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Energy solutions
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Regional and Modular Options for Complying with the Clean Power Plan 111(d) Rule

National Caucus of Environmental Legislators

Presented by John Shenot

July 31, 2015

The Regulatory Assistance Project

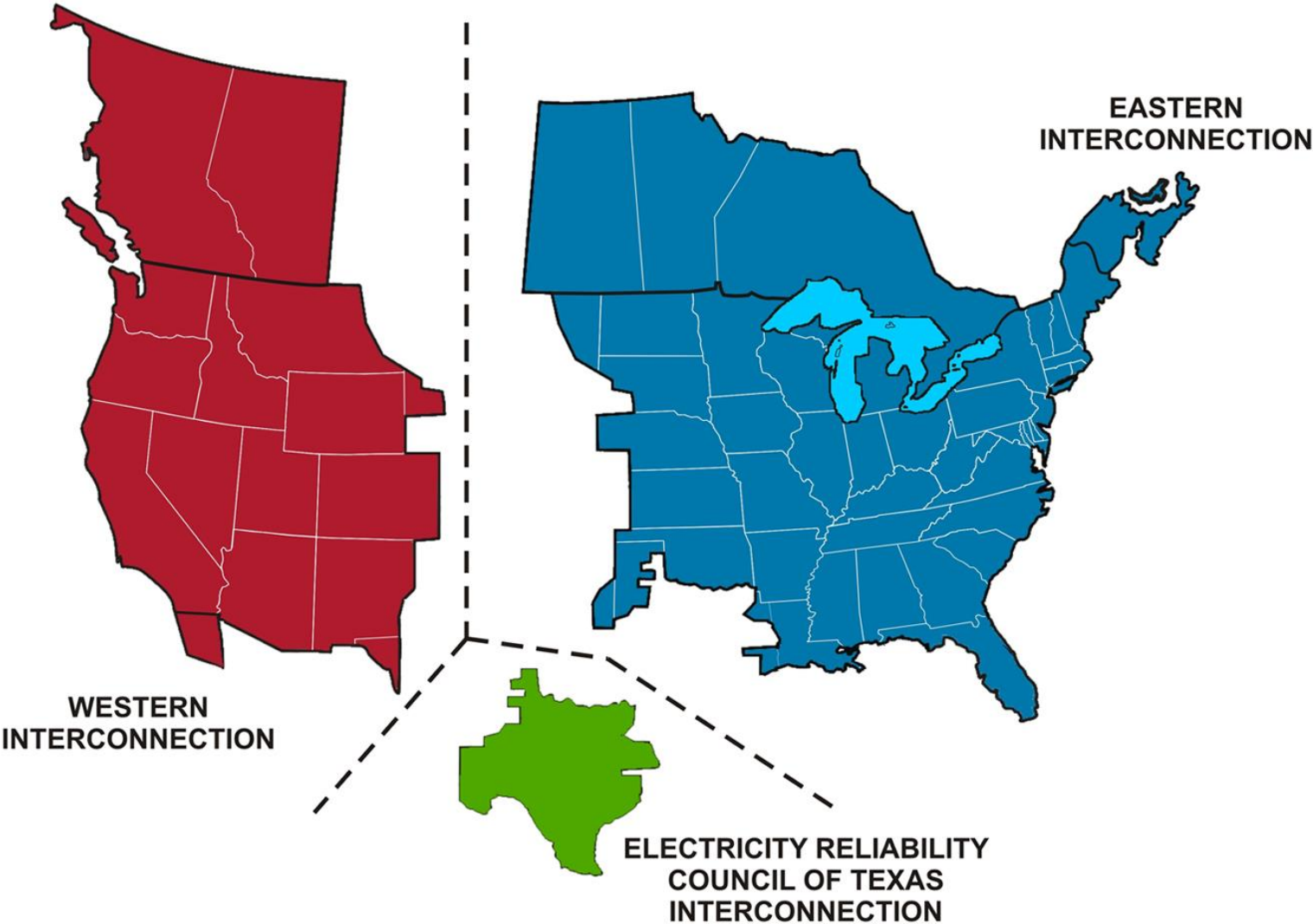
50 State Street, Suite 3
Montpelier, VT 05602

Phone: 802-223-8199
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Two Big Questions for Today

- Why should states think about regional approaches to complying with the Clean Power Plan?
- What might a regional compliance approach look like?

North American Electric Reliability Corporation Interconnections




Western Interconnection Study



EPA Clean Power Plan

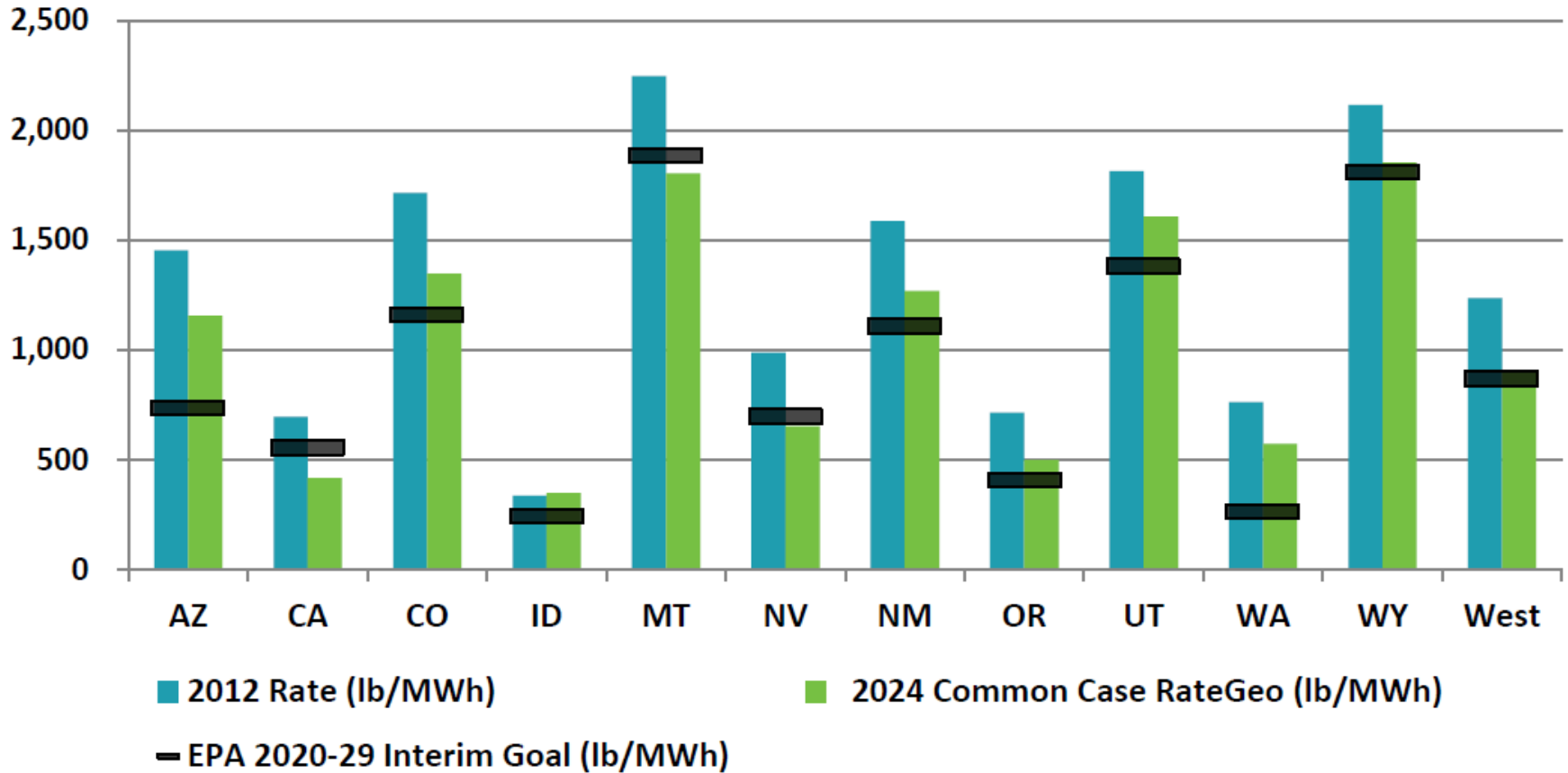
Phase I - Preliminary Technical Report

WECC Staff
September 19, 2014

 **WECC**

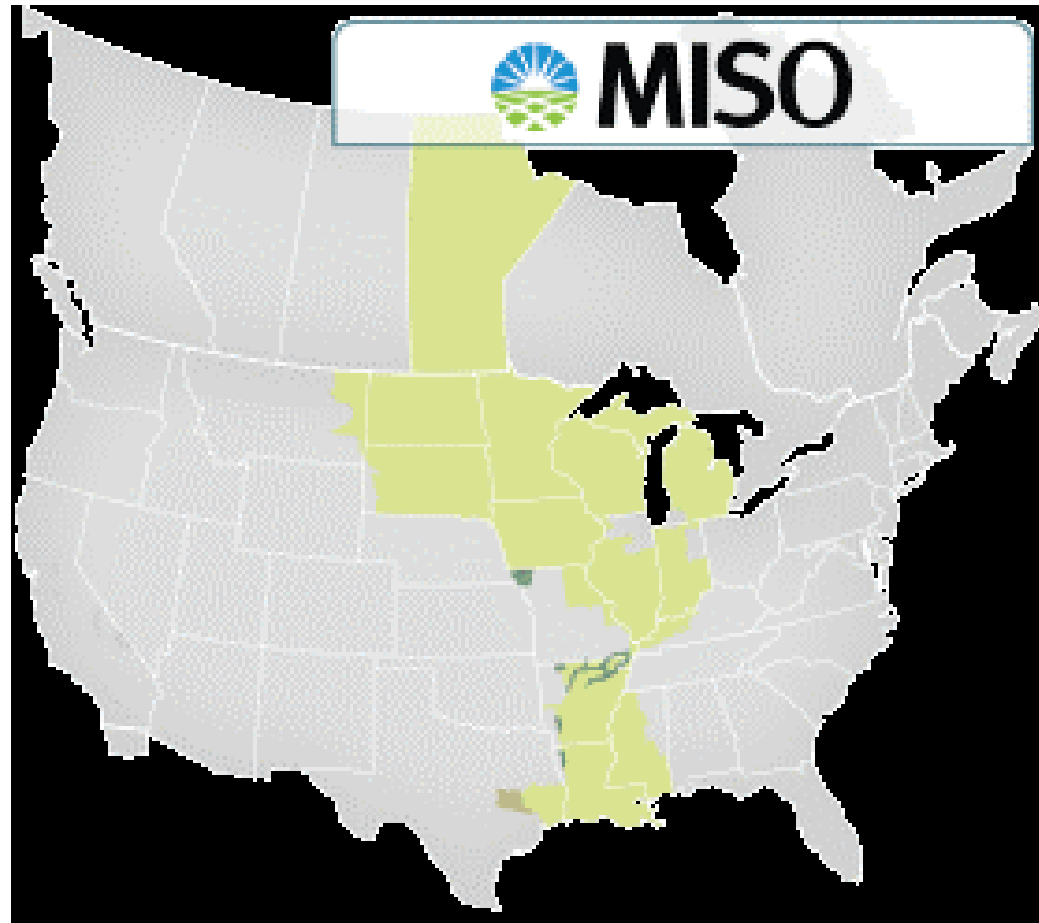
155 North 400 West, Suite 200
Salt Lake City, Utah 84103-1114

Projected Emissions Rates



Source: WECC

MISO Study





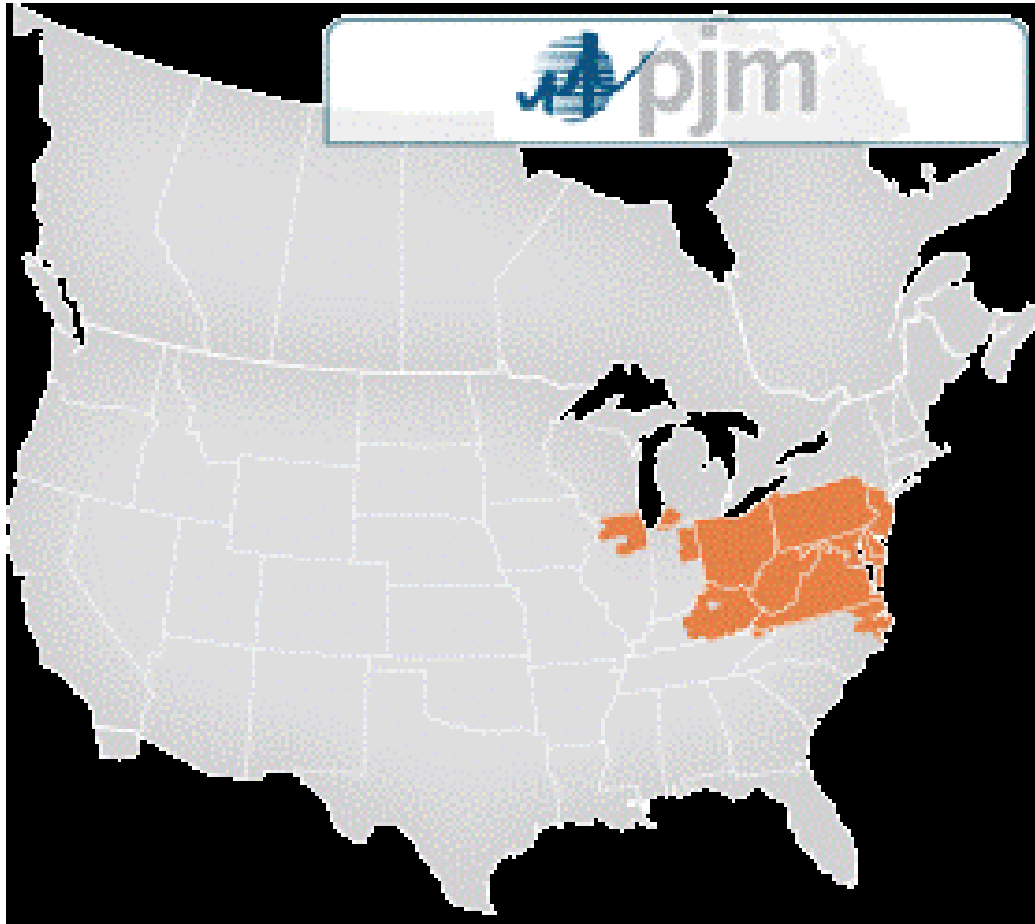
Analysis of EPA's Proposal to Reduce CO₂ Emissions from Existing Units

November 12, 2014

Key Findings (All costs shown are indicative)

- Compliance costs vary based on the reduction strategy.
 - ~\$90B net present value for EPA's Four Building Blocks
 - ~\$55B net present value for regional optimization
- Regional compliance is approximately 40% less expensive.
 - \$55B (regional) vs \$83B (sub-regional) CO₂ emissions reduction
- Entities subject to the rule may need to take action by 2020, which may challenge their ability to implement least-cost compliance strategies.

PJM Study



PJM Interconnection Economic Analysis of the EPA Clean Power Plan Proposal

March 2, 2015



Insights from the PJM Study

- “State-by-state compliance options, compared to regional compliance options, likely would result in higher compliance costs for most PJM states.”
- “State-by-state compliance options would increase the amount of capacity at risk for retirement...”

More than One Way to Act Regionally

- Full “Multi-State Compliance” is discussed in EPA’s proposed rule: states blend their targets and act jointly to achieve the single blended target.
- Several groups have proposed an alternative, variously called “modular compliance,” “common elements,” or “trading ready” plans.

A Working Model of Full Multi-State Compliance: the Regional Greenhouse Gas Initiative (RGGI)

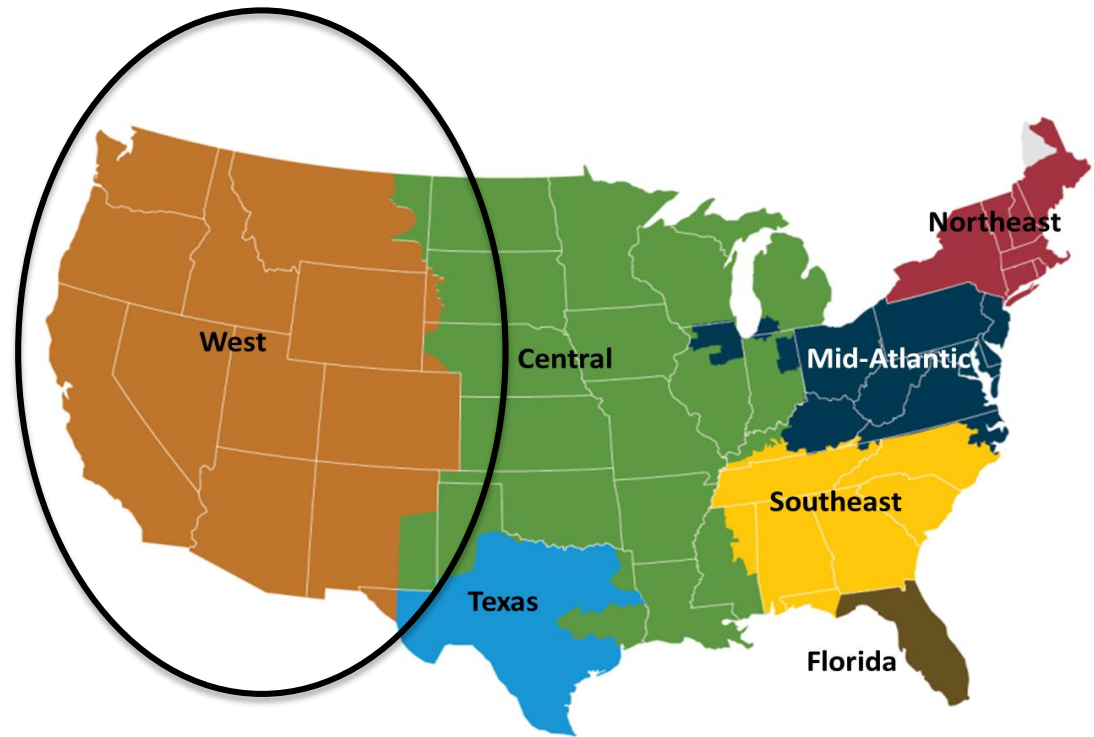
Participating RGGI States



- Reduced carbon emissions by 35% from 2008 to 2014
- Added \$1.3 billion in economic value to the region
- Saved consumers \$460 million
- Led to the creation of more than 14,000 new jobs

Modular Compliance Study

- “Modular” approaches to Clean Power Plan 111d compliance
- Contractor: Cadmus
- Report published April 2015



State-by-State Compliance

	State A	State B	State C	State D
2030 Goal	537 lb/MWh (or mass equivalent)	702 lb/MWh (or mass equivalent)	1108 lb/MWh (or mass equivalent)	1322 lb/MWh (or mass equivalent)
Elements of State Compliance Plan	Cap & Trade	EE	EE	EE
		RE	RE	RE
		Others	Others	Others

Full Multi-State Compliance

	States A and B	State C	State D
2030 Goal	581 lb/MWh (or mass equivalent)	1108 lb/MWh (or mass equivalent)	1322 lb/MWh (or mass equivalent)
Elements of State Compliance Plan	Cap & Trade	EE	EE
		RE	RE
		Others	Others

Modular Compliance

	State A	State B	State C	State D
2030 Goal	537 lb/MWh (or mass equivalent)	702 lb/MWh (or mass equivalent)	1108 lb/MWh (or mass equivalent)	1322 lb/MWh (or mass equivalent)
Elements of State Compliance Plan	Cap & Trade	EE		EE
		RE		
		Others	Others	Others



**Multistate Coordination Resources
for Clean Power Plan Compliance**

Sample Documents for Consideration

The National Association of
Regulatory Utility Commissioners
(NARUC)

June 2015

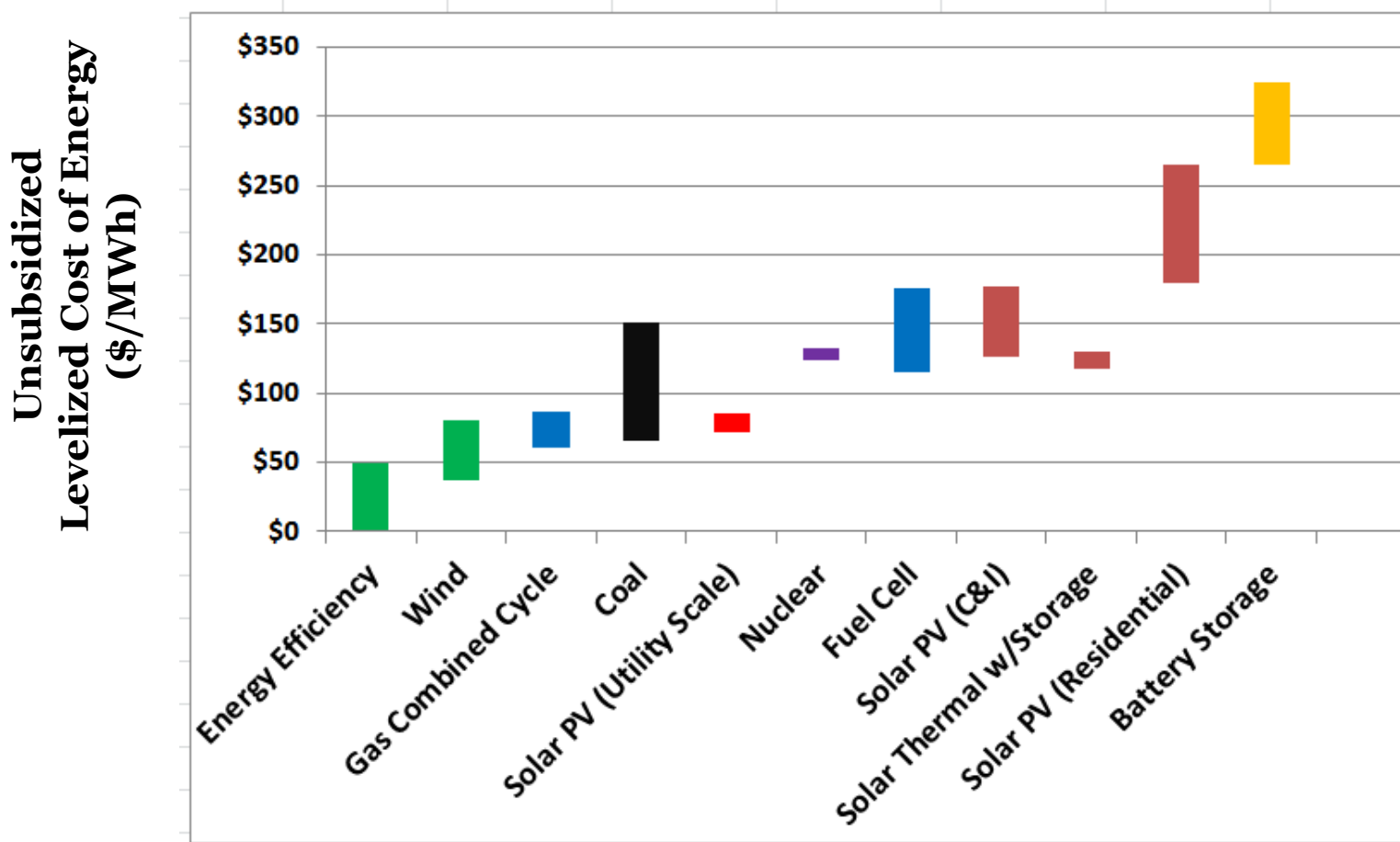


Miles Keogh, NARUC Grants & Research
Funded by the U.S. Department of Energy

Importance of EE in State Plans

- Crucial to develop or preserve state's ability/option to use EE for 111d if needed
- Much harder to wait for legal certainty and then try to go “from 0 to 60” overnight
 - Need to develop/preserve EE expertise, supply chains, and customer awareness
- **The job only gets harder and more expensive without EE**

EE is Much Less Expensive than RE



Uncertainty Doesn't Defer the Need for Planning – It Increases the Need

- Utilities and PUCs have routinely done long-term planning for decades
- Certainty about the future never exists
- Utilities, PUCs, and air agencies should consider their Clean Power Plan compliance options as part of routine planning exercises, even if they plan to litigate the rules

Thank You for Your Time and Attention

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts focused on the long-term economic and environmental sustainability of the power sector. RAP has deep expertise in regulatory and market policies to:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raonline.org

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