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Tracking Renewable Energy for US EPA's Clean Power Plan: Pathways and Key Unknowns

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Unpacking the Term, "**Double Counting**"

- We are actually talking about two things:
  - **Ownership** of Instruments--RECs, and the
  - Relative precision of **characterizing emissions**

"Double Counting" cont.

- **Ownership of** Tracking **Instruments** is straightforward.

- Follow **tracking system rules**, and if you want credit for a renewable resource

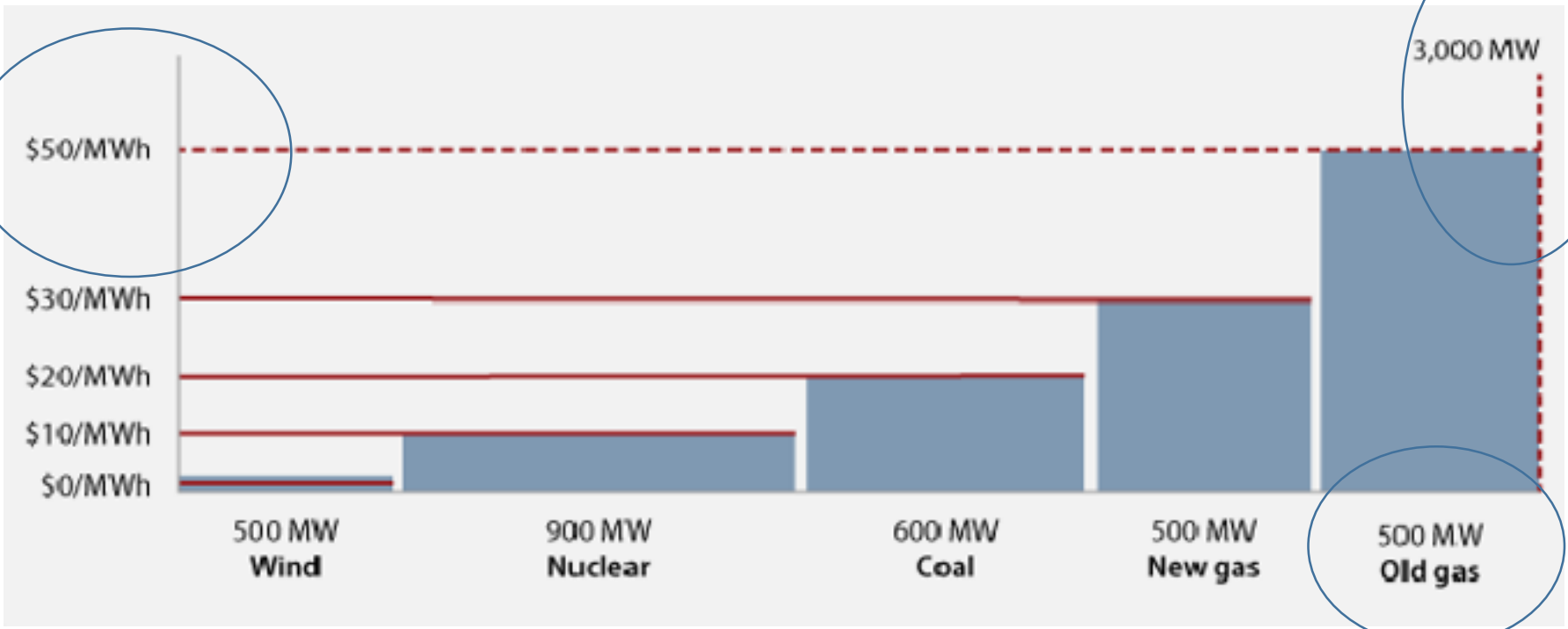
  - **Acquire** RECs and
  - **Retire** them

"Double Counting" cont.

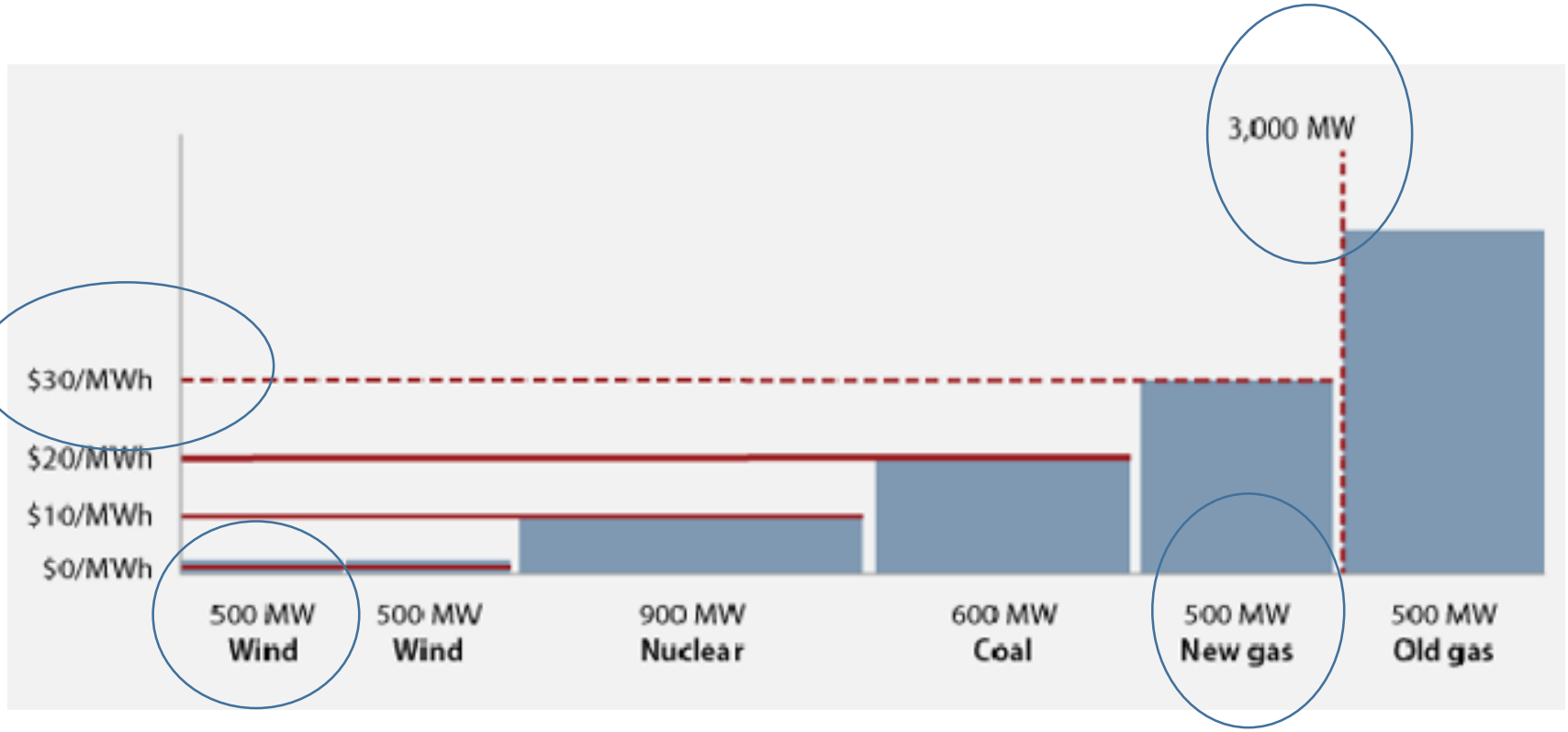
- **Characterizing** Avoided **emissions** is more involved with **various approaches** (and **combinations of approaches**) available.
  - Average
  - Marginal
  - Dispatch Modeling

- With **EPA guidance**, all states can adopt reasonable approaches to characterizing avoided emissions.

Effects of RE on the System—An Illustration



The Effects of RE on the System—An Illustration



Variations: How to use RECs in Various State Plans?

- **Rate-based State**:
  - Kept in Rate-Base state
  - Sold out of Rate-Base state into another
  - Sold out of Rate-Base state into mass-base state

- **Mass-based State**:
  - Kept in a Mass-Base state
  - Sold out of a Mass-Base state into another
  - Sold out of Mass-Base state into rate-base state

Counting Incremental RE in CPP Plans (Rate-Based)

	Example (Using 2 RECs @ 1,000 #/MWh each)	Seller's State (State Where RE Gen is Located)	Buyer's State (State Where Attribute is Sold To)
1	**RATE-BASED PROGRAMS**		
2	Kept in Rate-Based state	Add 2 zero-carbon MWhs to the state's denominator	N/A
3	Sold out of a Rate-Based state into another Rate-Based state	Not reflected in generating state's rate	2 MWhs of zero-carbon electricity added to buyer state's denominator
4	Sold out of a Rate-Based state into a Mass-Based state	Not reflected in generating state's rate	The 2 incremental RECs (@1,000 #/MWh) = 1 tonne under a Mass-Based program. The buyer Mass-Based state would be deemed to be 1 tonne closer to meeting its obligation. How would this actually work? Would the Buyer state remove 1 tonne from its budget to reflect the "displacement"? See VRSA below.

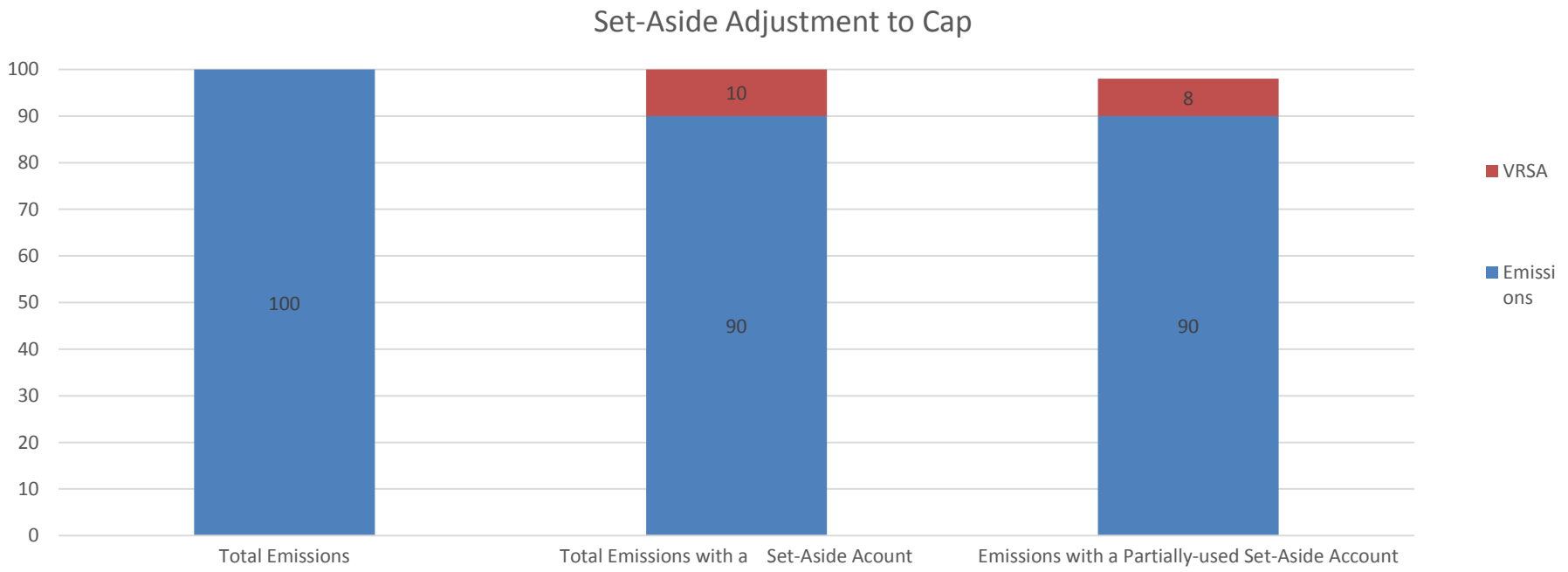
Counting Incremental RE in CPP Plans (Mass-Based)

	Example (Using 2 RECs @1,000 #/MWh each)	Seller State (State Where RE Gen is Located)	Buyer State (State Where Attribute is Sold To)
5	**MASS-BASED PROGRAMS**		
6	Kept in a Mass-Based state	2 incremental RECs (@1,000 #/MWh) presumably displaces one ton of fossil generation. Under the mass budget, allowances reflecting one ton would need to be retired (or else the mass budget – still intact – would allow additional fossil generation). This is the current approach used in most RGGI states: retiring previously set-aide allowances to accommodate incremental RE sales.	N/A
7	Sold out of a Mass-Based state into another Mass-Based state	2 incremental RECs (@1,000 #/MWh) presumably displaces one ton of fossil generation. Under the mass budget, allowances reflecting one ton would need to be retired (or else the mass budget – still intact – would allow additional fossil generation). But retired by who (from whose budget) – Seller or Buyer?	Were the allowances associated with the RECs retired by the Seller state? If no, then the Buyer state (or its agent) must retire allowances (or else the overall mass budget – still intact – would allow additional fossil generation). Presumably this could be negotiated and either the Seller state or the Buyer state would retire an appropriate amount of CO2 allowances to reflect the carbon displaced by the incremental renewable energy (or split the difference).
8	Sold out of a Mass-Base state into a Rate-Based state	2 incremental RECs (@1,000 #/MWh) presumably displaced one ton of fossil generation. Under the mass budget, allowances reflecting one ton would need to be retired (or else the mass budget – still intact – would allow additional fossil generation).	2 MWhs of zero emissions electricity added to Buyer state's denominator

Compliance in Mass-Based, i.e., capped regions

- Will mass-based programs need to adjust caps to reflect incremental RE production?
- One model: RGGI Voluntary RE *Set-Aside*
    - Adjust cap to reflect RE carbon attributes sold/claimed

Renewable Set-Aside Illustrated



Conclusions

- Clean Power Plan's **strength**: It **builds on states**' clean energy **policies**
- Existing REC **tracking systems—effective** in tracking RE production for **CPP compliance purposes**
- Using REC tracking systems for CPP **compliance—consistent with current** RPS compliance **methods** and voluntary market practices
- **Using RECs is also fair** in that the state paying for the REC gets to use it to comply with the CPP

Conclusions

- **Double-counting** should **not** be a **significant issue if** all states follow established tracking system rules for REC ownership and retirement.

- **EPA** should provide **guidance** on how states should consistently count RE and determine avoided emissions: Could be as simple as:

  (1) Project avoided emissions; then

  (2) Look back and "true up"

- Don't let perfect become the enemy of the good – trying for too much precision.

Thank you

- The Regulatory Assistance Project (RAP) is a global, non-profit team of energy experts, mostly veteran regulators, advising current regulators on the long-term economic and environmental sustainability of the power and natural gas sectors. (www.raponline.org)

- David Farnsworth has been with RAP since 2008. He served as a hearing officer and staff attorney with the Vermont Public Service Board from 1995 to 2008. From 2003 to 2008, he was a member of the Regional Greenhouse Gas Initiative (RGGI) Staff Working Group.