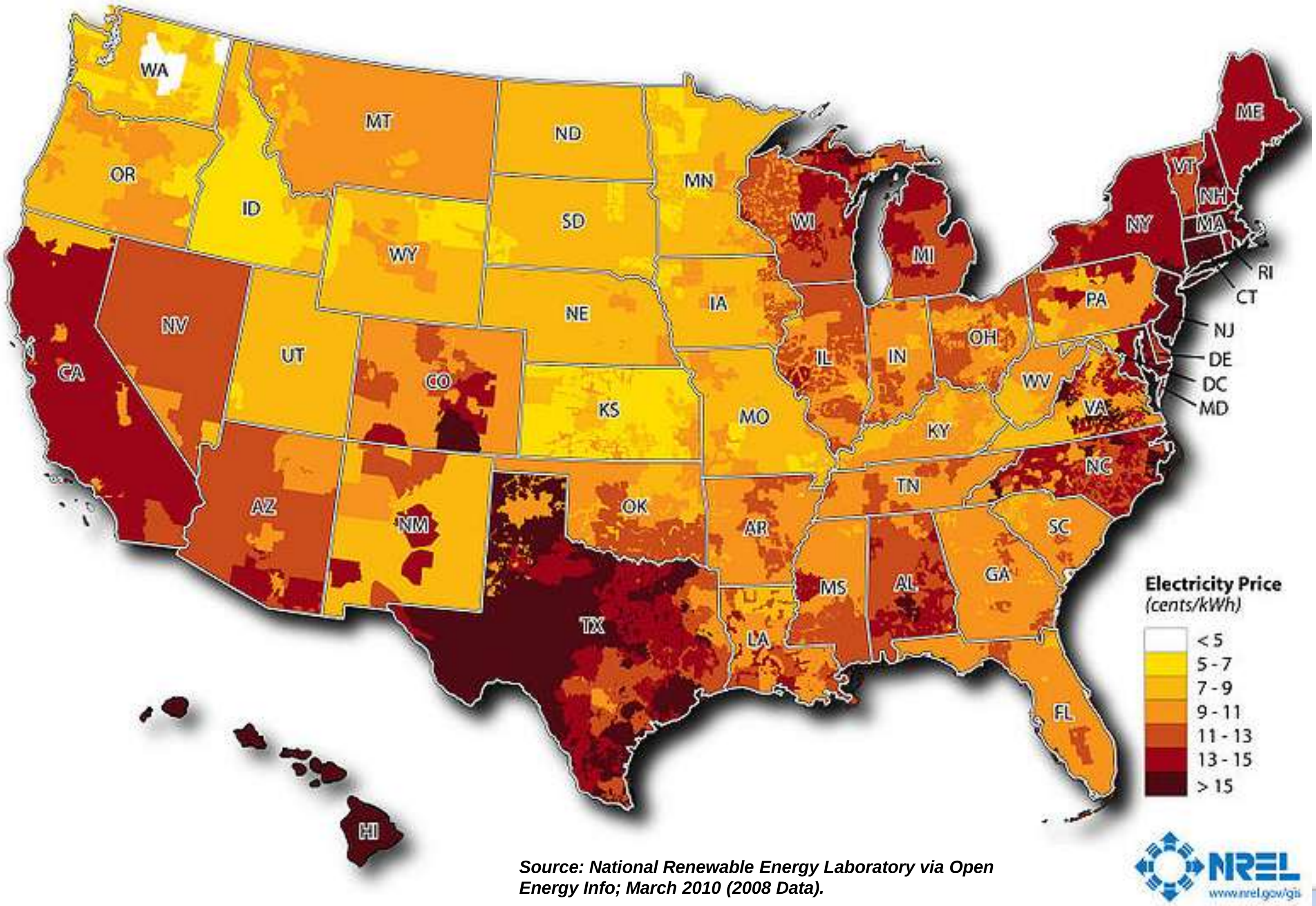
Source: Energy Information Administration

Southeast Lacks Single RTO or ISO



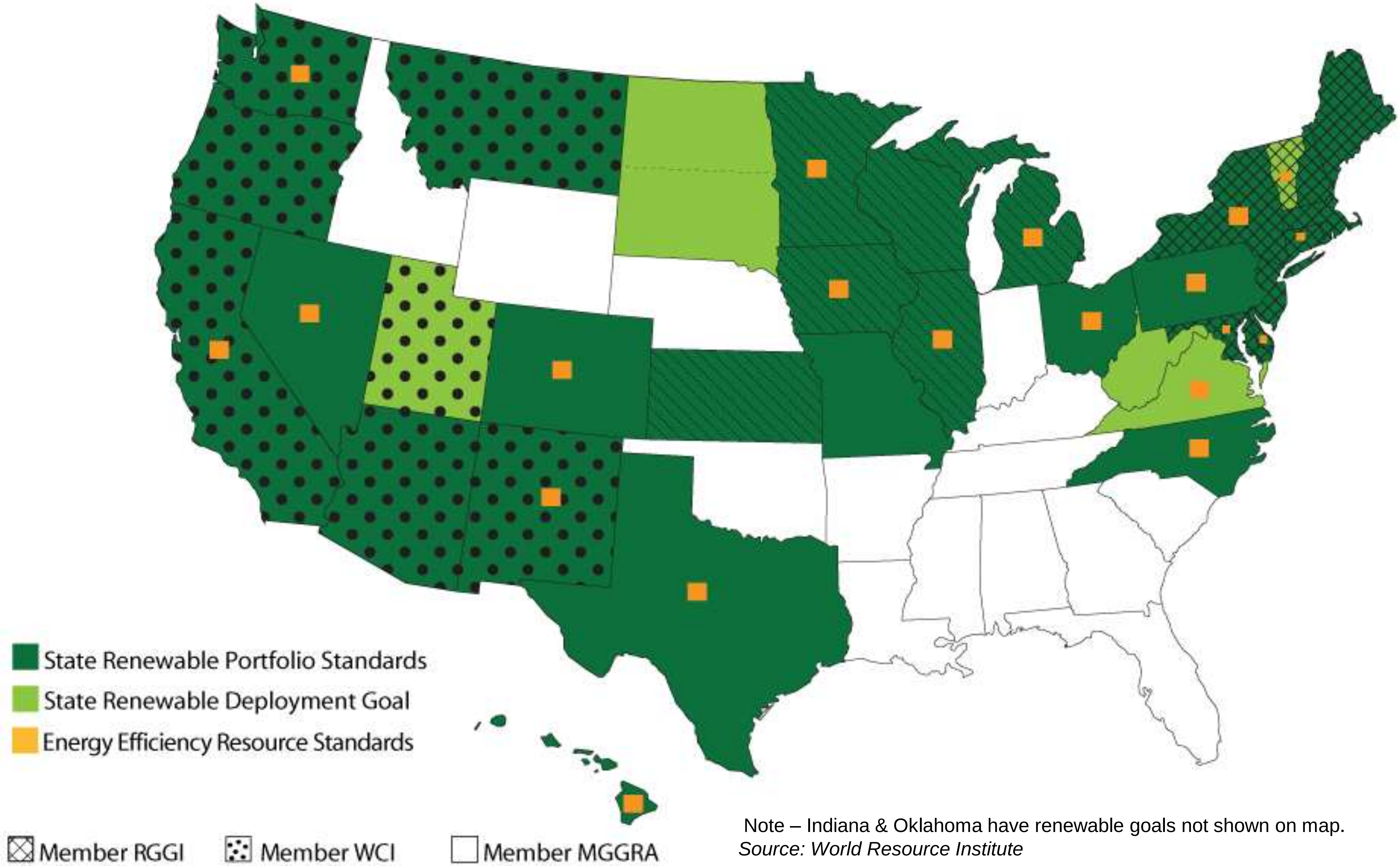
Source: FERC

Electric Prices in South Pose Challenge



Source: National Renewable Energy Laboratory via Open Energy Info; March 2010 (2008 Data).

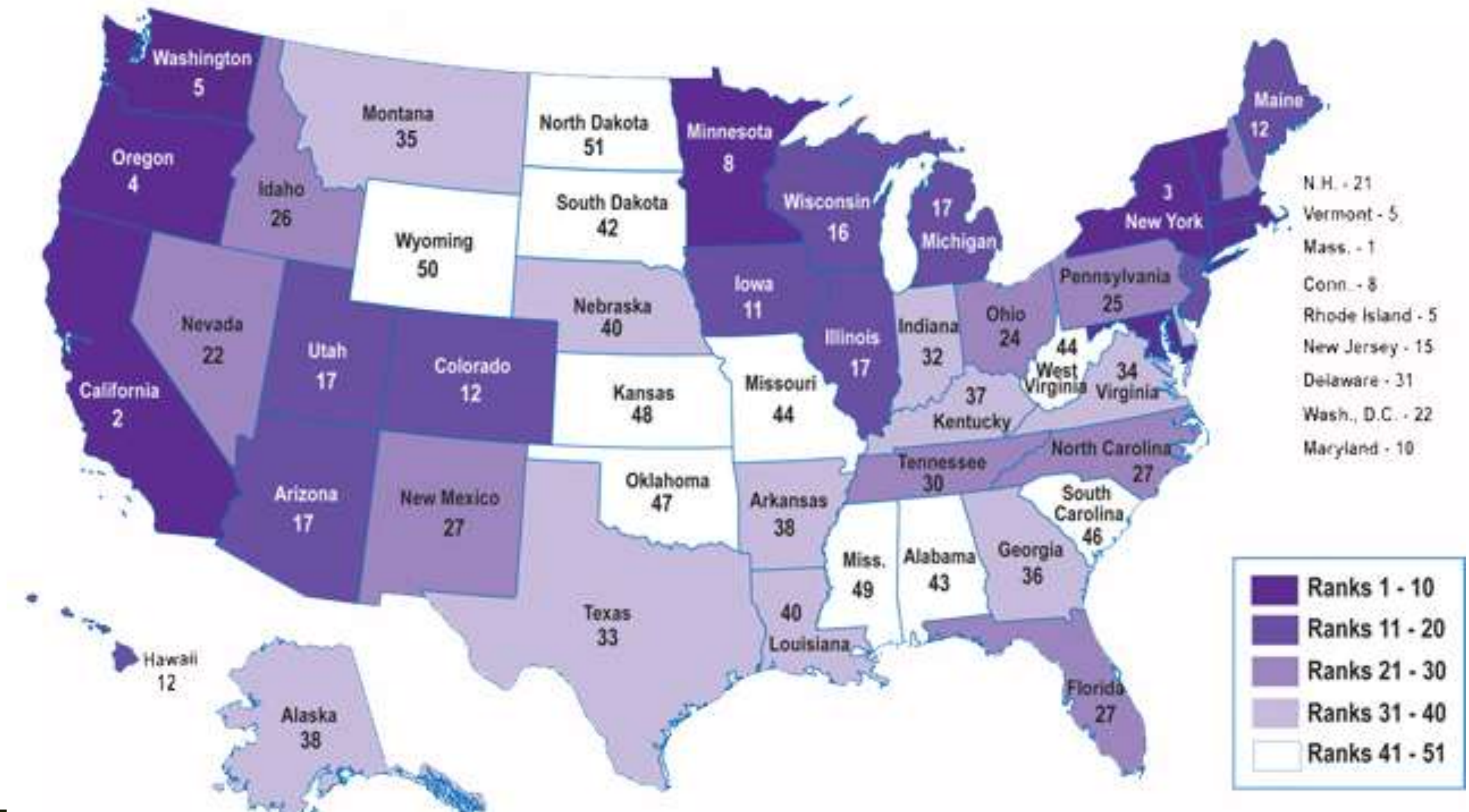
Limited RPS Action; Climate Change NOT a Policy Driver



Note – Indiana & Oklahoma have renewable goals not shown on map.

Source: World Resource Institute

Energy Efficiency Lags in Relation to Other Regions



Source: American Council for an Energy Efficient Economy

Southeast State Budgets Remain Strained

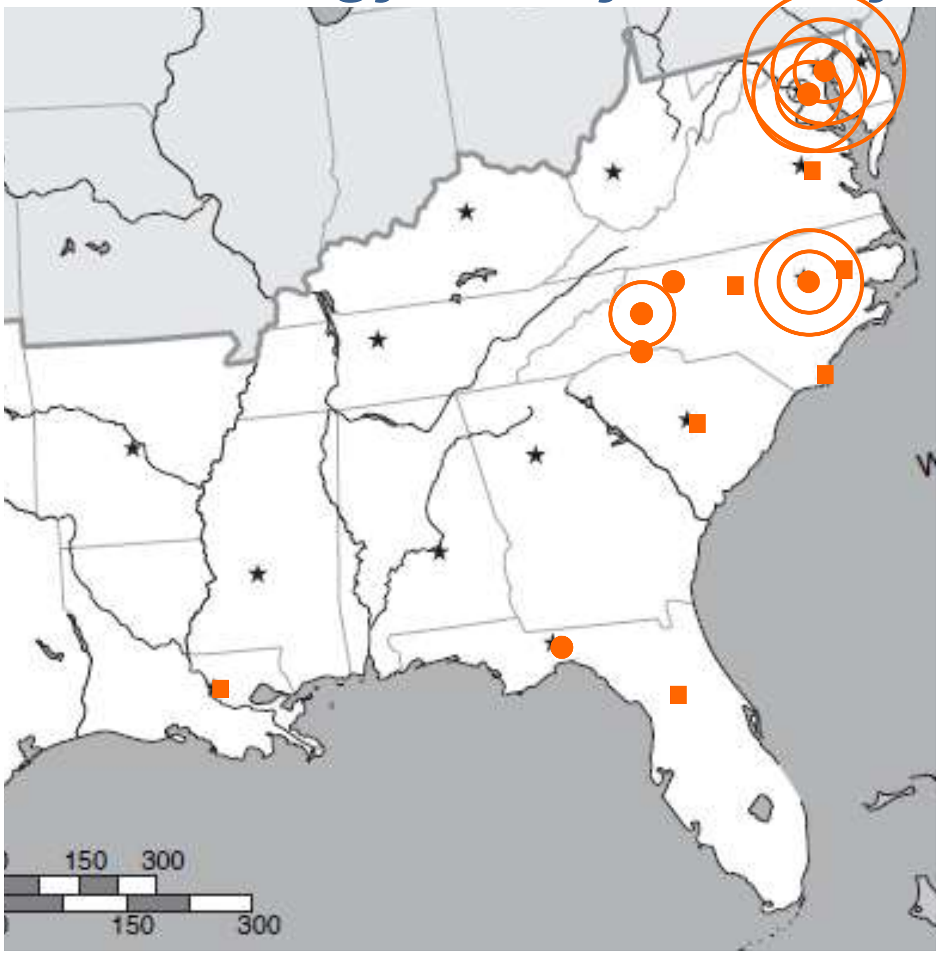
State	FY2012 Shortfalls	Shortfall as Percent of FY2012 General Fund Budget
VA	$2.0 Billion	12.3%
NC	$2.4 Billion	12.1%
SC	$630 Million	11.5%
GA	$1.3 Billion	7.6%
FL	$3.7 Billion	11.5%

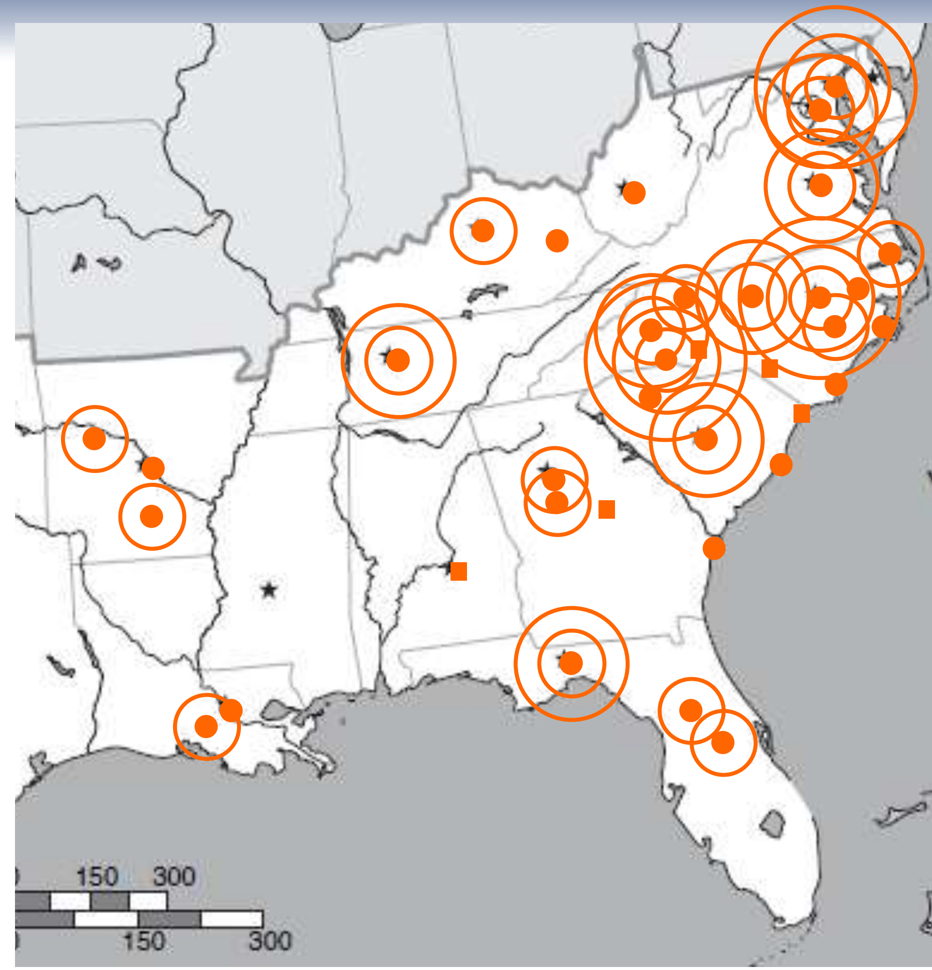
- FY2013 shortfalls already projected in VA ($145M), NC ($2B), and FL ($2B).

Source: Center of Budget and Policy Priorities, February 27, 2012

Southeast Energy is Harmonizing, Regionalizing

2007 Energy Policy Activity





2012/13 Energy Policy Activity

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Source: Ivan Urlaub, NC Sustainable Energy Association

Clean Energy Has Strong Public Support

79% **of NC voters** think the REPS law, requiring renewables and efficiency, ***is a good idea***.

75% **support doubling** amount of renewable power ***from*** alternative sources.

Rep	Dem	Ind	< 29	> 60
73	84	78	94	74
66	80	80	81	70

45% **support using coal power to meet growing needs** for energy & electricity.

46% **support using nuclear power to meet growing needs** for energy & electricity.

Rep	Dem	Ind	Men	Wom
57	37	41	51	40
56	38	49	59	36

Digging Deeper into Coal – generational transition:
26% of 18 to 29 year olds support using coal to meet growing needs, compared to 52% of people 60 years and over.

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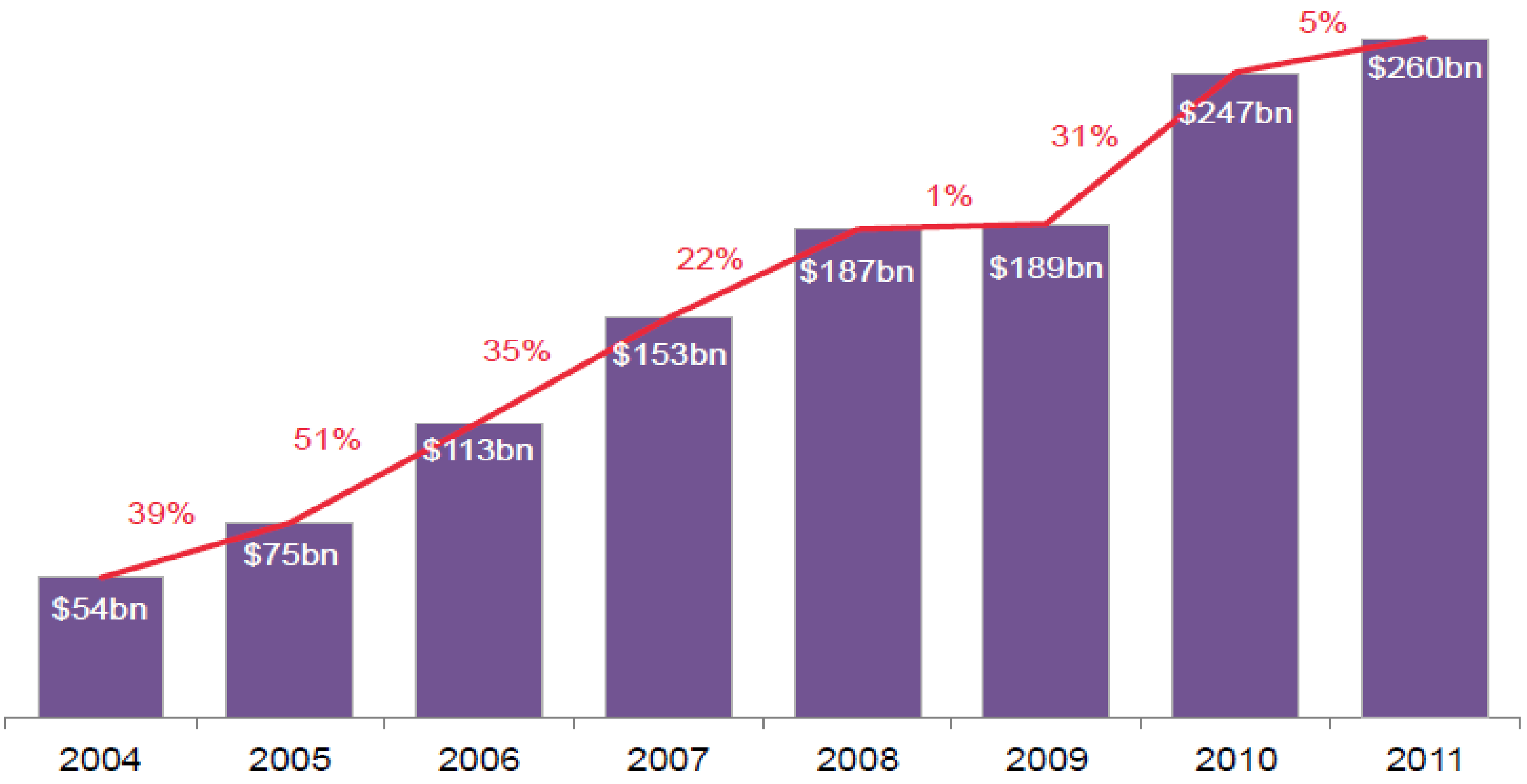
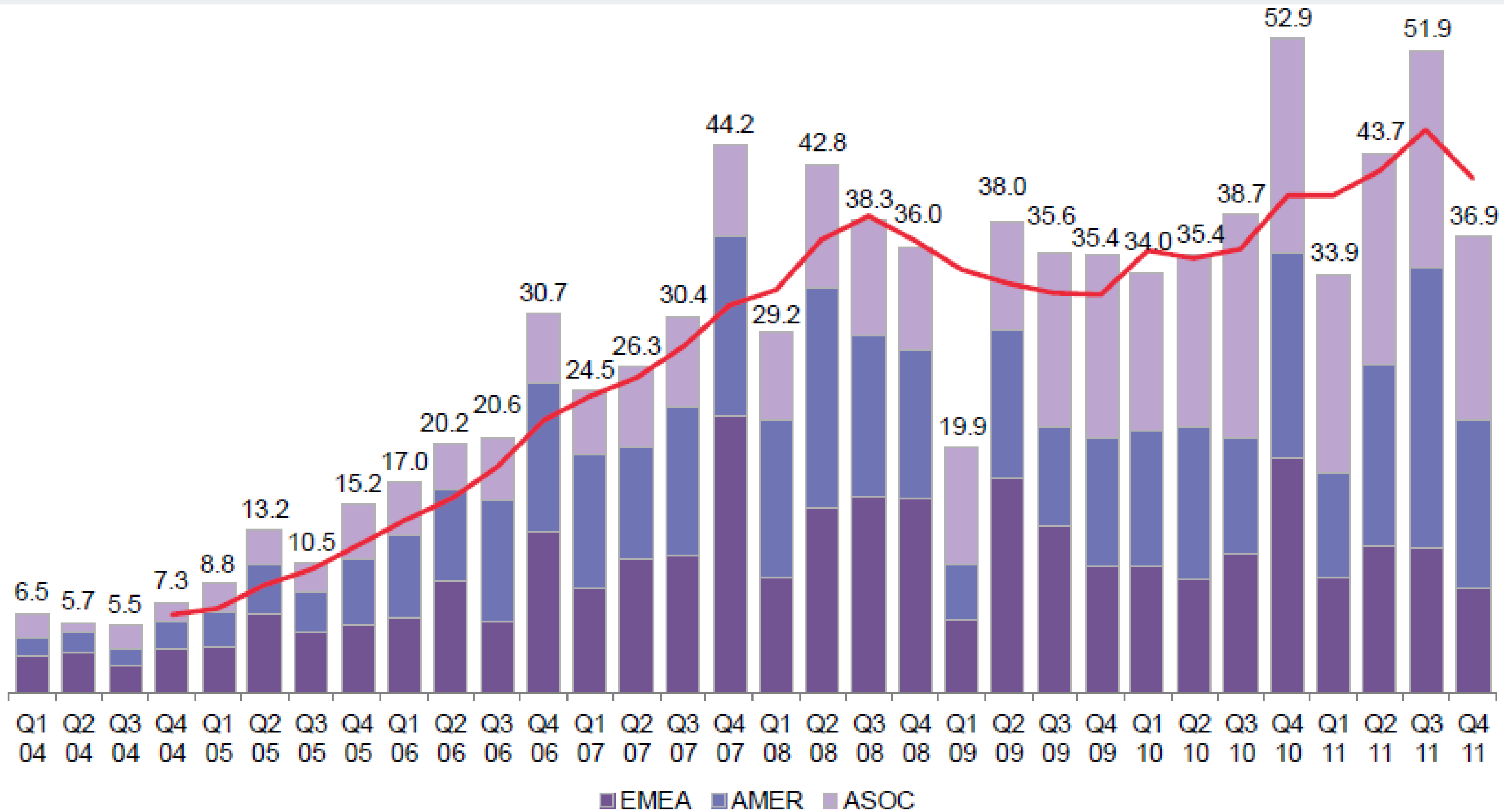
Global Total New Investment in Clean Energy



Note: Includes corporate and government R&D, and small distributed capacity. Adjusted for re-invested equity. Does not include proceeds from acquisition transactions

Source: Bloomberg New Energy Finance Global Trends in Clean Energy Investment – Q4 2011 Fact Pack; January 2012

New Investment in Clean Energy by Region



Note: Excludes corporate and government R&D, and small distributed capacity. Not adjusted for re-invested equity

Source: Bloomberg New Energy Finance Global Trends in Clean Energy Investment – Q4 2011 Fact Pack; January 2012

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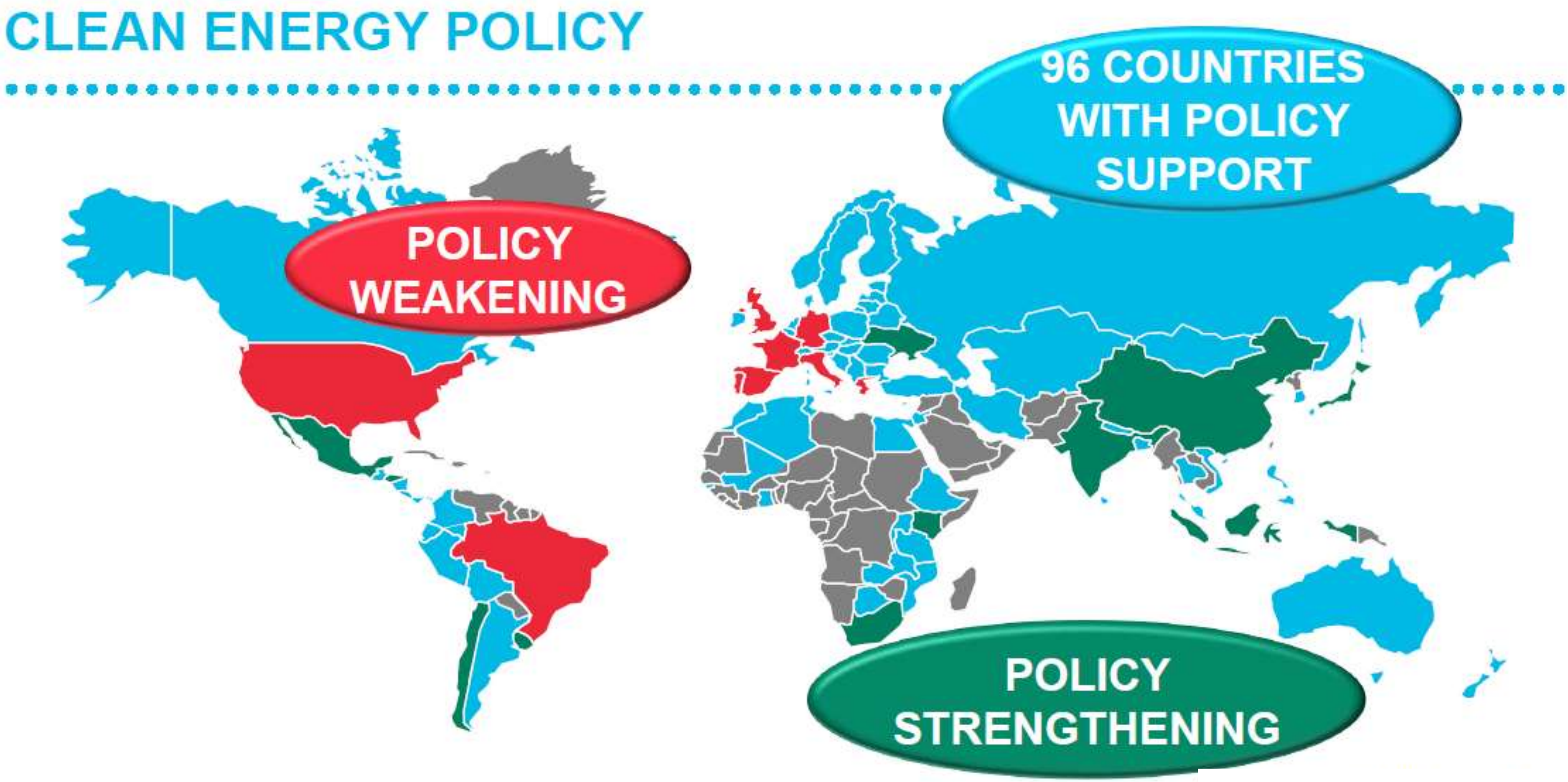
Global Clean Energy Policy Trends



Source: Bloomberg New Energy Finance; Michael Liebreich Keynote at Bloomberg New Energy Finance Summit. March 2012.

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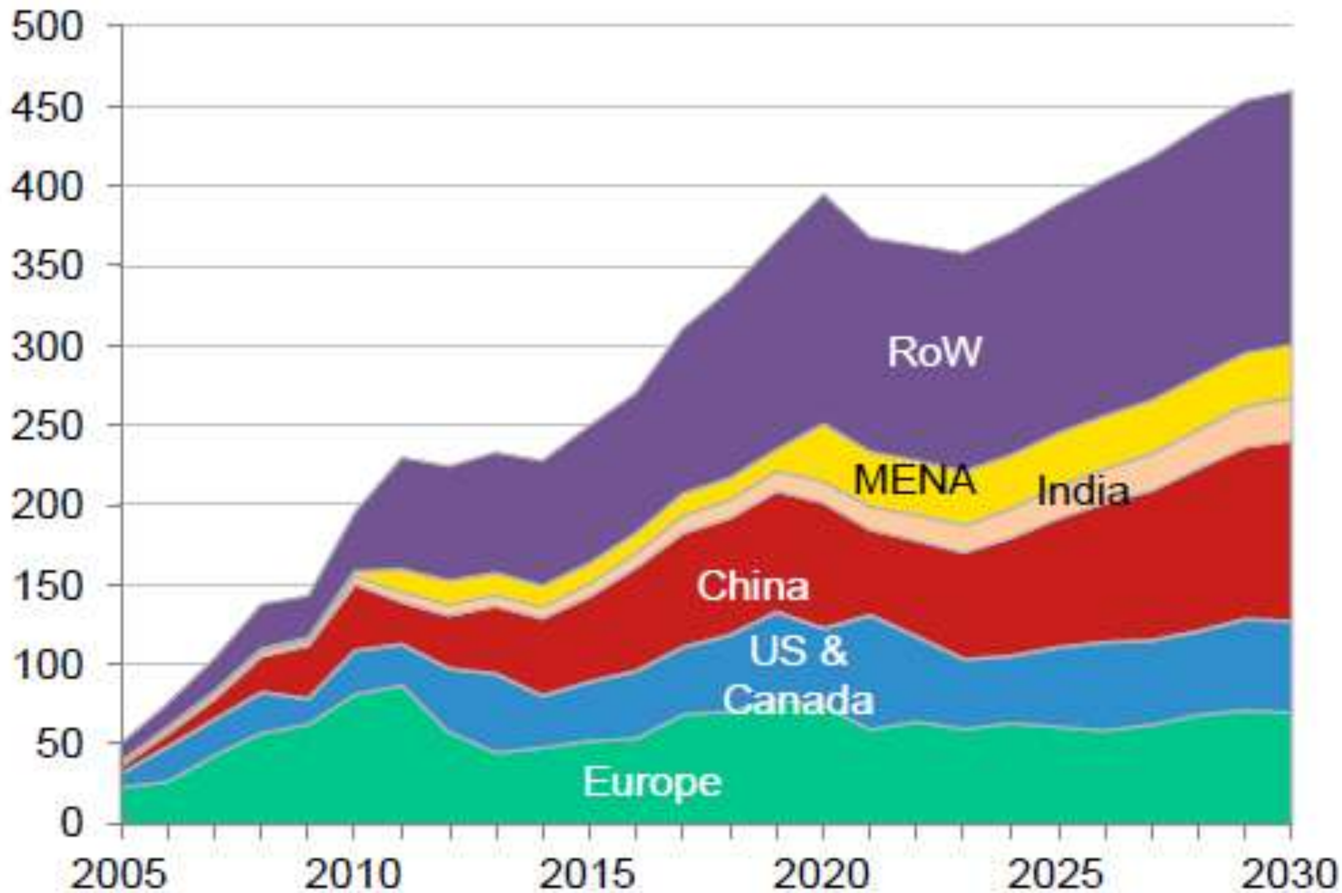
Value of Installed Renewable Energy Capacity ($bn), 2005-30



Source: Bloomberg New Energy Finance; Global Renewable Energy Outlook; November 2011.

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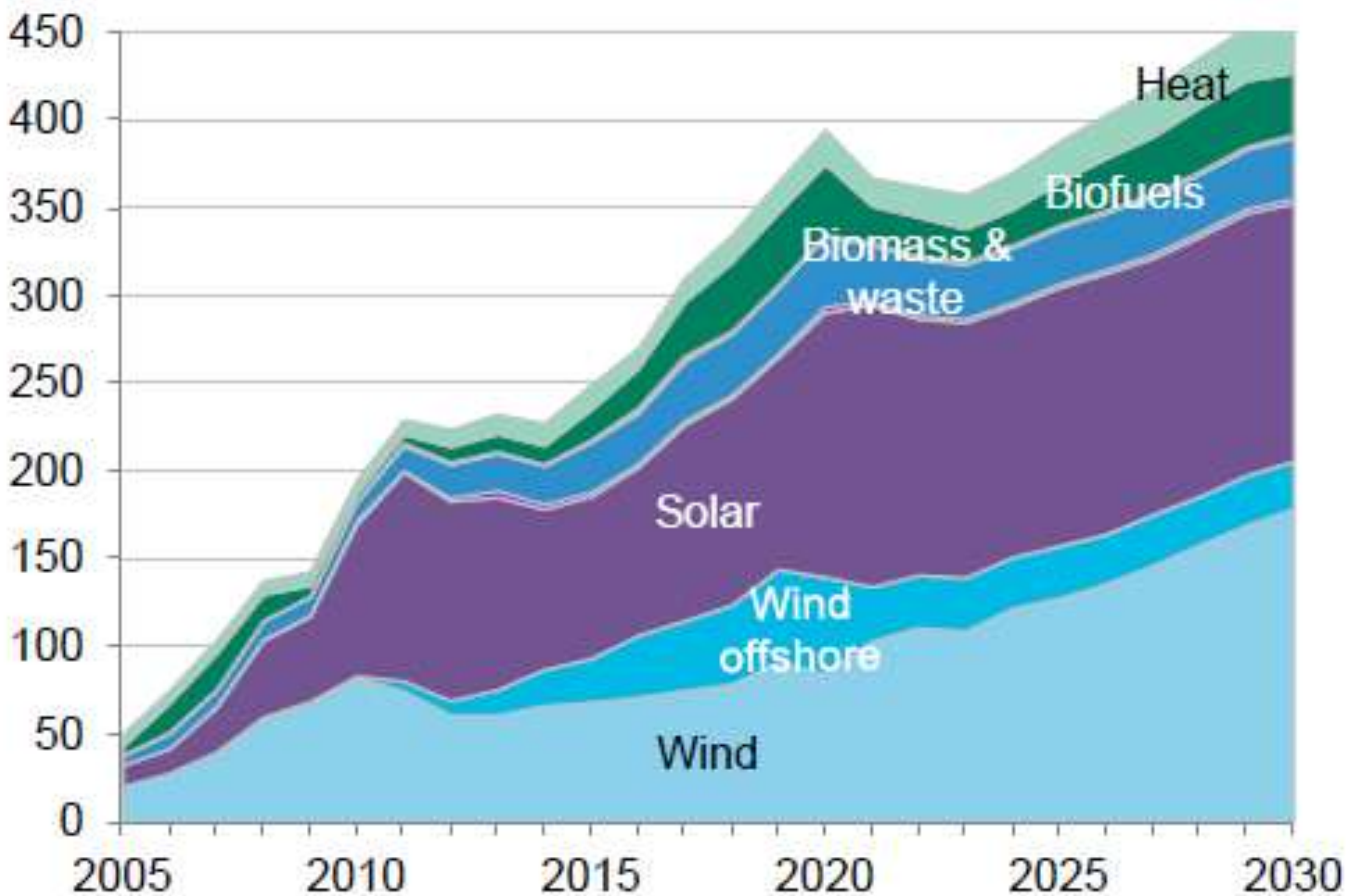
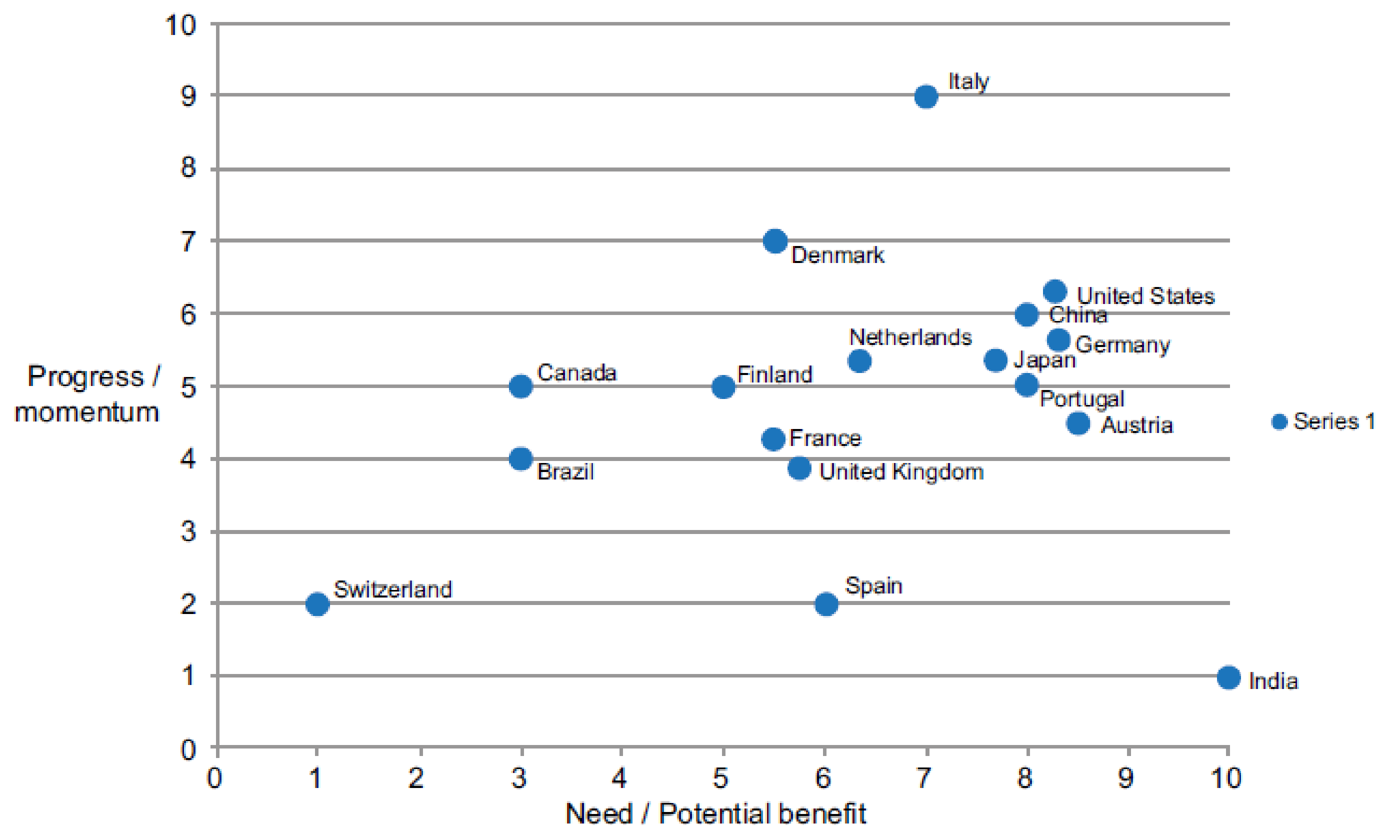


Source: Bloomberg New Energy Finance; Global Renewable Energy Outlook; November 2011.

Smart Grid Progress and Needs

Figure 6: How countries rank by 'need' for a smart grid and 'progress so far' towards a smart grid.



Source: Bloomberg New Energy Finance; 2011 Smart Energy Technologies Leadership Forum: - The Results Book; November 2011.

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Business Development Implications

(1) KNOW YOUR CUSTOMER

- End-Use Customers
  - Differences among residential, commercial and industrial customer classes.
  - Challenges include capital costs or privacy concerns.
- Electric Utilities
  - Long investment cycles with strong focus on reliability, affordability and safety.
  - Investor-owned utilities must consider shareholder interests and are highly regulated by state commissions.
  - Cooperative and municipal utilities have members as customers and are less regulated by state commissions.

Business Development Implications

(2) KNOW THE POLICY LANDSCAPE

- Regulated v. Unregulated Markets
  - Differences in opportunities and market niches.
- Clean Energy Incentives
  - Federal and state policies can be found in the Database for State Incentives for Renewables and Efficiency (DSIRE) at www.dsireusa.org.
- Grants and Funds
  - Limited funding during weak economic recovery and post-ARRA environment.

Business Development Implications

(3) BUILD DYNAMIC BUSINESS PLAN

- Maximize current clean energy policies and incentives
  - Consider reduction or expiration of incentives over the long-term.
- Anticipate strong competition from new technologies
  - Consider the rapid evolution of products and services associated with the growth of the internet.
- Develop a strong network
  - Beyond suppliers and customers, develop partnerships with government support services (e.g. workforce development); key elected officials; advocate organizations; etc.

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THANK YOU

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