American Public Power Association (APPA) Response to the Compete Coalition's White Paper on the Benefits of RTO Markets

November 2012

The Compete Coalition ("Compete") released a white paper on October 19, 2012 (*RTO and ISO Markets are Essential to Meeting Our Nation's Economic, Energy and Environmental Challenges*) in which Compete asserts that "the organized competitive electricity markets operated by the Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) are more important than ever." Compete describes these markets as "the best way to assure an affordable, efficient and adequate supply of electricity and to meet the nation's current and future energy and environmental needs."

It is not clear why Compete is once again reiterating these unsupported and often-repeated statements. Were these markets truly achieving such benefits, this should be readily apparent to consumers, regulators and policymakers by now. In contrast, there continues to be widespread resistance to the formation of new RTOs. For example, in the Western Interconnection, a proposed Energy Imbalance Market (EIM) has created significant concerns about the potential for such a market to morph into an RTO, especially among public power and cooperative utilities with a responsibility to serve their customers at lowest-cost. Even those who support the EIM proposal also support an accompanying governance agreement that prevents the formation of an RTO or the creation of RTO-like markets.[1] If the benefits asserted by Compete were true, why would there continue to be this level of concern about RTO-market creep?

The simple answer is that these claims of benefits are simply not accurate and this paper is yet another attempt by Compete to reassert its familiar series of myths about the markets. Below is a summary of these primary fallacies and the reality behind Compete's assertions.

RTO Market Myth #1: RTOs and ISOs are "producing substantial savings for consumers. For example, PJM estimates its operations save the region as much as $2.2 billion each year. MISO estimates it produced between $2.2 billion and $2.7 billion in annual economic benefits in 2011,

[1] *Corporate Structure and Governance of Western Energy Imbalance Market*, prepared by Wright & Talisman, PC for WSPP, March 2012, states on page 4 that: "Many market participants have expressed opposition to an RTO or the breadth of markets found in RTOs. These participants may seek assurances that governance and other structures can guard against an unwanted RTO or imposition of RTO-like markets or characteristics." http://www.westgov.org/PUCeim/documents/03-28-12EIMgvnc.pdf

not including such qualitative benefits as price and information transparency, planning coordination, and seams management."

Reality: Compete is confusing the benefits of the centralized grid operations with the problematic RTO-operated markets in which energy, capacity and ancillary services are bought and sold. APPA has acknowledged the efficiencies and cost savings from RTO and ISO operation of the transmission grid, but it is these markets, especially the energy and capacity markets, that detract from such savings and have driven up the net costs to consumers. For example, PJM estimates up to $900 million in savings from a reduced need for generation capacity, but PJM does not factor in overall higher earnings by the generators in the RTO markets. Because the generation owners can charge any price they wish in the RTO markets, regardless of cost, there is no evidence that any of the savings is passed on to consumers.

RTO Market Myth #2: "The efficiencies produced by the organized markets are keeping prices affordable and saving consumers billions of dollars…. [B]etween 1997 and 2011, retail rates in states within the footprints of organized competitive markets increased only 2.2% when adjusted for inflation, while those in states outside of organized competitive markets increased 8.5%."

Reality: The data presented by Compete are an inaccurate measure of the consumer impacts of restructuring. First, states that chose to restructure their retail markets, which are also located within RTOs, represented the highest-priced states. A primary impetus for restructuring was to lower such high prices. Therefore, when looking at price changes in *percentage terms only*, the restructured states will falsely appear to have lower price decreases. For example, Colorado, a non-RTO state had an average retail electric price of almost 6 cents per kilowatt-hour in 1997, which increased by 3.4 cents to 9.4 cents in 2011, a 58 percent increase. Massachusetts, an RTO state with retail restructuring, saw prices rise from 10.5 to 14.1 cents in this same time frame, a 3.6 cent or 35 percent increase.[2] Colorado consumers are clearly better off – with average bills below what Massachusetts consumers paid at the start of restructuring, despite the higher percentage increase.

The fact is that those states that restructured their retail markets and are located within RTOs had an average electricity rate of 12.6 cents per kilowatt-hour in 2011, 3.7 cents or 42 percent *greater* than states that remained regulated. At the start of retail and wholesale restructuring in 1997, the difference was actually *lower* between the two groups – equal to 3.1 cents.[3] Given that restructuring was initiated to lower these rates, the fact that the gap widened shows a negative impact on consumers regardless of how Compete chooses to obfuscate the price data.

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[2] Data are from US Energy Information Administration, http://www.eia.gov/electricity/data/state/revenue_annual.xls

[3] *Retail Electric Rates in Deregulated and Regulated States: 2011 Update*, American Public Power Association, April 2012, http://publicpower.org/files/PDFs/RKW_Final_-_2011_update.pdf

In addition, price is only one variable to examine when determining benefits to consumers. Prices can reflect regional factors such as the mix of fuels used to generate electricity and the costs of such fuels. A crucial measure is therefore the excess revenue earned by generation owners on top of their costs of generating and purchasing power. This differential between revenues and costs reflects the extent to which consumers are paying a premium for deregulated generator profits. According to APPA analyses, the returns on equity to merchant generator owners in PJM far exceed those of regulated utilities, indicating a higher price paid by consumers under restructuring simply to support higher profits.[4]

RTO Market Myth #3: "Renewable resource developers and owners, like most new entrants are attracted to the RTO and ISO markets… Over 75% of installed wind capacity is now located in regions with organized competitive electricity markets. During 2012, 71% of the wind capacity that came on line was located in states with an organized market and the five states with the most added wind capacity have an organized market."

Reality: The distribution of wind projects is a reflection of geography rather than market type. In fact, the vast majority of wind energy developers prefer to sell the output under fixed-price long-term contracts rather than into the volatile RTO-operated markets. The American Wind Energy Association (AWEA) lists "the fact that more electric utilities are locking in 20- to 25-year contracts for lower-priced wind power" as a "key driver of the growth in wind energy in 2012."[5]

Wind projects are concentrated in the mid-west, California and Texas RTOs because those regions have high wind potential and not because of the presence of RTO markets. Wind power statistics in the eastern RTOs tell a different story. The PJM Interconnection and ISO New England RTOs have only 5 percent of all wind capacity[6] but represent one-fifth all residential customers.[7]

Regarding the statement about the top five states for wind capacity, Compete mysteriously chose to use outdated data. According to the third quarter 2012 report from the AWEA, four of the five states with the greatest percentage growth in wind energy and three of those with the greatest numerical increase were located *outside* of RTOs.

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[4] *Financial Performance of Owners of Unregulated Generation in PJM: 2011 Update,* American Public Power Association, June 2012, https://www.publicpower.org/files/PDFs/Financial_Performance_2011_update_7_12_12.pdf

[5] *Success of tax credit and new more affordable U.S.-built technology helping drive strongest year yet for U.S. wind energy*, AWEA Press Release, October 18, 2012, http://www.awea.org/newsroom/pressreleases/3q2012release.cfm

[6] Calculated using data from AWEA, *3rd Quarter 2012 US Market Report*, p. 7, http://www.awea.org/learnabout/publications/reports/upload/3Q2012-Market-Report_Public-Version.pdf

[7] Calculated using customer data from US Energy Information Administration, http://www.eia.gov/electricity/sales_revenue_price/xls/table1.xls

RTO Market Myth #4: "The RTO and ISO markets are leading the way in innovation."

Reality: Compete provides no hard evidence to back up this statement other than a few anecdotes about electricity storage within RTOs. No comparative data is provided for non-RTO regions but similar anecdotes can be found for non-RTO regions. For example, Portland General Electric, located in a non-RTO state, is installing a large-scale lithium-ion battery storage system.[8] Moreover, a study released by APPA in March 2012 found that vast majority of new capacity, including innovative wind, solar, geothermal and biomass technologies was constructed under either utility ownership or long-term contracts and not for RTO market sales.[9]

RTO Market Myth #5: "The Smart Grid promises to transform the behavior of both energy consumers and investors, which is essential to meeting our energy and environmental challenges. This transformation will be most effectively realized in the RTO and ISO markets where transparent and credible price signals that reflect true resource costs give consumers the information they need to make smart efficiency decisions."

Reality: The often-repeated claim that RTO markets provide accurate price signals has not been borne out by reality. Prices in RTO markets do not reflect actual resource costs and instead are a product of complex market structures and strategic bidding behavior of sellers. These prices are not necessarily indicative of actual costs, and provide no information about other resource attributes, such as fuel type and environmental benefits.

As for Smart Grid implementation, this is driven largely by retail utilities themselves and is widespread in both RTO and non-RTO regions. A recent paper by the Edison Foundation's Institute for Electric Efficiency provides data demonstrating that utilities expected to "complete system wide deployment of smart meters by December 2012" equally represent both RTO and non-RTO states.[10]

RTO Market Myth #6: "The RTO and ISO markets offer the best platform for such capital-intensive, long-lived investments to be made efficiently and in a manner that ensures a reliable supply of electricity. Transparent electricity prices that vary by location, such as those provided through locational marginal prices ("LMPs"), signal when and where facilities are needed, and the incentives provided by the markets then attract the right type of resources at the lowest cost."

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[8] PGE Salem Smart Power Center, http://www.energystorageexchange.org/projects/40

[9] *Power Plants Are not Built on Spec*, American Public Power Association, March 2012, http://www.publicpower.org/files/PDFs/PowerPlantsArenotBuiltonSpecMarch2012_1331649529309_2.pdf

[10] *Utility-Scale Smart Meter Deployments, Plans, & Proposals*, Institute for Electric Efficiency, May 2012, Calculated from list of utilities and states in text box on page 11, showing 11 utilities in RTO states and 11 in non-RTO states, http://www.edisonfoundation.net/iee/Documents/IEE_SmartMeterRollouts_0512.pdf

Reality: The direct opposite is true. Instead of inducing new resource development, RTO price signals provide a financial incentive for incumbent generation owners to keep supplies constrained and drive up prices. The financial benefits of constrained supplies can be seen in the presentations by merchant generation owners to the financial community wherein factors that restrict power supply, such as the potential closure of coal plants, are touted as a benefit to their earnings. [11] Investment in new generation requires long-term contracting and not the volatile revenue streams from the RTO markets, as confirmed by a recent APPA study finding that 98 percent of the new capacity constructed in 2011 was built under utility or customer ownership and not for sales into RTO markets.[12]

When several states within RTOs have chosen to implement competitive bidding processes to award contracts for new efficient power plants, the owners of existing generators – the same entities that provide the bulk of the funding for Compete – have sought measures to directly prevent such new generation from clearing the RTO markets, thereby creating a major impediment to the entry of new supply.

RTO Market Myth #7: "RPM [PJM's Reliability Pricing Model capacity market] has effectively met its objective of ensuring system reliability at the lowest cost… In fact, since 2007, PJM's reliability program has secured incremental generation commitments of over 21,000 megawatts (MW), the equivalent of more than 16 nuclear plants or more than 32 conventional fossil fuel-fired units."

Reality: RPM has been an extremely costly means to obtain a relatively small amount of new generation. Since 2007, the program has cost consumers $60 billion, almost 95 percent of which was paid to existing resources.[13] The 21,000 MW cited above represents only *offers* of new generation (including uprates and reactivations) not the subset of 18,000 MW that actually *cleared* the market.[14] Compete chooses to ignore the 15,000 MW loss of capacity from deratings and retirements that occurred during this time frame.[15] Finally, much of the new capacity that

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[11] For example, in a presentation to financial analysts, Exelon identified several factors likely to raise future RPM prices, primarily coal retirements and higher costs and price offers for the coal plants continuing to operate; Bank of America Merrill Lynch Megawatt Roundup Conference, Houston, Texas, March 28, 2012, Slide 9, http://phx.corporate-ir.net/External.File?t=1&item=VHlwZT0yfFBhcmVudElEPTQ3NDUwOTd8Q2hpbGRJRD00NjAxMDA

[12] *Power Plants Are not Built on Spec*, APPA, March 2012.

[13] *2012 Quarterly State of the Market Report for PJM*, Section 4, Table 4-13, http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2012/2012q2-som-pjm-sec4.pdf

[14] Totaled from *RPM Base Residual Auction Reports*, PJM Interconnection, http://www.pjm.com/markets-and-operations/rpm/rpm-auction-user-info.aspx#Item08

was built did not result from RPM. In the most recent RPM auction, 5,000 MW of new generation cleared the auction – far surpassing any prior auction. But at least two-thirds of this new MW was constructed under a state-sponsored contracting program or by a vertically-integrated utility, and not for direct sales into the RPM market.[16]

RTO Market Myth #8: "Organized competitive markets have produced documented efficiency improvements."

Reality: Compete provides no reliable source of data for this claim. The often-cited 2007 Fabrizio, Rose and Wolfram study does not support a connection between RTO markets and efficiency because the bulk of the data was from 1991 through 1999, meaning that efficiency improvements preceded the formation of many RTO markets.[17] Another study cited by Compete, the Navigant analysis of improved coal plant efficiencies, does not compare these data to plants in non-RTO regions. Moreover, Navigant's data show increased efficiencies in the Midwest, the largest number of coal plants in the study, that begin in 1998 and continue steadily each year, even though the region did not create an RTO until 2005, after which the heat rates improvements cease.[18] An APPA analysis of nuclear power plant capacity factors, a common measure of efficiency, did not find significant differences between regulated and deregulated wholesale markets.[19] Finally, even if there are efficiency improvements resulting from RTO markets, there is no evidence that generators are sharing such benefits with consumers in the form of reduced prices.

RTO Market Myth #9: "According to the most recent annual state-of-the-market reports prepared by the market monitors, the organized markets are performing well."

Reality: Joseph Bowring of Monitoring Analytics, the market monitor for PJM, stated at an April 2010 Compete-sponsored event that "competitive outcomes are not automatic" and that such outcomes can only be achieved through detailed rules and monitoring.[20] Moreover, in the most

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[15] *2015/16 RPM Base Residual Auction Report*, PJM Interconnection, p. 18-19, http://www.pjm.com/markets-and-operations/rpm/~/media/markets-ops/rpm/rpm-auction-info/20120518-2015-16-base-residual-auction-report.ashx

[16] Equal to capacity from New Jersey and Maryland plants built under state long-term contracting programs and Warren plant built by Dominion in Virginia.

[17] *The Compete Coalition Oversells Independent Study Findings*, by Laurence D. Kirsch Mathew J. Morey Christensen Associates Energy Consulting, December 2007, http://appanet.cms-plus.com/files/PDFs/CompeteCritiqueChristensen12-3-07.pdf

[18] Figure 3, http://www.competecoalition.com/files/Navigant%20Study%20FINAL.pdf

[19] *N-plant performance unaffected by deregulation*, Public Power Daily, May 29, 2007, http://www.publicpower.org/files/PDFs/May29daily2007.pdf

[20] *Competition in the PJM Markets: 2009 Overview*, Monitoring Analytics, LLC, April 20, 2010, http://www.competecoalition.com/files/Bowring.pdf

recent State of the Market Report for the PJM Interconnection, Dr. Bowring found that the local market structure in the energy market and both the local and aggregate market structure in the capacity market were not competitive, as was the structure and the performance in the regulation market.[21]

RTO Market Myth #10: "The competitive organized markets provide a superior platform for implementing [renewable portfolio standards]…Organized markets are already reducing harmful emissions. In NYISO, power plant emissions of CO2 declined by 36% since 2000, SO2 emissions by 86% and NOx emissions by 76%. NYISO's system wide heat rate for fossil-fueled plants declined by 25% over this same period."

Reality: As stated earlier, RTO markets do not promote renewable energy, which depends upon long-term contracting. Moreover, there is no evidence that RTO markets have any connection to reduced emissions. The emissions data for New York is a reflection of the growth in natural gas and wind construction in the state, which a recent Christensen Associates' analysis concluded is primarily the result of bilateral contracts, utility ownership, and New York state renewable energy programs, not the RTO market.[22] Moreover, although critical for emissions reductions, no new nuclear power plants are planned or under construction within RTO markets.

RTO Market Myth #11: "Subsidies unfairly slant the playing field in favor of favored resources, interfere with price signals, and impede the delivery of the substantial benefits the organized markets have provided to customers for over a decade."

Reality: These "subsidies" are actually state-sponsored competitive processes to procure new generation that have been implemented after the RTO markets failed to provide needed new capacity. For example, the former head of the New Jersey Board of Public Utilities, in a statement criticizing a FERC order creating barriers to such state programs, describes the "failure of the PJM market to deliver new capacity which is desperately needed to reduce New Jersey's energy prices, and to replace aging, dirty, and inefficient generation facilities."[23]

Many of Compete's generation-owning members have been recipients of subsidies themselves that provide them with competitive advantages in the RTO markets. Such subsidies took the form of ratepayer funding of power plant construction under regulation, followed by "stranded

[21] 2012 Quarterly State of the Market Report for PJM, Monitoring Analytics, pgs. 4-5, http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2011/2011-som-pjm-volume2-sec1.pdf

[22] New York State Capacity Market Review, by Christensen Associates Energy Consulting, September 19, 2012, http://www.publicpower.org/files/PDFs/CAEnergy_NY%20Capacity%20Market%20Study_120919_Final.pdf

[23] New Jersey Board of Public Utilities, News Release April 13, 2011, http://nj.gov/bpu/newsroom/news/pdf/20110413a.pdf

cost" payments when retail restructuring was implemented. Ownership of such heavily subsidized and largely depreciated power plants gives these merchant generators an advantage over new independent competitive entrants. This is very far from the ideals of a truly competitive market that Compete unconvincingly claims to exist in the RTO markets.