

FERC's Recent Ruling on PURPA: Variable Energy Rate Option

PRESENTED BY

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EUCI Online Conference
Pricing and Eligibility Changes
to PURPA

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Agenda

- Summary of FERC Order 872
- Variable Energy Rate Option
- Current Options for Avoided Energy Rate Design
- Examples of States Considering/adopting Variable Energy Rates
- Potential Disputes in Implementing Variable Energy Rates
- Shift in Risk Burden to QF Developers?

Summary of FERC Ruling

- The FERC Order 872 is the latest in a long series of attempts to reshape implementation of PURPA.
- It calls out the perennial problem of fixed avoided cost pricing in a declining cost environment:
 - “[T]here is evidence suggesting that the Commission’s rationale for allowing a QF to fix its avoided cost rate for the term of its contract, i.e., that any overestimations and underestimations in avoided cost rates during the term of the contract would “balance out” over time, may no longer be valid.” [NOPR in Docket No. RM19-15-000; page 22]
 - “... there are numerous instances where overestimates and underestimates have not balanced out. When that has occurred, consumers have borne the brunt of the overpayments, which subsidized QFs, in contravention of Congressional intent and the Commission’s expectations.” (emphasis added) [Order 872, Federal Register / Vol. 85, No. 171 / Wednesday, September 2, 2020, PP 254-255]
- The NOPR also noted the development of wholesale markets in many parts of the U.S. and that “significant renewable resources have been developed outside of PURPA.”

Summary of FERC Ruling – Key Changes



1. Weakened Mandate for Fixed Pricing in QF contracts

- A state option for variable, as-delivered avoided-cost energy pricing in PPAs with QFs
- Continue to require fixed capacity prices
- Continued lack of guidance/requirement from FERC on minimum contract length

2. Greater Role for Competitive Procurement

- A state option for implementing RFPs to set the avoided cost rates
- Requires “transparent and non-discriminatory” process to be administered and scored by an independent entity

3. More Stringent QF Eligibility Requirements

- ▶ The 20 MW rebuttable presumption of QF’s nondiscriminatory access to markets has been lowered to 5 MW
- ▶ Allow showing that affiliated small QFs located 1-10 miles away from each other are on the same site.
- ▶ LEO/contract entitlement requires QF to demonstrate “commercial viability” and “financial commitment”

Weakened Mandate for Fixed Pricing in QF Contracts

FERC introduced new options for states/utilities to determine avoided energy cost rates that are not set at the time of contract execution for the duration of the contract (i.e., float over time)

- LMPs in RTO regions
- Liquid hub spot prices in non-RTO regions
- Indexed to spot gas prices with combined cycle heat rates in non-RTO regions

With the overarching condition that “the states first determine that such prices represent the purchasing electric utilities’ avoided costs.”

But avoided capacity rates are required to be fixed during the term of the contract

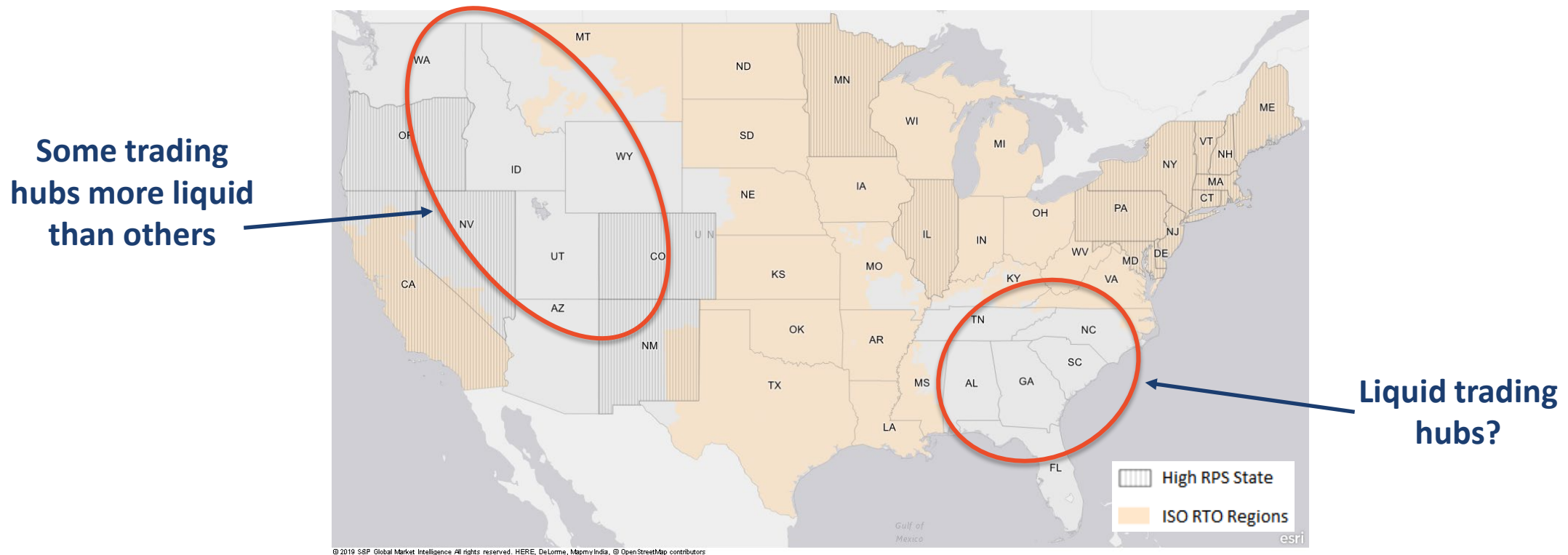
FERC declined to adopt criterion for minimum contract length

- Uncertainties due to a continued lack of guidance from FERC
- FERC believes states should determine the minimum contract length
 - Will states respond by increasing contract lengths with the new option to implement variable energy rates?

PURPA Relevance Varies with Geography

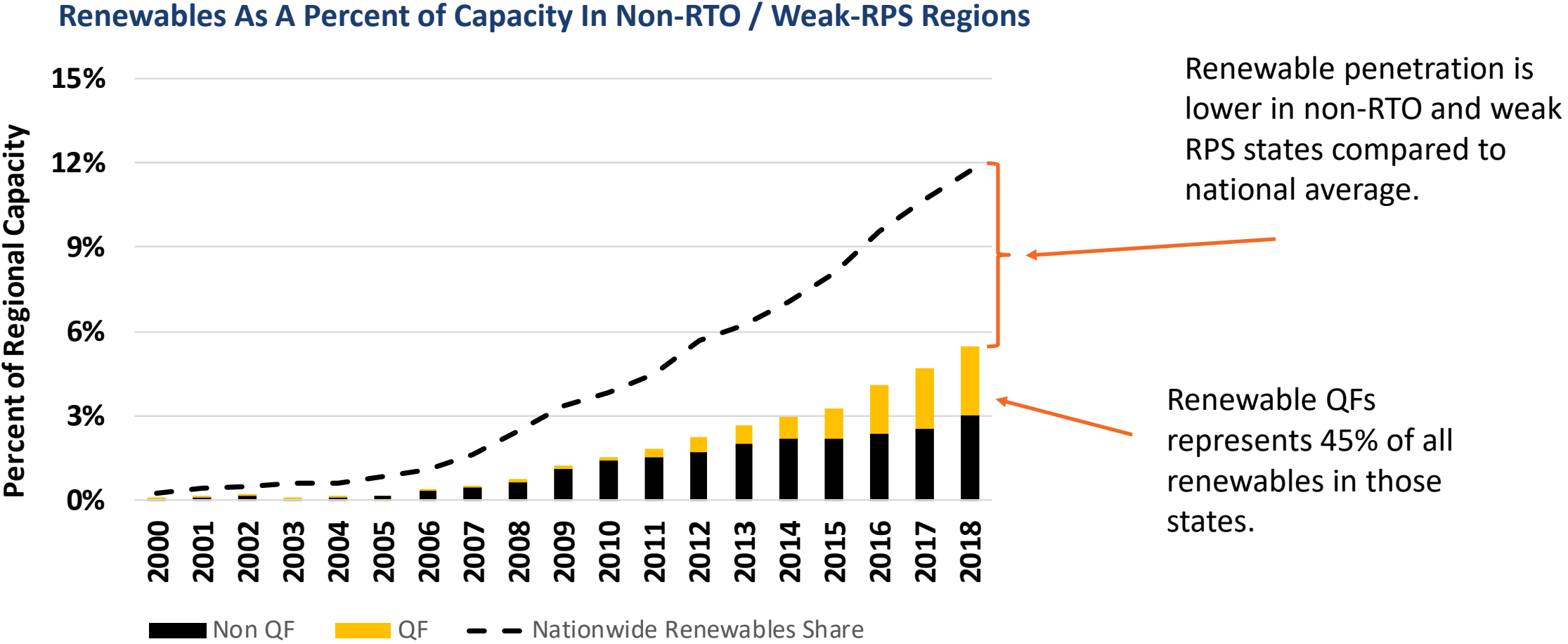
PURPA's relevance for renewables development is most pronounced in non-RTO states with low RPS requirements.

- These states represent almost 1/3rd of the total generation capacity in U.S., and four of the top 10 states for QF entry



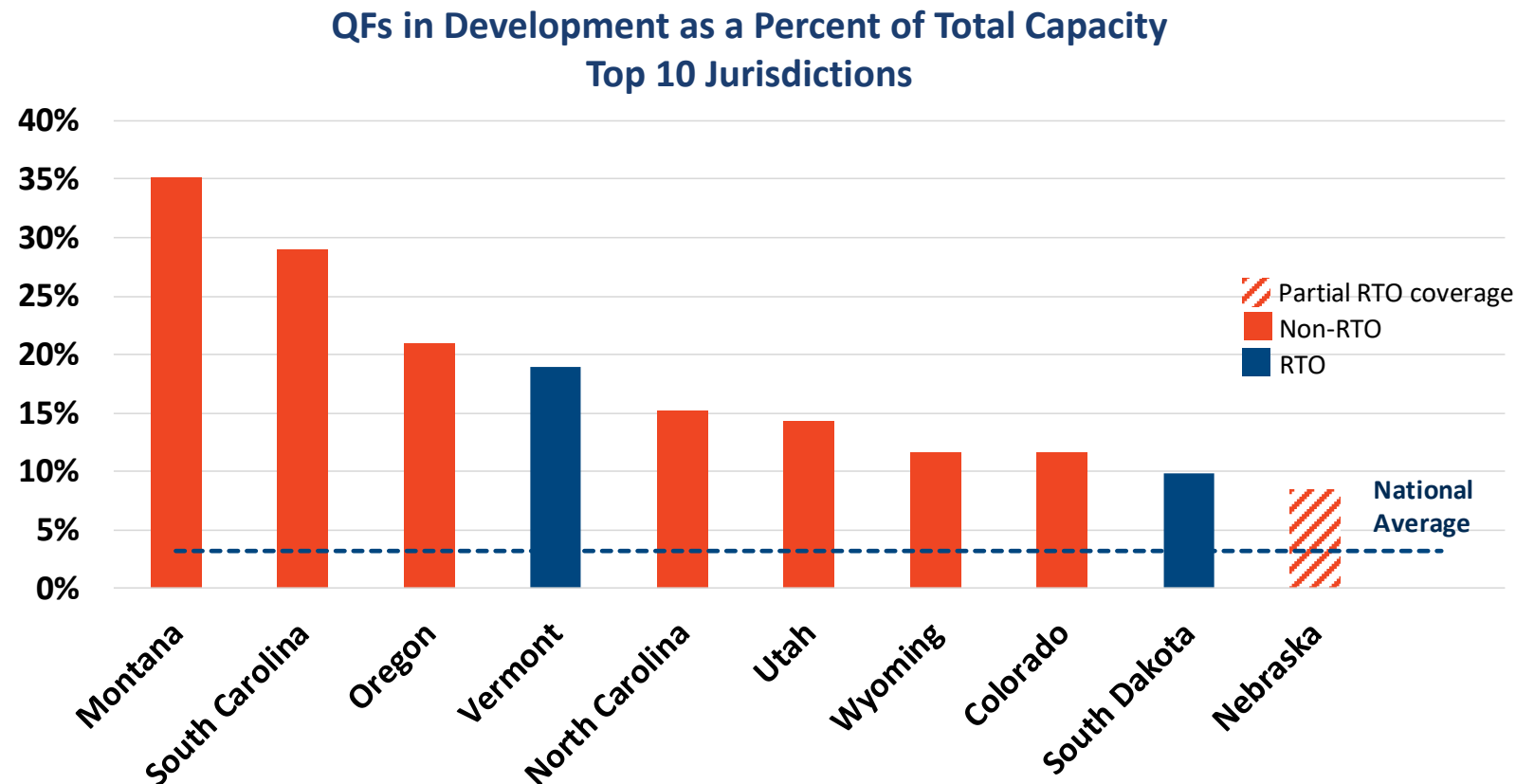
Notes: States with RPS targets greater than 15% and not yet expired (as according to DSIRE) were considered “high RPS states.” Renewable portfolio goals, clean energy standards, and clean energy goals were not considered.

PURPA's Geographical Relevance



QF Oversubscription Problem

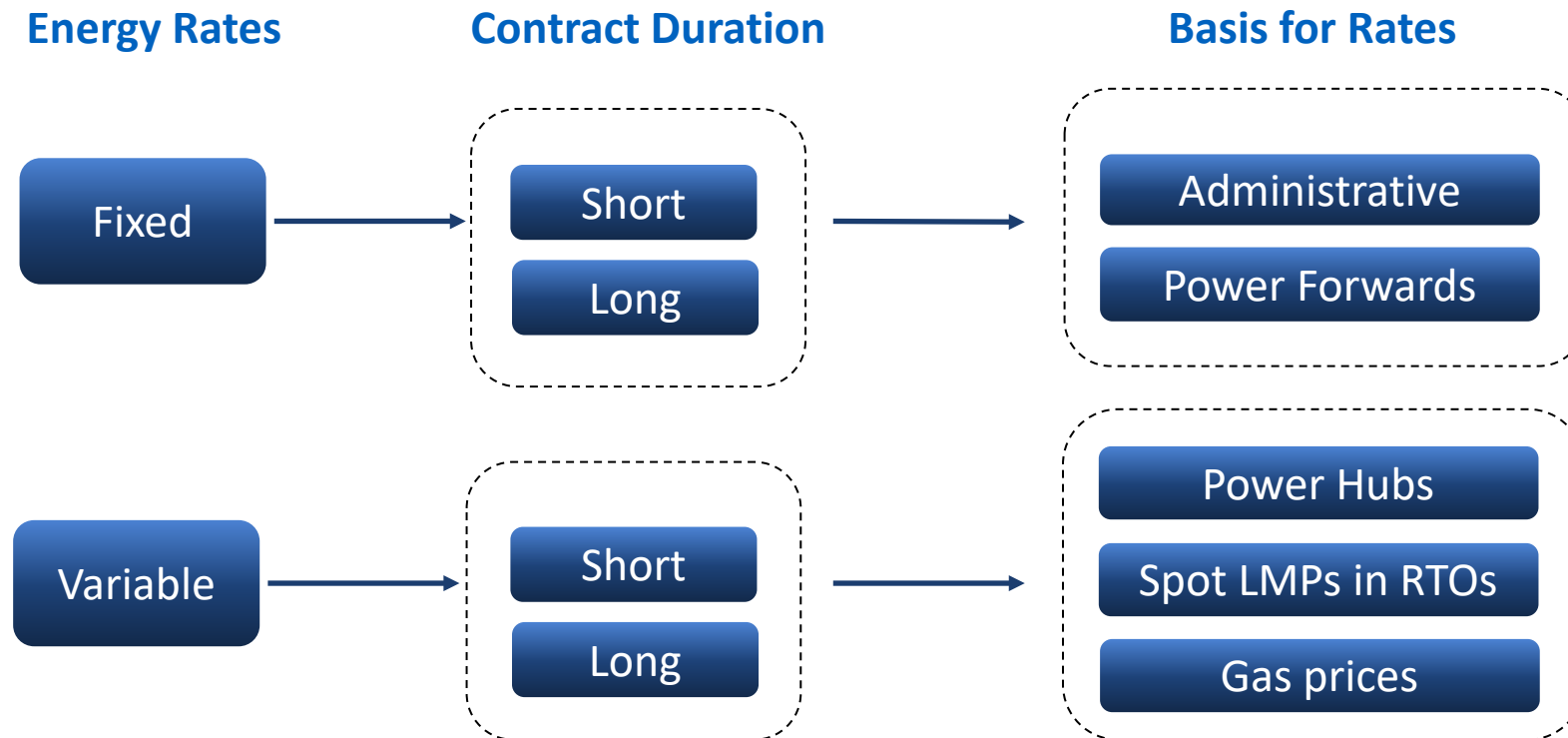
Currently, about 28 GW (or 80%) of the 35 GW total QF capacity under development around the country is concentrated in 10 states. Most of these states are located in non-RTO regions.



Current Options for Avoided Energy Rate Design

Fixed energy rate over the term of the contract is still an option, in addition to various flavors of variable energy option:

- Variable rates can be set by hub prices, LMPs or indexed to gas prices
- Fixed energy rates can now be based on forwards at power hubs



Stakeholder Responses to the Variable Energy Rate Option



States moving towards a Variable Energy Rate Option

- **Idaho**
 - Idaho Power commented in Sep 2020 to the Idaho PUC its aversion to adopt contracts longer than 2 years without a mechanism that allows for periodic updates of avoided cost rates during the term of the contract

States considering options to implement

- **California**
 - California IOUs have requested to have to option to implement variable energy rates that would begin January 2021, however the California Energy Commission denied the request for the time being
- **Michigan**
 - The Michigan PSC seeking comments on options for PURPA implementation in Michigan

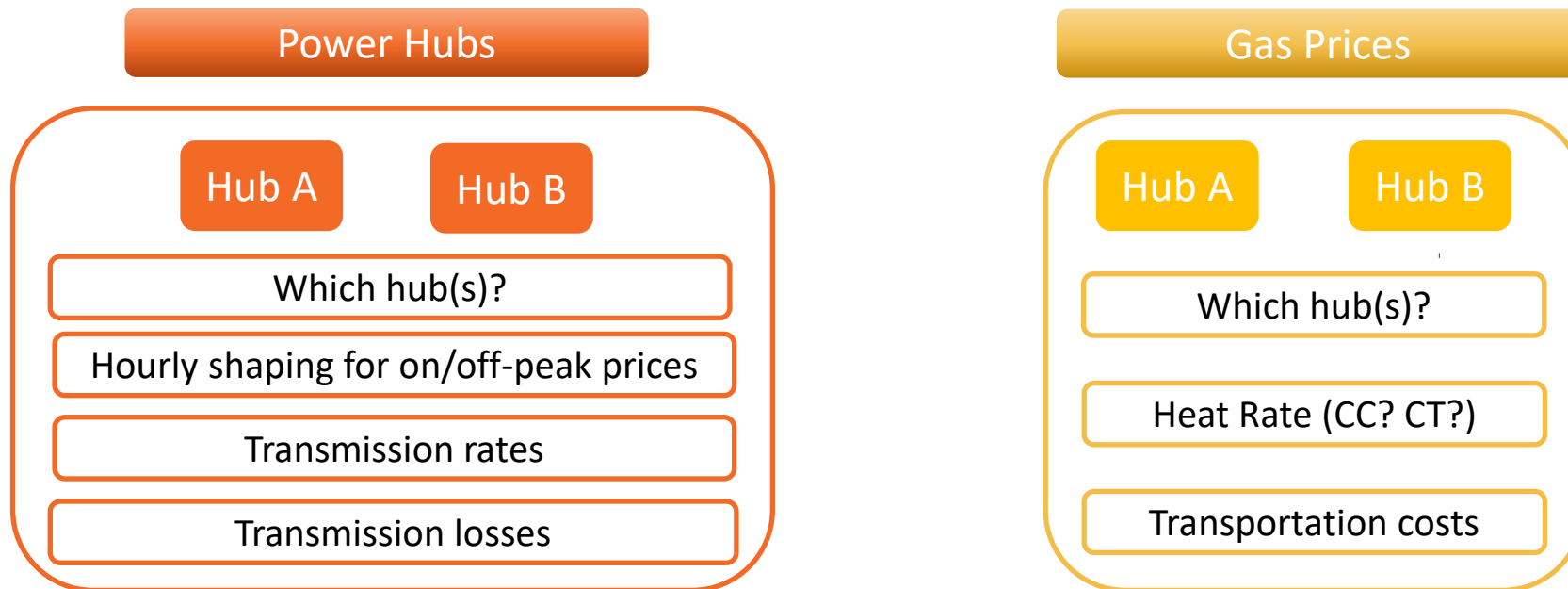
Some states believe variable energy rates will negatively impact investment in renewables

- In December 2019, the AGs in seven states (DE, MD, MI, NJ, NC, OR, DC), and PUCs in two states NJ and RI warned changes to PURPA could impede their clean energy and climate goals.

Potential Disputes in Implementing Variable Energy Rates

If a state/utility exercises the option to implement variable energy rate, potential disputes may arise:

- Which design option to pick if the resulting variable rates differ materially?
- Adders/adjustments to reflect deliveries to utility (and are they fixed vs. uncertain over the contract term?)
- Formulaic (more transparent) versus ad-hoc (more subjective) updates to variable rates in later years?
- Showing sufficient liquidity at the selected hub(s)



Cannot simply pick the lowest price option: FERC requires a showing that the selected option represents the avoided cost for the utility.

Selected Comments on Variable Energy Rate Option



Variable Energy Rate Approach

- El Paso Electric argued regulators should be able to base avoided cost rates on the lowest price between the power hub and the combined cycle price – but FERC denied that: “In the event that more than one competitive price option potentially could apply, the state would be required to select the option that reasonably reflects the purchasing utility’s avoided costs, which is what PURPA requires.”
- The California PUC argued utilities in RTOs should be able to base the avoided cost between a power hub, competitive solicitation, and combined cycle price – but FERC denied that, and requires LMPs as the basis for variable rate in RTOs
- Industrial Energy Consumers oppose the power hub pricing option because they are not sufficiently competitive, nondiscriminatory, and transparent as a basis to calculate the avoided cost

Risk Exposure

- Industrial Energy Customers argued there should be assurances utility-owned builds should be subject to the same market risk exposure as QFs facing market risk under the variable energy rate design
- Arguments against spot LMPs because they do not reflect long-term marginal cost (congestion, transmission, and capacity)

QF Payments

- Commenters argued QF rates should also reflect the benefits instead of just the avoided cost of energy
- The Solar Energy Industries Association argues the purchasing utility should still be required to compensate QFs added value items such as RECs, frequency response capabilities, and pro-rated capacity under the spot LMP variable energy rate option

Shift in Risk Burden to QF Developers?

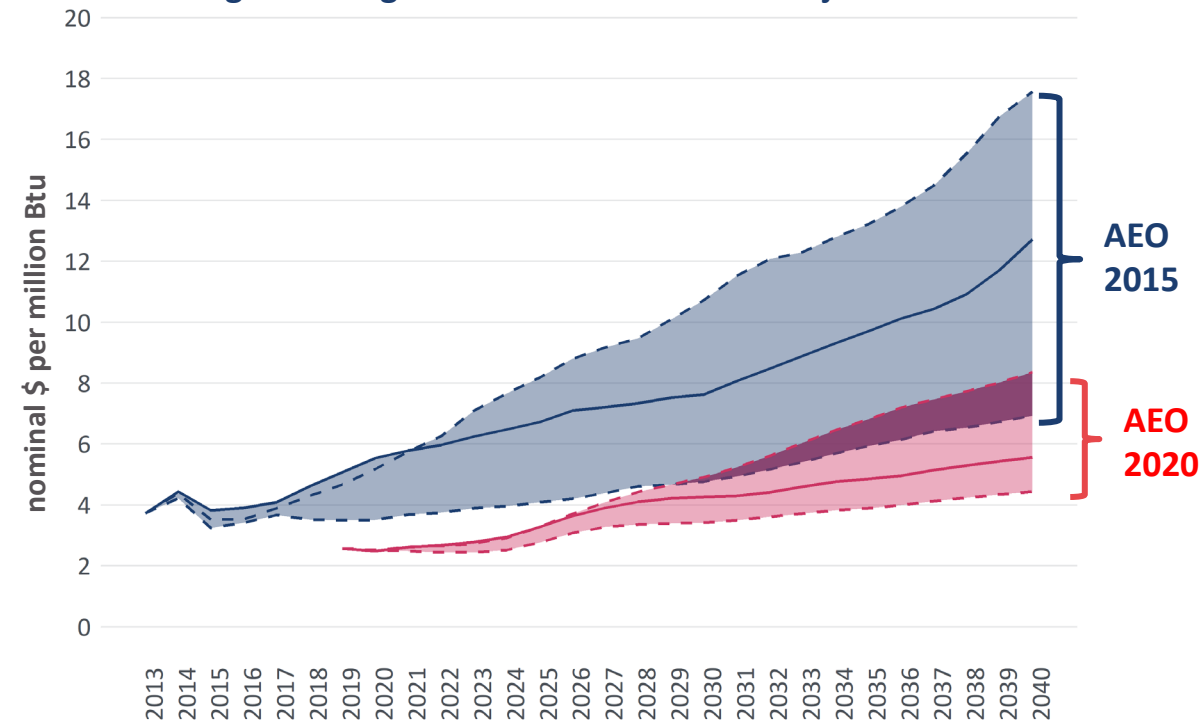
Likely yes in many instances, but depends on:

- How the risk allocation would look like under the “fixed rate” option: short duration “fixed rate” contracts also allocate majority of the risk to developers (but short duration contracts likely not in line with “reasonable opportunities to attract capital from potential investors”)
- Whether the historical tendency to overstate long-term avoided energy rates likely to continue in the future
 - LT gas price forecasts down, hence less room for overstating energy rate forecasts
 - Acceleration of coal plant retirements beyond announced/forecast retirements (hence uptick on energy prices) would also reduce overstating of energy rate forecasts
 - But further penetration of renewables beyond current targets/announcements and lower load growth than forecasts would depress future energy rates
- How transparent the methodology for setting variable energy rates – easier to hedge more transparent, known, formulaic approaches
 - “Virtual” access to wholesale energy markets would require contractual undertakings, at minimum:
 - ▶ Future prices indexed to liquid hubs via transparent formula,
 - ▶ Minimum durations for contracts,
 - ▶ “Evergreen” mandatory purchase obligations that would survive changes in PURPA law.

Long-term market risk for energy prices smaller than in the past?

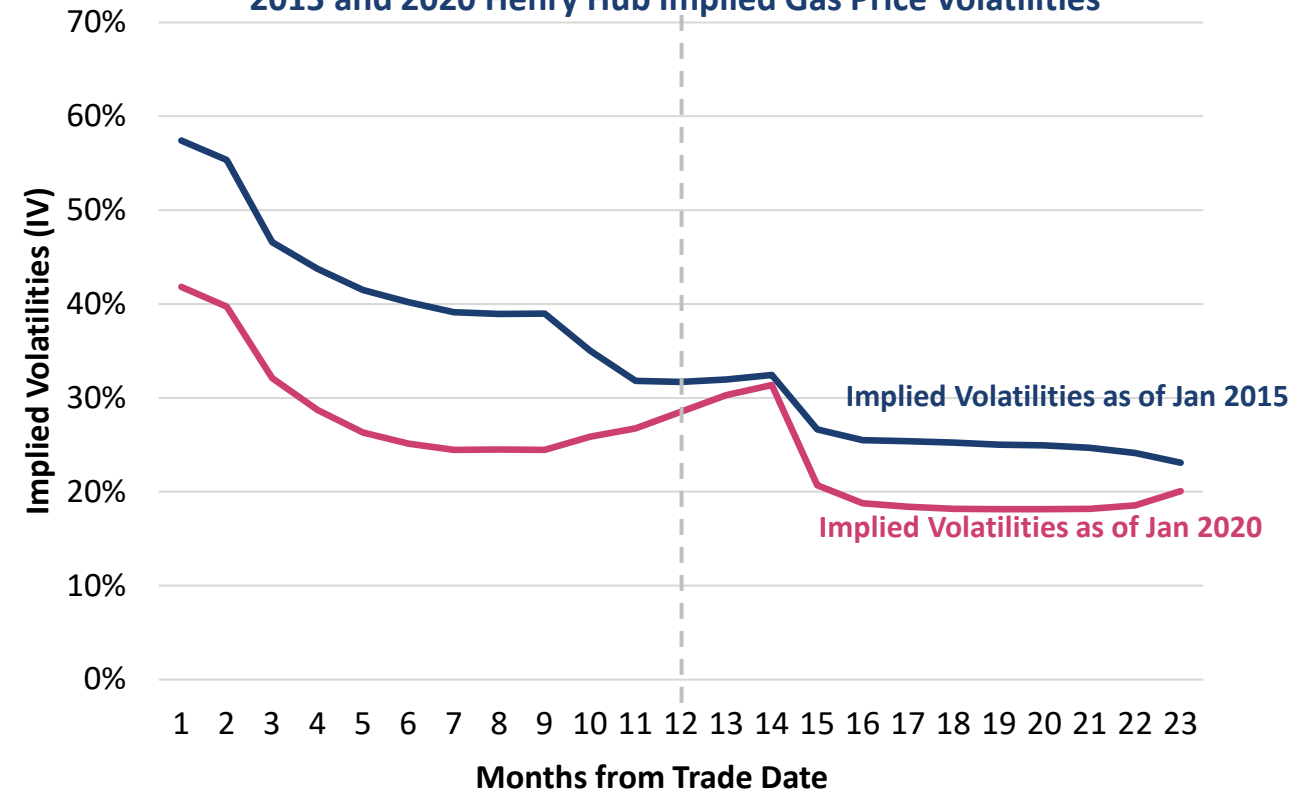
- Long-term gas price uncertainty is now narrower compared to five years ago
- Implied gas price volatilities in gas forwards are lower in 2020 compared to 2015
- Impact of changes in gas prices on energy prices likely to decrease in the future due to increasing penetration of renewables?

Ranges of Long-Term Natural Gas Price Projections



Source: EIA Annual Energy Outlook 2015 and 2020.

2015 and 2020 Henry Hub Implied Gas Price Volatilities



QUESTIONS?
COMMENTS?

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Dr. Metin Celebi provides expertise in electricity markets and analysis of environmental and climate policy. He has consulted and testified primarily in the areas of wholesale power markets, resource planning, and economics of early retirement for coal and nuclear plants. Dr. Celebi also has experience in developing and analyzing climate policies, power plant valuation, cost/benefit analyses for joining RTOs, LMP modeling, and energy contract litigation.

Dr. Celebi received his Ph.D. degree in Economics at Boston College, M.A. degree in Economics at Bilkent University, Turkey, and B.Sc. Degree in Industrial Engineering at METU, Turkey.

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