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Renewable Energy Tracking Systems: a Key Compliance Pathway to EPA's Clean Power Plan

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Energy Resources and the Environment Committee

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China

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Outline

- Flexibility versus Compliance
- Likely Plan Frameworks
- Using RE and Trading RECs Under the CPP

The *Genius* of the Clean Power Plan

- The *distinctive character or spirit* of the Clean Power Plan is that it **seeks to build on all the clean power investment that states are making.**
- **Leverage** what states are already doing.

Resolution on Increased Flexibility with Regard to the EPA's Regulation of Greenhouse Gas Emissions from Existing Power Plants

...provide sufficiently flexible compliance pathways or mechanisms that recognize State and regional variations to achieve the most cost-effective emissions reductions in each State....

Sponsored by the Committee on Electricity; Recommended by the NARUC Board of Directors November 19, 2013, Adopted by the NARUC Committee of the Whole November 20, 2013.

Lots of the Flexibility

- Responsible Parties
 - Generators;
 - Cohort;
 - Fleet;
 - State (Portfolio Approach); or
 - Combinations of these.
- Alternate “Pathways”
 - Rate-based: lbs./MWh
 - Mass-based: tons/year
- Many Choices of Compliance Approaches

Some Take a Dim View of the Flexibility proposed in the Clean Power Plan



"Paper or plastic?"

CN
COLLECTION

Flexibility Should be Balanced against the Need to Demonstrate Compliance

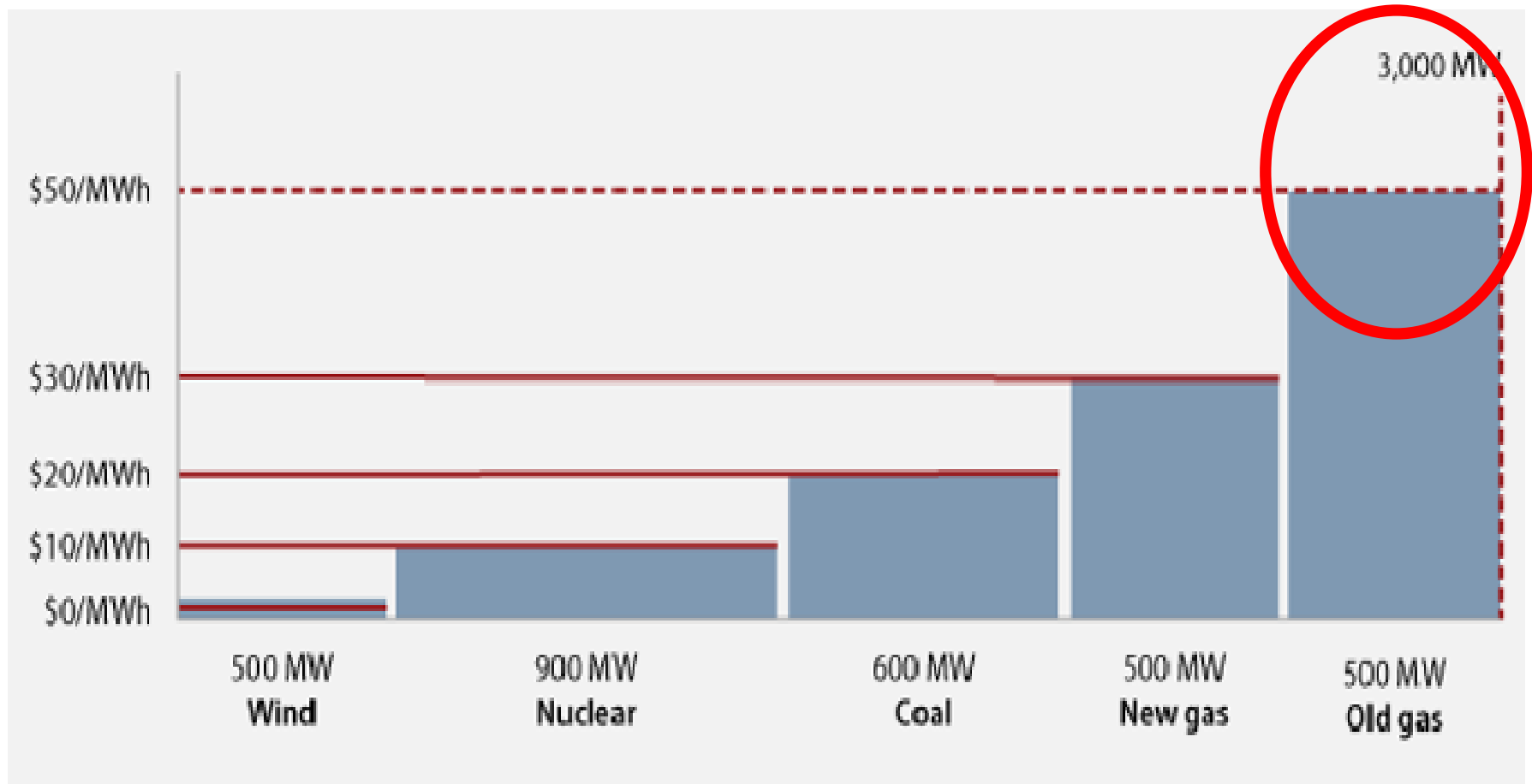
Is the emissions standard:

- Quantifiable?
- Non-duplicative?
- Permanent?
- Verifiable?
- Enforceable?

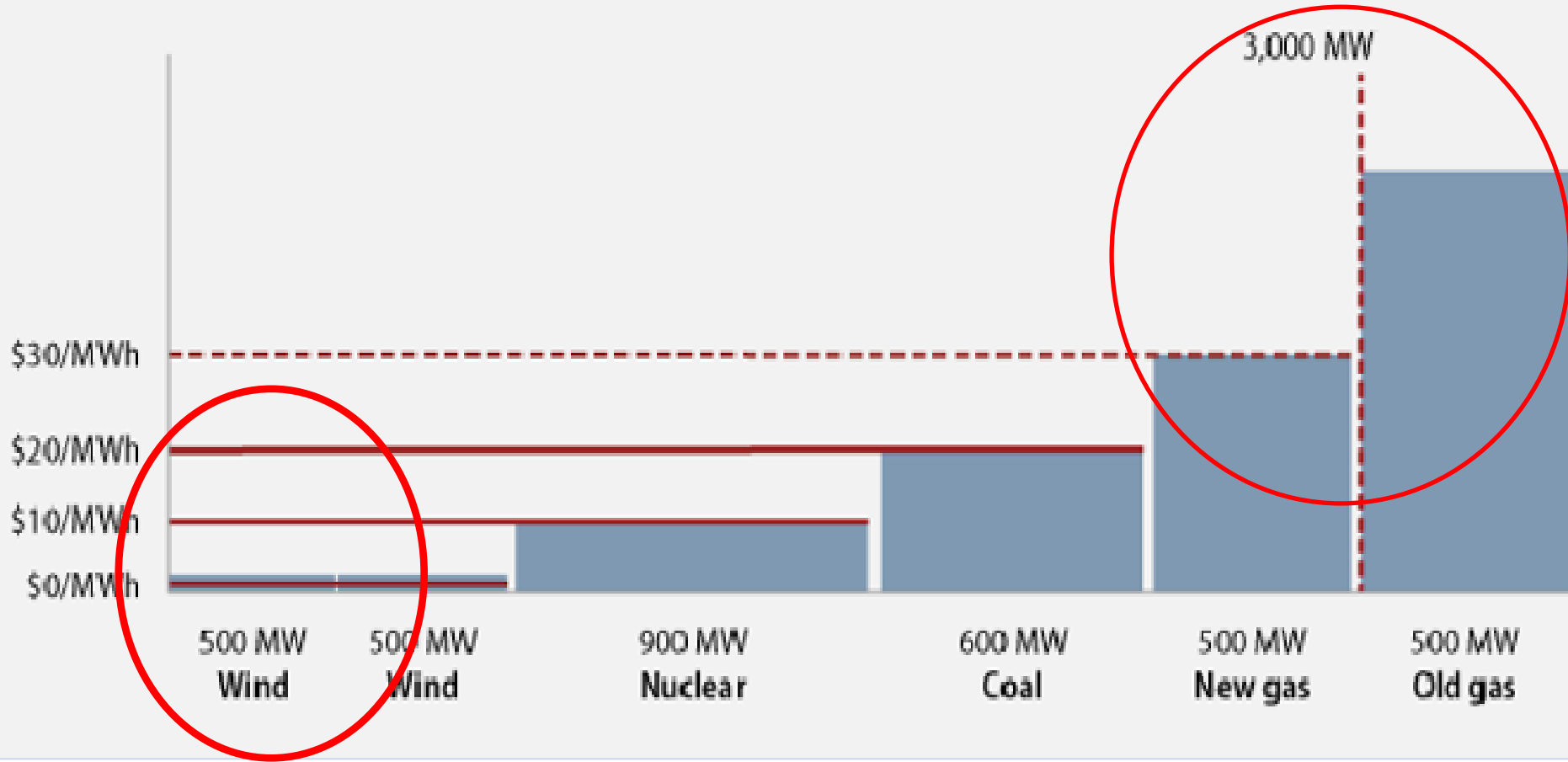


Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” June 18, 2014, 79 FR 34918-34919, 34913.

Why the Concern over RE: An Illustration



Addition of Wind Resource



Compliance: Rate-Based State

- **To credit** avoided **emissions** from RE, States must rely on **existing** crediting **mechanisms** or develop **new ones**
 - **RECs** are already produced, tracked, sold, and retired for RPS purposes
 - Need for reasonable **determination of avoided emissions.**

Determining Avoided Emissions

- **If** avoided emissions **data** for renewable resources are **available**, regulators will need to know how they were developed in order to assess their suitability.
- **If** such **data** are **unavailable**, regulators will need to be able to develop their own avoided emissions estimates.
- The three most widely used **methods**:
 - Average Emissions
 - Marginal Emissions
 - Dispatch modeling

Compliance: Rate-Based State

Q: How would a REC apply?

A: To an emissions rate's

Numerator (avoided CO₂ value)

Denominator (as a zero emissions MWh)

Compliance: Mass-Based State

- Mass-based approach captures all emissions reductions that occur at covered plants—whatever the reason for the reductions.
- No need to develop a crediting mechanism for Clean Power Plan compliance purposes.
 - State **reports total emissions** (tons) to demonstrate meeting the mass-based limit
 - **RECs** and their role in meeting RPS still used by for **planning**.

Trading of RE

- Out of a **Rate-based state**
 - **If not used for in-state compliance, REC could travel** and be used elsewhere.
 - For its CO₂ value – numerator
 - As a MWh – denominator
- Out of a **Mass-based state**
 - Value of RE already assumed in the State's bottom-line emissions, difficult to credit and trade.

RE Trading Could Facilitate Multi-State Compliance Approaches

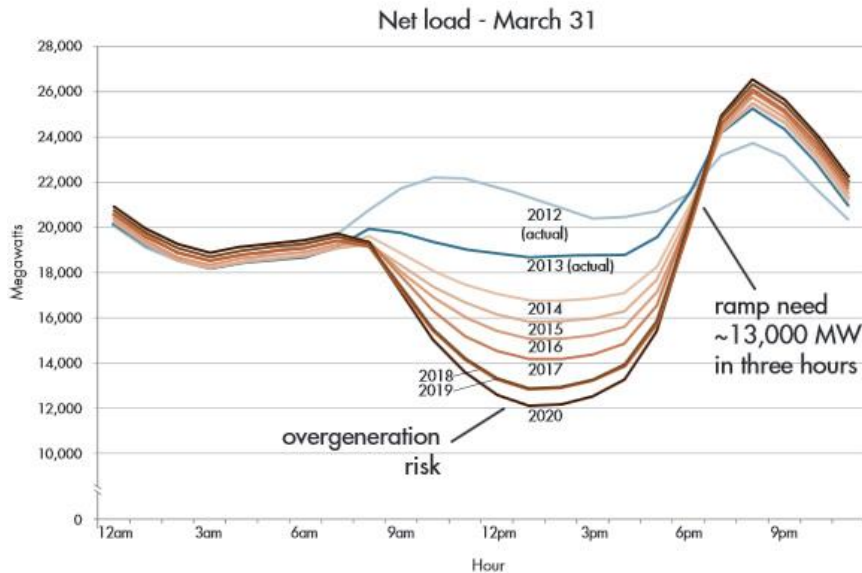
- **Better for power sector:**
 - Allows broader reliability regions
 - More compliance options = lower cost
- **Better for states:**
 - Fewer “seams” issues
 - Lighter lift; shared/lower costs
 - Strength in numbers
- **Better for EPA:**
 - Less reliability & cost risk
 - Fewer, faster approvals



RE Trading Could Facilitate **Modular** Multi-State Compliance Approaches

- States develop individual compliance plans, but with **portions of those plans** developed in voluntary collaboration with other states.
- Potential for
 - **lower-cost** compliance solutions
 - **tailored** to the specific circumstances
 - while allowing the **states** to **retain most** or all of the **regulatory autonomy** they would otherwise have.

RE Integration



- **[Designing Markets to Accommodate Variable Resources: “Teaching the Duck to Fly,”](http://www.raonline.org/featured-work/teach-the-duck-to-fly-integrating-renewable-energy)** Jim Lazar, RAP <http://www.raonline.org/featured-work/teach-the-duck-to-fly-integrating-renewable-energy>
- **[Webinar](http://www.raonline.org/event/teaching-the-duck-to-fly)** <http://www.raonline.org/event/teaching-the-duck-to-fly>

DG Tariffs

- Publication: Carl Linvill John Shenot Jim Lazar:
<http://www.raonline.org/document/download/id/6898>
- Webinar:
<http://www.raonline.org/event/webinar-designing-distributed-generation-tariffs>

Compliance with RE: Some Observations

- The **ability to track** renewable generation **is critical** to demonstrating Clean Power Plan compliance with RE.
- **RECs** and existing RE **tracking systems** provide **established** mechanisms and protocols for tracking RE.
- **REC ownership** and **retirement** is an established means of **demonstrating a claim** to avoided emissions from RE, and **avoiding** their **double counting**.
- **Having these systems** already, **avoids** the **need to create a new** 111(d) tracking/accounting **systems** for RE or for related avoided emissions.
- There are **reasonable means** of **determining avoided emissions**.

Resources

- “Cross-State Electricity Load Reductions under EPA’s Proposed Clean Power Plan,” Sam Hile, Center for Climate and Energy Solutions, November 2014, <http://www.c2es.org/publications/cross-state-electricity-load-reductions-under-epas-proposed-clean-power-plan>
- “Interview With NREL Director Dan Arvizu On Distributed Energy / Distributed Solar (Benefits & Obstacles),” <http://cleantechnica.com/2013/01/30/distributed-power-distributed-solar-benefits-obstacles/>
- “Designing Distributed Generation Tariffs Well”: Carl Linvill John Shenot Jim Lazar: <http://www.raonline.org/document/download/id/6898>
- Webinar: <http://www.raonline.org/event/webinar-designing-distributed-generation-tariffs>
- “Dealing with the Duck,” Mike Hogan and Bentham Paulos, Public Utilities Fortnightly, January 2014.

Thank You

About RAP

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

- 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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