



SOUTHWESTERN ELECTRIC POWER COMPANYSM

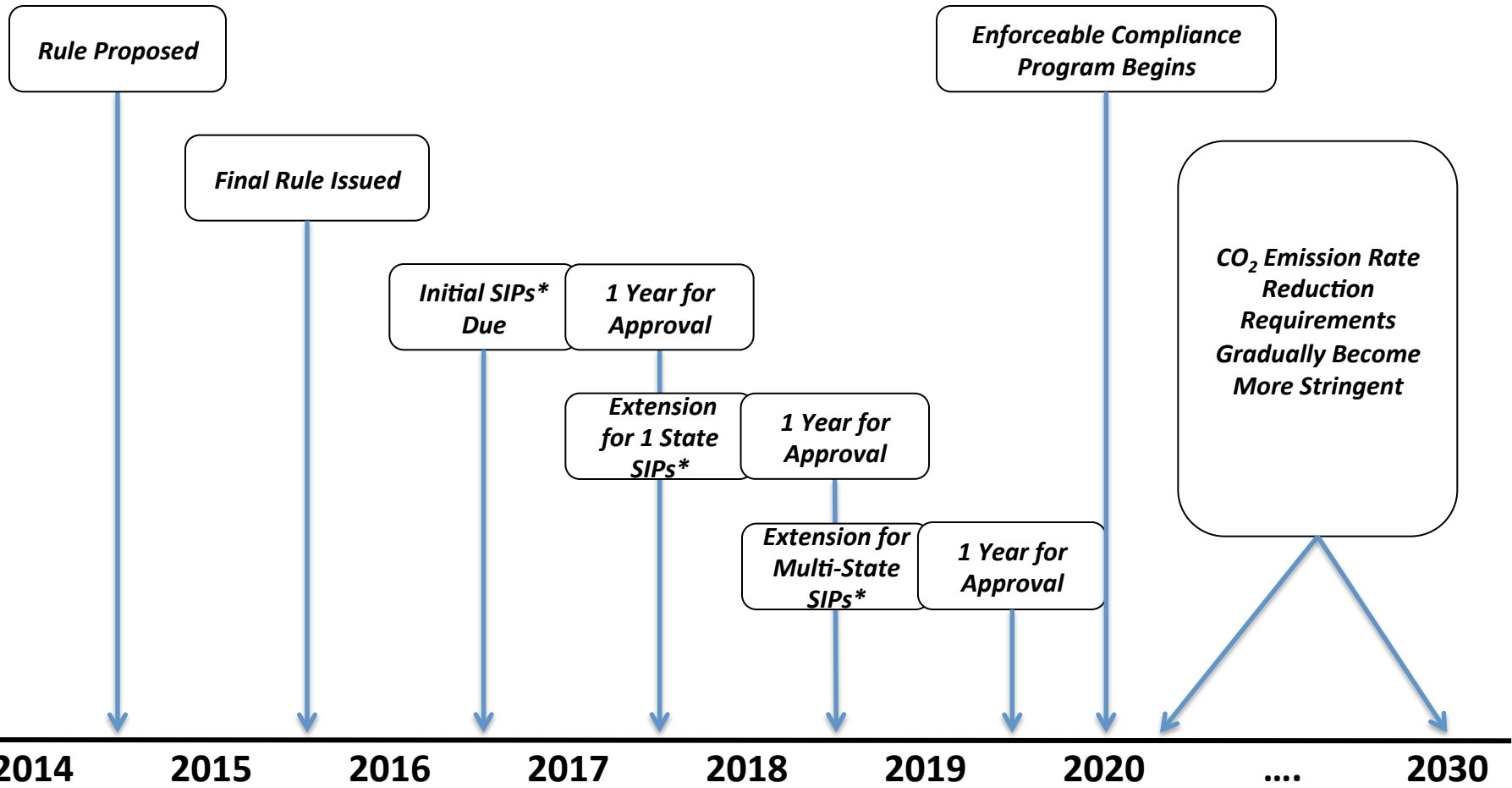
A unit of American Electric Power



Southwestern Electric Power Company

**Southern States Energy Board
2014 Briefing to Southern Legislators
Little Rock, Arkansas
July 26, 2014**

Proposed EPA 111(d) Regulatory Timeline



**SIP: State Implementation Plan*

Key Assumptions in Building Blocks

- EPA assumes that all coal generators can improve their heat rate by 6% at a cost of \$100/kW.
- EPA assumes that existing and new natural gas combined cycle (NGCC) units could increase their utilization to a 70% capacity factor, with a resulting decrease in coal unit utilization.
- EPA assumes that a renewable portfolio standard is a component of BSER; effectively results in 13% national RPS by 2030, although individual state requirements range from 2%-25% of generation.
- EPA assumes that states can ramp annual energy efficiency levels to 1.5% of sales at a cost of ~8.5 to 9.0¢/kWh.

Relative Impacts of Building Blocks in 2030

% Contribution of Rate Reduction by Building Block					
State	Coal HRI	Redispatch	Nuclear	RE	EE
Arkansas	9%	60%	3%	11%	17%
Indiana	24%	11%	0%	17%	48%
Kentucky	29%	15%	0%	8%	48%
Louisiana	7%	54%	3%	13%	22%
Michigan	13%	32%	6%	13%	37%
Ohio	16%	14%	3%	29%	38%
Oklahoma	9%	50%	0%	21%	20%
Texas	8%	44%	1%	27%	20%
Virginia	6%	33%	7%	31%	24%
West Virginia	27%	0%	0%	52%	21%

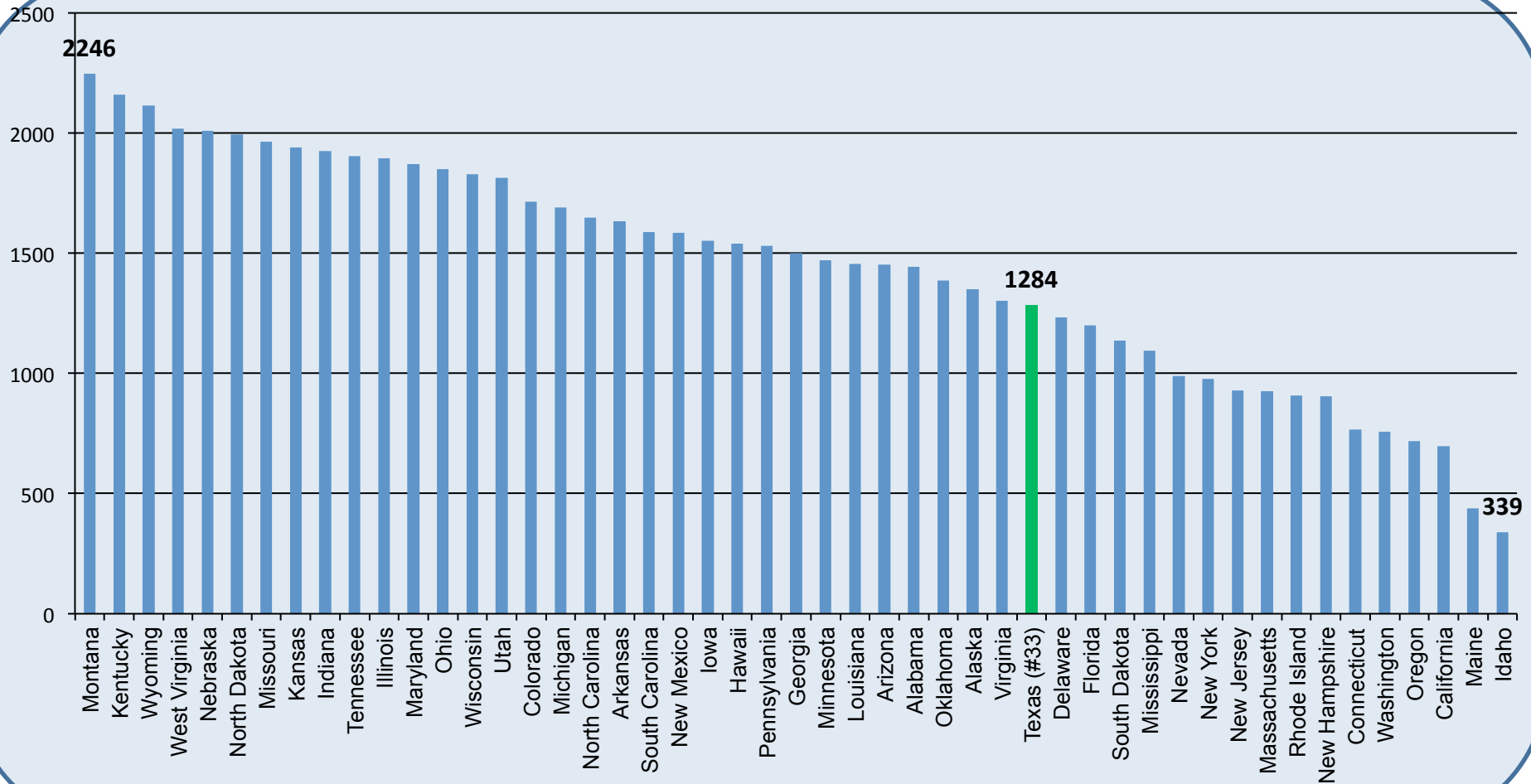
□ Building blocks play varying roles in driving emission goals amongst states due to inherent differences in the generating fleet and EPA’s assumptions surrounding EE and RE.

Impacts of Redispatch in 2020

Reduction in Coal Generation Due to Redispatch	
State	%
Arkansas	64%
Indiana	5%
Kentucky	1%
Louisiana	53%
Michigan	23%
Ohio	7%
Oklahoma	52%
Texas	52%
Virginia	44%
West Virginia	0%

- ❑ EPA assumes that a large amount of coal generation is displaced under its determination that NGCC should have preferential dispatch.**
- ❑ EPA's analysis of the proposed rule projects an incremental 46-49 GW of coal retiring by 2020, in addition to the 60+ GW that will already retire this decade.**

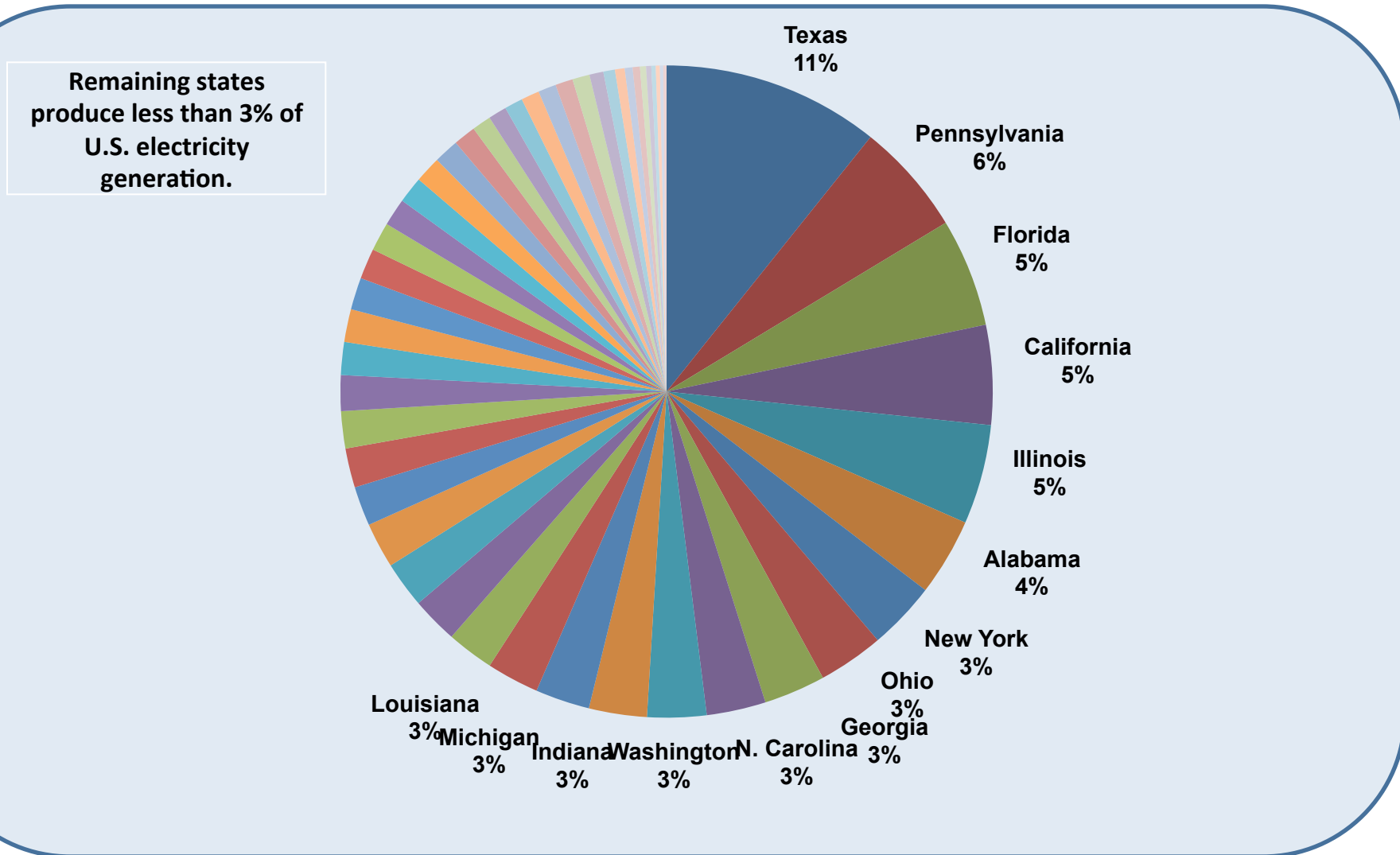
Comparison of 111(d) Rule Baseline CO₂ Emission Rates (lbs/MWh)



Source: EPA Goal Computation Technical Support Document; excludes Vermont. Includes all generation subject to the state goals: generation from fossil fuel-fired units (>25 MW), all RE generation except hydropower, and approximately 5.8% of nuclear generation; data also adjusted for incremental end-use efficiency.

Electricity Production in the United States

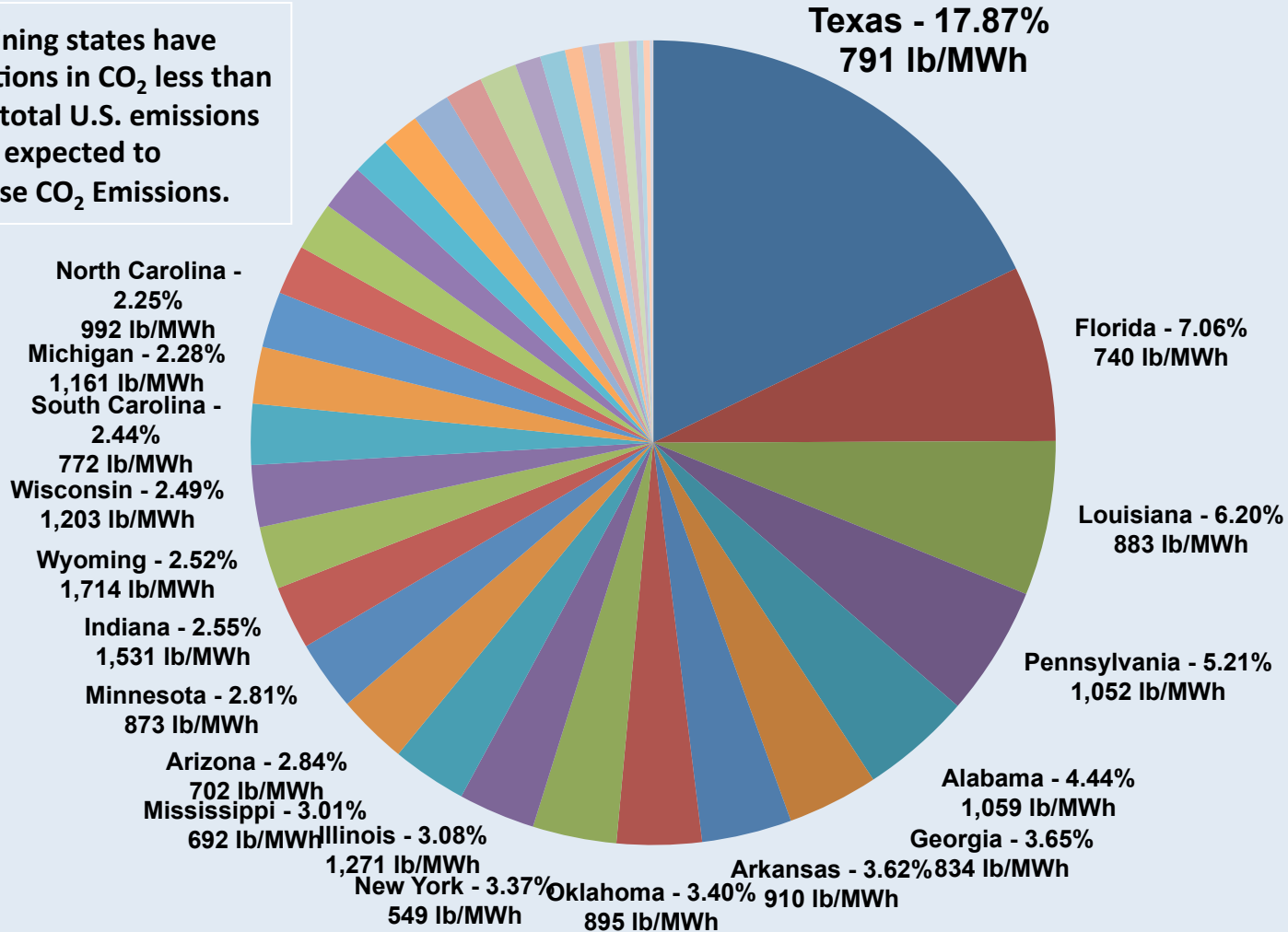
Percentage of Total U.S. Production



The above graphic demonstrates the share of United States electricity generation by state. Source: EPA's eGrid Database, 2012 Data.

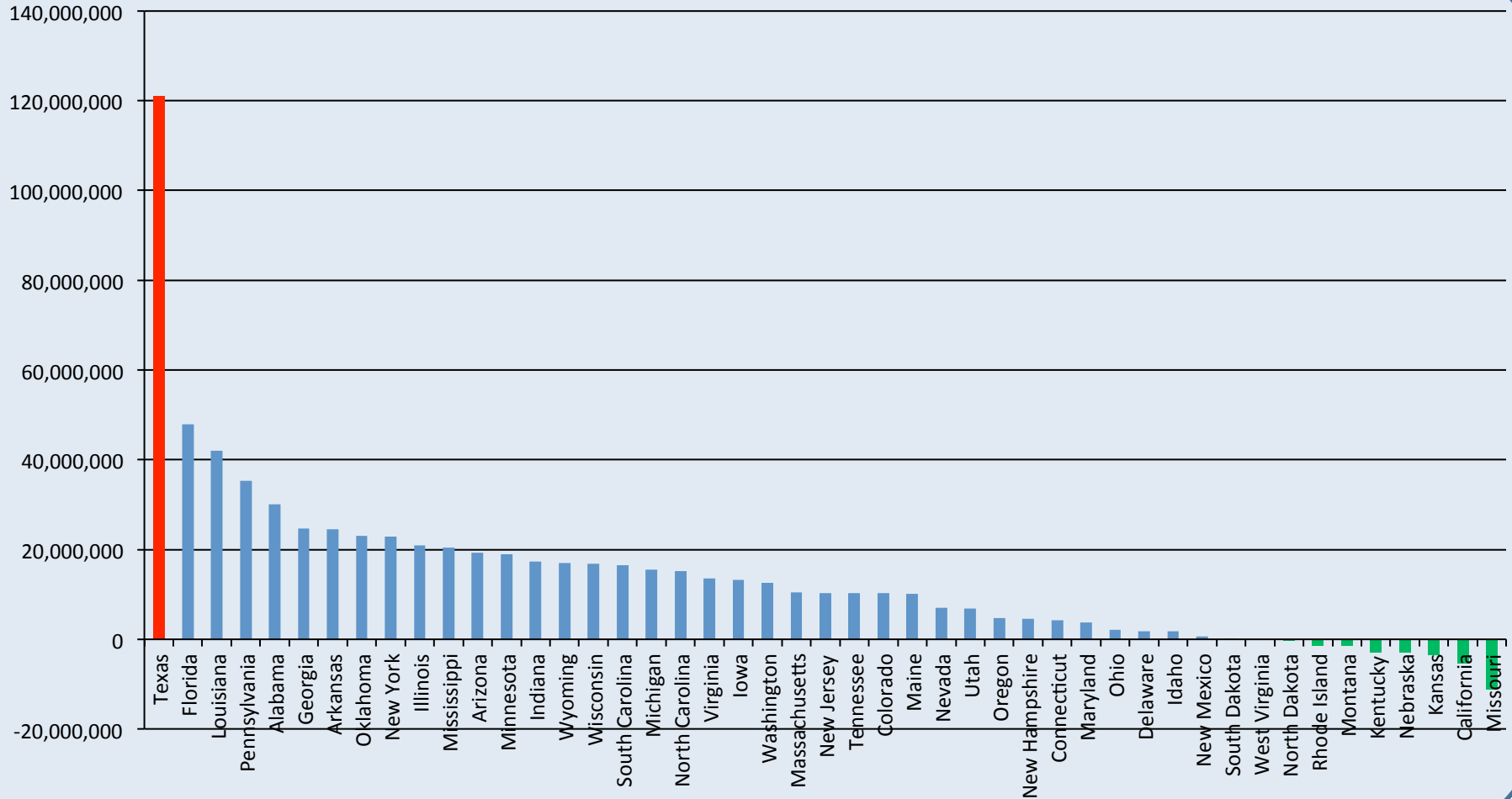
States' Proportion of Total CO₂ Reductions from Electric Generation by 2030 (Budgeted Rate)

Remaining states have reductions in CO₂ less than 2% of total U.S. emissions or are expected to increase CO₂ Emissions.



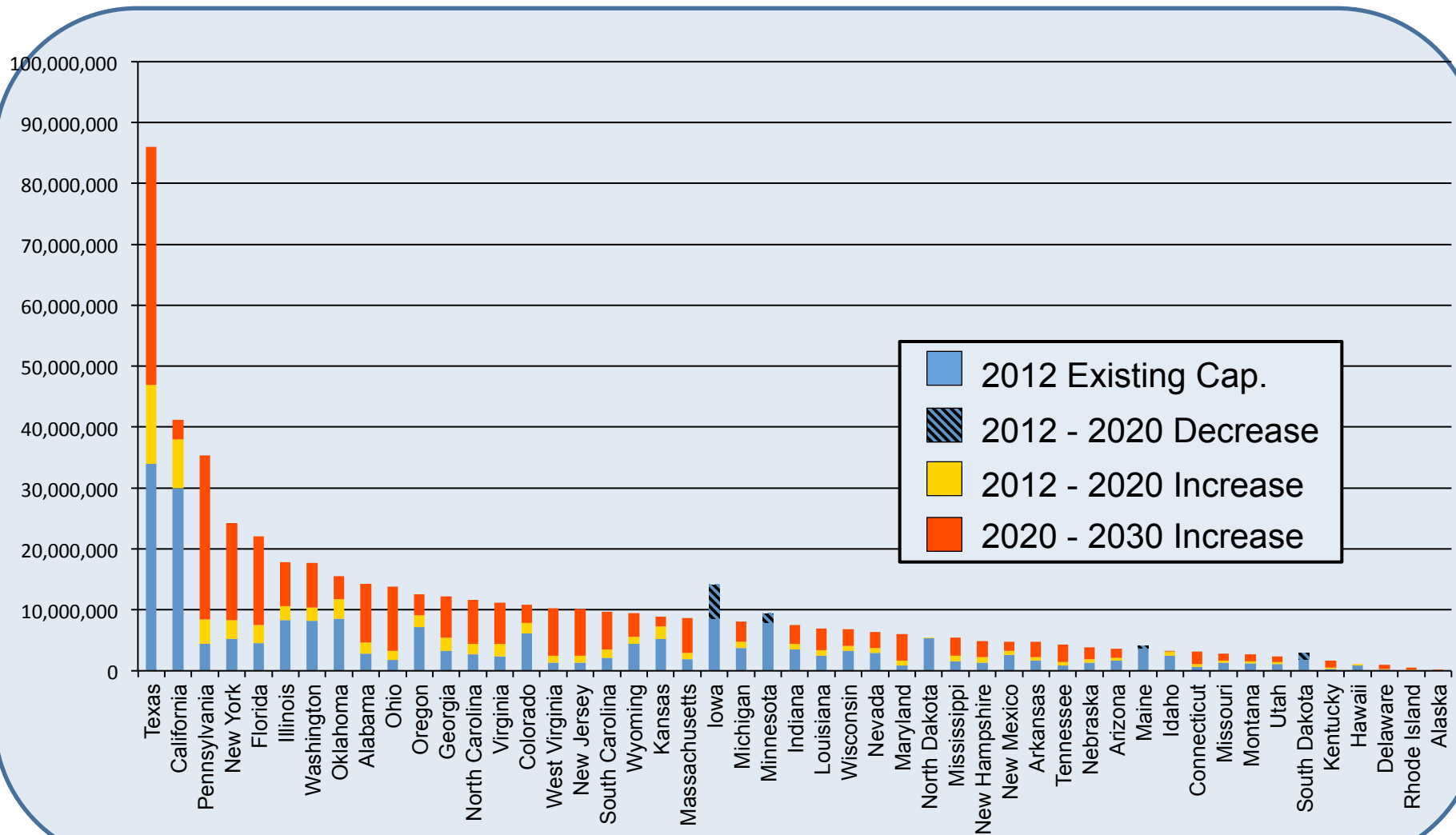
Graph does not include Alaska and Hawaii because data was not available. Vermont is excluded because it is not covered by EPA's rule. The following states were excluded from the graph because they are anticipated to have gains in CO₂ emissions: North Dakota (1.0%), Kentucky (3.0%), California (7.0%), Montana (8.0%), Kansas (10.0%), Nebraska (10.0%), Missouri (14.0%), and Rhode Island (37.0%). Sources: EPA's eGrid 2012 Data & Bloomberg, New Energy Finance analysis (for the rate-to-mass conversion on which percentages are based).

States' Assumed CO₂ Reductions from Electric Generation by 2030 (tons)



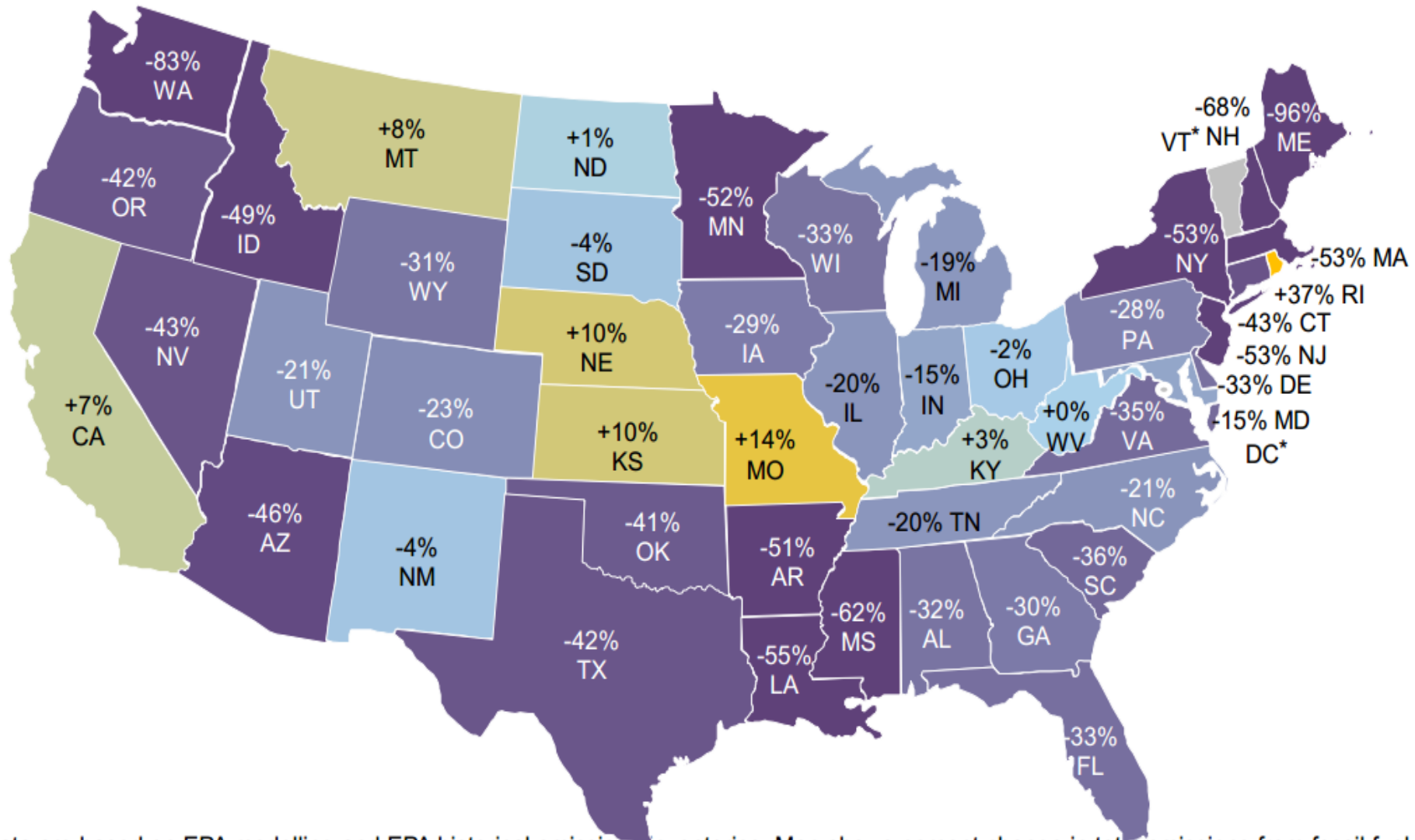
Graph does not include Alaska and Hawaii because data was not available. Vermont is excluded because it is not covered by EPA's rule. Sources: EPA's eGrid 2012 Data & Bloomberg, New Energy Finance analysis (for the rate-to-mass conversion on which percentages are based).

EPA's Modeled Increases in Renewable Electricity – 2012 to 2030 (MWh) – BLOCK 3



Modeled increases are in megawatt-hours (MWh) comparing 2012 data to EPA's projected 2020 target, and then comparing EPA's projected 2020 target to EPA's projected 2030 target.

Change in emissions required from 2012 to 2030, under the EPA's Clean Power Plan (% of 2012 emissions)



Data are based on EPA modelling and EPA historical emissions inventories. Map shows percent change in total emissions from fossil fuel-fired plants, including emissions from new sources which are not covered by the proposed Clean Power Plan. Darker colours indicate deeper emissions cuts; yellow states may actually *increase* their overall emissions, while remaining in compliance with the EPA's Clean Power Plan. Data are not available for Alaska and Hawaii; * Vermont and DC are not covered by the EPA's regulations.

	STATE POLICYMAKER STATEMENTS REGARDING EPA'S UPCOMING GREENHOUSE GAS REGULATION FOR EXISTING POWER PLANTS (last updated 7/7/2014)					
	Legislation	Legislative Resolution	Governor Letter	Attorney General Letter	PUC Commissioners Letter/Resolution	Environmental Commissioner Letter
AL		*	*	*	*	*
AR		*	*			
AZ		*		*		*
FL		*	*	*	*	
GA		*	*	*	*	
IL		*			*	
IN		*	*	*	*	*
KS	*			*		*
KY	*	*	*	*	*	*
LA	*		*	*	*	*
MD		*	*			
MI			*	*		*
MO	*	*	*	*	*	
MS		*	*	*	*	*
MT		*		*	*	
NV						*
NM						*
NC		*	*	*	*	*
ND				*	*	*
NE		*		*		
OH	*		*	*	*	*
OK		*	*	*		*
PA	*		*			*
SC		*	*	*	*	
SD		*		*		
TN		*	*		*	
TX		*	*	*	*	*
UT		*	*	*		
VA	*	*	*		*	
WI			*	*	*	*
WV	*	*	*	*	*	*
WY						

Questions & Answers