

UTILITY MONOPSONY REGULATION: WHAT'S BEHIND LOW-COST WIND AND SOLAR BIDS IN COLORADO?

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Public Service Company of Colorado's (PSCo) recently approved "Clean Energy Plan"¹ that retires two coal plants and replaces them with new wind and solar generated "shockingly" low renewable energy prices² in response to its request for proposals (RFP). But the most striking result of PSCo's RFP may not be the low prices or record participation – instead it may be that a utility which was the only buyer in a solicitation for generation did not exercise its "monopsony" power – defined as a single-buyer in a market – to disadvantage potential suppliers.

Utility regulators can replicate these results. Utilities can be regulated to address their monopsony market power so that competitive solicitations result in many bidders and low prices for generation projects – precisely what happened in Colorado. But these low-cost competitive bid results didn't just magically show up one day; they were the result of long-term hard work by regulators, utilities, and stakeholders.

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¹ <https://www.xcelenergy.com/staticfiles/xe-responsive/Company/Rates%20&%20Regulations/Resource%20Plans/CO-Energy-Plan-Fact-Sheet.pdf> Commission order approving stipulation: <https://www.xcelenergy.com/staticfiles/xe-responsive/Company/Rates%20&%20Regulations/Resource%20Plans/16A-0396E-Phase-II-Decision.pdf>

² <https://www.denverpost.com/2018/01/16/xcel-energy-low-bids-for-colorado-electricity/>

This issue brief, part of [a series of short papers](#) analyzing issues arising in the utility financial transition from fossil fuel to clean energy,³ highlights lessons from Colorado's experience leveling the playing field to ensure competitive bid results in the state are achievable as part of the financial transition away from uneconomic coal generation.

LEVELING THE PLAYING FIELD FOR CLEAN ENERGY

Increasing awareness that new renewable energy from solar and wind projects can replace existing fossil fuel generation at a savings to consumers has focused more attention on the utility financial transition. *Utility Financial Transition Impacts: From Fossil to Clean*,⁴ an earlier brief in our Utility Financial Transition series⁵, suggests a four-step process to achieve a cost-effective transition with regulated utilities from old fossil fuels to new renewables:

1. Financial analysis to reveal plant level marginal costs of energy, then compare costs of old fossil units with costs of new renewables. This comparison, often omitted from utility-led resource planning, leads to decisions about moving utility investments from more expensive polluting to lower cost clean resources through early retirements.
2. Depreciation policy that feeds into utility rate cases determines how much investment will be included in consumers' utility rates, including how much investment remaining in early-retired plants will be recovered and over what period.
3. Refinancing some or all of the resulting regulatory assets, through securitization or other means, can result in additional consumer savings but reduces shareholder returns.
4. Reinvestment in utility-owned new clean resources can refill utility rate base and provide superior returns for equity investors to rebalance in shareholders' favor.

This brief is based on Colorado's experience in getting optimal results for step four above, and explains how to get the best current market prices for new renewables when a regulated utility is the single buyer, using competitive bidding in which utilities also participate as generators.

The Colorado experience shows competitive procedures can overcome monopsony market power, resulting in many bidders and low prices for generation projects. Since wind and solar costs continue to drop rapidly, only current results from workably competitive procurements provide access to current market prices for these resources. Getting those workably competitive results requires concentrated attention from regulators, utilities, and stakeholders. Results in Colorado speak for themselves.

LOW BID RESULTS IN COLORADO

PSCo was celebrated in trade and popular press after reporting to the Colorado Public Utilities Commission (PUC) that their RFP for the new replacement generation resources resulted in

³ Full brief series available at <https://americaspowerplan.com/power-transformation-solutions/financial-transition/>.

⁴ https://energyinnovation.org/wp-content/uploads/2018/12/From-Fossil-to-Clean-Brief_12.3.18.pdf

⁵ <https://energyinnovation.org/publication/managing-the-utility-financial-transition-from-coal-to-clean-2/>

median bid prices for wind of about \$18 per megawatt-hour (MWh) and about \$29 per MWh for solar, well below the marginal cost of many of PSCo’s existing coal power plants.⁶

RFP Responses by Technology

Generation Technology	# of Bids	Bid MW	# of Projects	Project MW	Median Bid	
					Price or Equivalent	Pricing Units
Combustion Turbine/IC Engines	30	7,141	13	2,466	\$ 4.80	\$/kW-mo
Combustion Turbine with Battery Storage	7	804	3	476	6.20	\$/kW-mo
Gas-Fired Combined Cycles	2	451	2	451		\$/kW-mo
Stand-alone Battery Storage	28	2,143	21	1,614	11.30	\$/kW-mo
Compressed Air Energy Storage	1	317	1	317		\$/kW-mo
Wind	96	42,278	42	17,380	\$ 18.10	\$/MWh
Wind and Solar	5	2,612	4	2,162	19.90	\$/MWh
Wind with Battery Storage	11	5,700	8	5,097	21.00	\$/MWh
Solar (PV)	152	29,710	75	13,435	29.50	\$/MWh
Wind and Solar and Battery Storage	7	4,048	7	4,048	30.60	\$/MWh
Solar (PV) with Battery Storage	87	16,725	59	10,813	36.00	\$/MWh
IC Engine with Solar	1	5	1	5		\$/MWh
Waste Heat	2	21	1	11		\$/MWh
Biomass	1	9	1	9		\$/MWh
Total	430	111,963	238	58,283		

Wind and solar coupled with storage were marginally higher, but remarkably affordable.⁷ Not only that, but the numbers of bids is nearly ten times those received in response to a prior bid, which also resulted in wind and solar costs that decreased consumers’ costs of electricity service.⁸

These remarkable bid results are a credit to Colorado policymakers and to Xcel, PSCo’s holding company, and the Colorado operating utility and its managers and employees. As contracts are reached with wind and solar bidders below reported median bid prices, PSCo consumers should join the celebrations because their long term electric costs will be lower and much less risky as the company pursues its “steel for fuel” business model and climate mitigation goals.⁹ The Colorado competitive resource acquisition model, starting with planning and bidding, early coal retirements and clean replacements, public support, and legislative and regulatory action has some important lessons embedded in it that deserve more comprehensive scrutiny.¹⁰

⁶ These prices include federal tax credits for wind and solar.

⁷ Storage costs are difficult to analyze based on the PSCo report to the PUC, since amounts of storage bid to PSCo are not documented.

⁸ Ron Binz documented these results with a careful explanation of PSCo’s bid evaluation in 2013, posted in a brief YouTube video that leads the field in videos featuring a utility spreadsheet. Watch it at: <https://www.youtube.com/watch?v=Ffgyhk2PuGE>

⁹ https://energyinnovation.org/wp-content/uploads/2018/11/Steel-for-Fuel-Brief_12.3.18.pdf

¹⁰ Credit has to be shared with the renewable energy industry, wind and solar developers, and firms that provide financial backing for renewables projects. Their growing sophistication and business acumen deserve recognition.

UTILITY MONOPSONY INCENTIVES AND OUTCOMES

Vertically integrated monopoly utilities have market power when they acquire new generation resources from other firms, since utilities control transmission networks that are required to move power from generation to loads.

As state franchised monopolies, utilities are the only legal electricity **supplier** in markets where they provide power. Utilities have incentives to use their monopsony market power in the market for new electricity resources to advantage themselves and disadvantage their potential suppliers, thereby maintaining their market control and financial advantages. These include growing or maintaining their rate base, and gaining regulator-authorized earnings on equity for their shareholders. Recognizing that utilities have both **monopoly and monopsony power** is the first step toward creating workably competitive markets for new resources through competitive bidding.

Utilities will exercise their monopsony power in a number of ways even while they ask for bids for new generation from other firms.

- They obfuscate needs and conditions for acquiring new power in planning, hiding information about what new power they might need, so bidders are in the dark about what, where, and when the utility really needs to acquire additional resources.
- They produce confusing or incomplete bid information so bidders cannot respond adequately.
- They retain discretion to reject bids on unclear grounds.
- They use secret or inconsistent bid evaluation criteria and methods.
- They refuse to disclose or make sudden and unexplained changes to bid documents and draft power purchase agreements so bidders are responding to uncertain and unclear terms, procedures, and outcomes.
- They change draft agreement terms to increase risks and costs on bidders in bid negotiations.
- They favor their own projects for reasons that they deem competitively confidential.
- They use confidentiality as a weapon against their suppliers and others and refuse to provide transparent and meaningful information in bid, evaluation, and agreement negotiations.
- They threaten suppliers and supplier representatives with retaliation if they criticize utility bid manipulation tactics.

Utility managers can choose to avoid these expressions of their market power and run fair and open bid processes instead. Too often, they exercise their monopsony power to the detriment of competitive power providers, in which case prudent regulation can intervene.

SOLUTIONS TO MITIGATE UTILITY MONOPSONY POWER

Adequate oversight and prevention of monopsony market power is required when utilities are determined to exercise market power against consumers' interests. This might obligate

commissions to implement several important oversight measures, many of which succeeded in the COPUC's oversight of PSCo's resource acquisition process:

- Write rules that open planning to public scrutiny, so planning information provided by utilities is complete and adequate to support bidder and market confidence.¹¹
- Make transmission access to rich renewable resource areas part of planning work, since it typically takes utilities more time to plan and execute on transmission investments than it takes developers to build their wind and solar projects.
- Require utilities to file draft requests for proposals and power purchase agreements (PPAS) as part of planning to give bidders early notice of terms and conditions to which their bids must be responsive. Revise these drafts if utility-proposed terms and conditions are unclear, arbitrary, or self-serving.
- Hold open and documented bid conferences to clarify questions and respond to concerns to help promote bidder confidence.
- Justify confidentiality claims and time-limit them, so eventually all bid information becomes public after bids result in contracts, when keeping bid information private is no longer relevant.
- Employ an independent evaluator to oversee the bid process and report to the commission to prevent utility self-serving bid procedures and assessments, especially if utilities want to bid their own projects in response to a solicitation.
- Judge bid success by numbers and variety of bids received and by competitive prices for resources offered, accepted, and put into service.

LESSONS FROM THE COLORADO EXPERIENCE

Several lessons from Colorado's experience are worth considering to ensure recent bid results in the state are achievable elsewhere:

LINK UTILITY PLANNING TO RESOURCE ACQUISITION

An important purpose for utility planning and regulatory review should be reducing risks that inappropriate investments will tax consumers without corresponding benefits. Investment risk identification and management, comparative valuation of resource options, and attracting interest and investment from bidders are all potential results of a transparent and thorough planning process. Planning provides assurances and builds consensus about resource acquisitions, reducing the chances of regulatory second-guessing or stakeholder-initiated disputes and litigation during the acquisition phase. The larger the potential investment, the more important this risk management purpose becomes.¹² Utility planning should be strongly linked to utility investments, so with good planning, developers can invest with confidence and with less need for regulators to adjudicate disputes about utility decision-making.

¹¹ Details and practical application of Integrated Resource Planning were first developed within NARUC's Energy Conservation Committee in the 1980's in large part in response to Amory Lovins' identification of the "demand side" in his celebrated 1976 Foreign Affairs article "Energy Strategy: The Path not Taken."

¹² <http://www.rbinz.com/Binz%20Marritz%20Paper%20071812.pdf>

Colorado commission planning rules require that draft resource RFPs and PPAs are submitted for commission approval along with required planning information and bid evaluation criteria and procedures. Having these documents at issue up front in the planning process helps to educate potential bidders and reassure them that the process is leading to a serious opportunity. Motivating bidders to compete for resource contracts is an important part of planning in Colorado. Resource acquisition issues start off with and are baked into the planning process.

COMMISSION APPROVAL FOR PLANS SHOULD INFORM AND SUPPORT PROCUREMENT

Some jurisdictions only accept or “acknowledge” utility integrated resource plans, but do not grant any meaningful approval or sanction as a result of planning. With nothing to be gained or lost, utilities and potential developers in such processes may not take planning seriously. In Colorado, plan approval, undertaken in two phases, results in rebuttable presumptions that utility actions taken in concert with approved plans are prudent.

The first phase of Colorado commission approval ratifies planning methods and assumptions, terms and conditions for RFPs, bid evaluation procedures, PPAs, and portfolios of resources to be filled by bids. As has been observed, wind and solar projects are not the only alternatives, so looking to additional options such as distributed resources, storage, and energy efficiency, could provide consumer benefits in the right circumstances. Based on this first phase approval, the utility issues its RFPs, evaluates resulting bids, and reports its recommended portfolio of bids for new resources to the commission.

The second phase of commission approval ratifies (or changes) the recommended resource portfolio so the utility can proceed to bid negotiations, contract awards, construction, and operation. If the utility carries out these steps in a manner consistent with approved plans, the resulting projects are considered prudent for purposes of inclusion in commission-approved consumer rates.

UTILITY OWNERSHIP AND COMPETITIVE BIDDING CAN COEXIST

Many jurisdictions encourage or allow utility bidding for new resources. But examples also exist where utilities simply build the next generation plant they have planned or negotiated, including their investment costs in their next rate case. Utilities sometimes use ill-conceived or self-serving bid processes as excuses or cover to accomplish their desired resource acquisitions, or to make their own generation investments in rate base. Typically, such bidding does not attract much interest or many bids from independent power producers, since bidders will likely not participate in utility bids where the outcomes are predestined for their bids to lose. This behavior is adequately explained by utilities’ financial incentives to increase capital spending.¹³

¹³ Regulators allow utilities to earn on equity investment as their major financial incentive. Not surprisingly, utilities, paid to invest, take whatever steps they can to make and justify these investments, including creating pre-determined bid processes that result in their choosing their own projects as bid winners.

<https://americaspowerplan.com/wp-content/uploads/2016/07/CostValue-Part1-Revenue.pdf>

Utilities can be allowed to own a portion of the market for new generation if they bid successfully, or acquire bid-in projects or project coownership at terms reasonable for consumers, so they can serve their needs to provide equity earnings on which their earnings per share are judged by financial analysts. But they should not be allowed to avoid genuine and transparent bidding since utility domination of the market without bidding for new generation does not engage competition to reduce costs, encourage technology development, and promote new business and financial approaches.

Successful bidding by utilities to own a portion of the market for new resources can allow them to avoid “hollowing out the rate base” and maintain their earnings per share for their investors while not foreclosing opportunities for consumers to benefit from competitive pressure from other firms with new technology and ideas.¹⁴

Utility ownership can be accomplished in many ways that also preserve competition for resources (e.g., build, own, transfer; part ownership and transfer; use of holding company and corporate ownership alternatives). Bids can be accepted for projects that a developer builds, with the intention of transferring ownership to the utility. Utilities can partner with developers to jointly own projects. Some utilities have renewable project development entities under the same holding company that might satisfy holding company ownership requirements. Utility ownership benefits can include access to lower cost capital, reduction of utility-inspired friction and resistance to new technologies and approaches, and longer-term ownership savings as capital recovery can be extended beyond that required by independent investors.

EXPERIENCE: THE BEST TEACHER

The COPUC has consistently revised its planning and bidding rules after each four-year cycle of planning and bidding. Lessons emerge as experience and conditions change and the Colorado rules have evolved to respond.

The process of evaluating lessons from experience continues, with the next iteration of rules incorporating distribution planning and more attention to timely transmission provision. Discussions are also now underway to incorporate potential for additional early retirements of uneconomic fossil generation, impacts of expanding wholesale markets, evaluating contributions to distributed and demand response resources, and accommodating the state’s aggressive

¹⁴ In Colorado, work on these notions about bidding and monopsony regulation started in the wake of PSCo’s building the Pawnee coal plant in the early 1980s when recession leveled load growth and interest rates skyrocketed. A billion dollars dropped into a rate case for a new power plant did not give the Colorado commission or ratepayers time to construct or consider options, or notice in time to participate in decision making. Work toward bidding for new resources started in 1984 and publication of an article “What are We Bid” in Public Utilities Fortnightly followed in 1987. Law intern Bob Touslee contributed to this work. Actual bidding in Colorado began after bidding rules were negotiated and then jointly proposed by Public Service Company of Colorado and the newly formed IPP group, CIEA. The commission accepted those jointly proposed rules in 1991. However, the company then balked at complying with them, and CIEA and other stakeholders had to battle for a number of years to get transparent bidding rules to be followed and to have an independent evaluator included in the bidding process.

See also: <https://www.utilitydive.com/news/enabling-storage-integration-through-market-driven-procurements/548815/>

carbon reduction goals across sectors adjacent to electric power, such as transportation, buildings, and industry.¹⁵

Acquiring customer efficiency and demand management resources is different enough from power resources that it has so far been handled in a separate process in Colorado, but this will come under reevaluation as technologies and approaches for providing customer-based resources continue to evolve. For example, Colorado’s experience mitigating utility monopsony incentives can inform procurement of behind-the-meter resources as so-called “non-wires alternatives.” Utility monopsony power will be even stronger as regulators in Colorado and elsewhere seek to link distribution planning with infrastructure and local resource procurement.

If some or all of these considerations are addressed, then utility bidding can proceed to test the market for the best prices for new generation resources, to the benefit of utility consumers.

CONCLUSIONS

With these suggestions in mind, utilities, regulators and consumers can all be better off as competitive processes reveal the best resource options available in the market at the time. PSCo’s recent bid results ratify the notion that these results can be accomplished, if the right planning procedures are followed, regulators regulate utility monopsony power in the public interest, and competitors are motivated by adequate information and transparent process to risk their capital by submitting many bids at low costs.

These outcomes are not the work of a day or a week, but by paying attention to the lessons already learned, the pattern that works in Colorado can provide guidance toward a cleaner electric sector.

¹⁵ <https://www.sos.state.co.us/CCR/GenerateRulePdf.do?ruleVersionId=5738&fileName=4%20CCR%20723-3>. See: Section 3600 Electric Planning Rules at page 82