### <u>10:00 a.m. (EST)</u> 1-866-362-9768 940-609-8246#



Energy Committee August 27, 2015

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2015 Energy Committee Calendar Meetings will begin at 10:00am **OMA Energy Committee Meeting Sponsor:** 



Thursday, November 19, 2015



### **OMA Energy Committee Agenda** August 27, 2015

Welcome and Introductions Brad Belden, Belden Brick, Chair Ryan Augsburger, OMA Staff State Public Policy Report **Customer-Sited Resources Report** John Seryak, PE, RunnerStone, LLC • Energy Efficiency Program Updates • EE Peer Network Activity Demand Response & CHP Jason Jarecki, AEP Energy Changes to PJM Capacity Market Todd Altenburger, AEP Energy **Counsel's Report** Kim Bojko, Carpenter Lipps & Leland • Utility power purchase agreements Rebecca Hussey, Carpenter Lipps & Leland (PPAs) **Panel Presentation** Dean Ellis, Dynegy • A panel discussion on the Ray Culver, Dynegy consequences of pending utility Todd Snitchler for Dynegy

power purchase agreements (PPAs) and rumored "re-regulation"

### Presentations / Updates / New Business

- New Transmission Charges
- Pipeline Development
- Clean & Safe Energy Coalition (Nuclear)
- Electricity Market Trends and Reliability
- Alternative Energy Standards
- Natural Gas Market Trends

Susanne Buckley, Scioto Energy

Shawn Nelson for COMPETE Coalition

Andrew Thomas, Cleveland State University

Richard Ricks, NiSource, Columbia Gas of Ohio

Lunch

Meeting sponsored by: ana:(c)/®

### Overview

The General Assembly completed work on the biennial state budget in time for the Governor to sign the bill into law by June 30. Governor Kasich made 44 line-item vetoes. Hundreds of permanent law changes were included in the budget as amendments. Some electric generation owners had won inclusion of a provision to exempt generation companies from tangible personal property tax (TPP) liability. Ultimately the controversial provision was stripped in the final hours of the budget proposal.

House and Senate members have been on summer recess in the months since and they are not expected to return for legislative session until October.

### **Governor Kasich Appoints Porter**

Since April PUCO Commissioner Andre Porter has been serving as chair of the agency. Chairman Porter visited with members of the OMA Board of Directors on June 9. Jason Rafeld was appointed Chief of Staff of the PUCO in this same timeframe. Both posts are critical to Ohio's regulatory direction.

### **Electricity Rates and Regulation**

Significant utility rate cases are pending at PUCO. Distribution utilities have filed cases proposing power purchase agreements (PPAs). The cases are highly controversial and have been reported in the press. See OMA white paper or OMA Energy Group testimony for more information. See August OMA testimony by Dr. Edward "Ned" Hill.

### **Generation Re-regulation**

In the last month, pressure is building on regulators to approve the utility power purchase agreement proposals. In an abrupt about-face from long-standing support for deregulated generation, FirstEnergy CEO is now calling for the state to re-regulate generation. See included media stories.

FirstEnergy is attempting to obtain massive subsidies from customers for two of its largest power plants for 15 years in a case pending before the Public Utilities Commission of Ohio (PUCO). The <u>OMA Energy Group</u> has intervened in the case to oppose the FirstEnergy subsidies. It seems likely now that, if it fails at the PUCO, the company might seek a form of a bailout from the General Assembly.

### Clean Power Plan / Federal Greenhouse Gas Regulations / 111(d)

US EPA issued a final rule in early August. The OMA filed comment together with the NAM and individually. Ohio EPA and the PUCO filed comment on behalf of the state as did the Ohio attorney general. The gist of the testimony: as proposed, 111(d) revisions are unworkable. Litigation on the rule is expected to delay effectiveness. If the provision goes into effect, states will need to adopt "state implementation plans" that will impose regulations on emissions to attain the federal goals. The OMA is planning a special panel on this topic at the Nov 19 Energy Committee meeting.

### **Natural Gas Infrastructure**

The OMA has expressed support for the Rover Pipeline and Nexus Pipeline. Billions of dollars of pipeline investment are underway by several different developers. Manufacturers interested in learning more or communicating the importance of the projects may contact staff.

### **Transmission Charge Increase**

Ratepayers within the AEP-Ohio service territory may have noticed a jump in on their electricity bills earlier this summer. The increase is attributed to a new rider called the Basic Transmission Cost Rider (BTCR) that went into effect on June 1, 2015.

While lawyers for the OMA Energy Group contested the new rider, it was ultimately approved by the PUCO. Since the implementation of the new rider in June, some members (specifically, AEP-Ohio GS-2 and GS-3 customers) have seen a significant increase in their transmission costs. See counsel's report. Communicate your effects to staff so we can better inform policymakers.

### **Energy Efficiency Legislation**

Legislation was enacted last year (SB 310) to revise Ohio's energy standards. The issue has been reported and discussed at OMA meetings for nearly two years.

SB 310 froze the alternative energy standards for two years and created a legislative study committee to assess the impacts of the standards. The study committee held their last meeting in July and will now fashion a report. The committee is co-chaired by Senator Troy Balderson and Representative Kristina Roegner. A report is due in September.

### **Manufactured Gas Plant Remediation Costs**

No legislative activity evident. The OMA intervened in Duke Energy's gas distribution case before the PUCO case and is appealing the unfavorable decision. The Ohio Supreme Court is expected to rule on the merits later this year.

### Polar Vortex Pass-Through Charges

Generation customers of First Energy Solutions (FES) were notified by the provider that they would be billed for a regulatory event associated with the polar vortex power shortages in January 2014. The one-time charge is outside the terms of the contract. If allowed by regulators, the charges would result in an unfavorable precedent for all customers. Several OMA members are working collectively to contest the charges. See counsel's report. Contact staff to learn more.

### Energy Legislation Prepared by: The Ohio Manufacturers' Association Report created on August 26, 2015

- **HB8 OIL-GAS LAW** (HAGAN C) To revise provisions in the Oil and Gas Law governing unit operation, including requiring unit operation of land for which the Department of Transportation owns the mineral rights.
  - *Current Status:* 4/14/2015 Senate Energy and Natural Resources, (First Hearing)
  - State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-8
- HB23 OIL-GAS LEASE INCOME (AMSTUTZ R) To use one-half of any income from oil and gas leases on state land to fund temporary income tax reductions, to modify the law governing the use of new Ohio use tax collections, and to require the Director of Budget and Management to recommend whether or not income tax rates should be permanently reduced.

*Current Status:* 6/3/2015 - Referred to Committee Senate Ways and Means *State Bill Page:* <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-23

**HB64 OPERATING BUDGET** (SMITH R) To make operating appropriations for the biennium beginning July 1, 2015, and ending June 30, 2017, and to provide authorization and conditions for the operation of state programs.

Current Status: 6/30/2015 - SIGNED BY GOVERNOR; Eff. 7/1/15 State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislationsummary?id=GA131-HB-64</u>

**HB72 ENERGY IMPROVEMENT DISTRICTS** (CONDITT M) To authorize port authorities to create energy special improvement districts for the purpose of developing and implementing plans for special energy improvement projects and to alter the law governing such districts that are governed by a nonprofit corporation.

*Current Status:* 5/6/2015 - **BILL AMENDED**, House Public Utilities, (Fourth Hearing)

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-72

**HB83 OIL-GAS ROYALTY STATEMENT** (CERA J) To require the owner of an oil or gas well to provide a royalty statement to the holder of the royalty interest when the owner makes payment to the holder.

*Current Status:* 3/10/2015 - House Energy and Natural Resources, (First Hearing)

- State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-83
- **HB122 PUBLIC UTILITIES COMMISSION MEMBERSHIP** (LELAND D) To require that each major political party be represented on the Public Utilities Commission, to specify that not more than three commissioners may belong to or be affiliated with the same major political party, and to require that Public Utilities Commission Nominating Council lists of nominees include individuals who, if selected, ensure that each major political party is represented on the Commission.

*Current Status:* 3/24/2015 - Referred to Committee House Government Accountability and Oversight

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-122

HB162 SEVERANCE TAX RATES (CERA J) To change the basis, rates, and revenue distribution of the severance tax on oil and gas, to create a grant program to encourage compressed natural gas as a motor vehicle fuel, to authorize an income tax credit for landowners holding an oil or gas royalty interest, and to exclude some oil and gas sale receipts from the commercial activity tax base.

*Current Status:* 5/12/2015 - House Ways and Means, (First Hearing) *State Bill Page:* <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-162

**HB176 GAS-FUEL CONVERSION PROGRAM** (HALL D, O'BRIEN S) To create the Gaseous Fuel Vehicle Conversion Program, to allow a credit against the income or commercial activity tax for the purchase or conversion of an alternative fuel vehicle, to reduce the amount of sales tax due on the purchase or lease of a qualifying electric vehicle by up to \$500, to apply the motor fuel tax to the distribution or sale of compressed natural gas, to authorize a temporary, partial motor fuel tax exemption for sales of compressed natural gas used as motor fuel, and to make an appropriation.

*Current Status:* 6/23/2015 - **REPORTED OUT AS AMENDED**, House Ways and Means, (Fourth Hearing)

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> <u>summary?id=GA131-HB-176</u>

**HB190 WIND FARM SETBACKS-COUNTY** (BURKLEY T, BROWN T) To permit counties to adopt resolutions establishing an alternative setback for wind farms and to extend by five years the deadlines for obtaining the qualified energy project tax exemption.

Current Status: 5/27/2015 - House Public Utilities, (First Hearing) State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HB-190

- **HB214 PUBLIC IMPROVEMENT-PIPING MATERIAL** (THOMPSON A) To restrict when a public authority may preference a particular type of piping material for certain public improvements.
  - Current Status:
     6/9/2015 House Energy and Natural Resources, (First Hearing)

     State Bill Page:
     https://www.legislature.ohio.gov/legislation/legislationsummary?id=GA131-HB-214
- HCR7
   TAX EXEMPT MUNICIPAL BONDS (SPRAGUE R) To urge the President and the Congress of the United States to preserve the tax-exempt status of municipal bonds.

   Current Status:
   6/16/2015 REPORTED OUT, House Local Government, (Third Hearing)

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-HCR-7

**HCR9 SUSTAINABLE ENERGY-ABUNDANCE PLAN** (BAKER N) To establish a sustainable energy-abundance plan for Ohio to meet future Ohio energy needs with affordable, abundant, and environmentally friendly energy.

 

 Current Status:
 6/17/2015 - ADOPTED BY SENATE; Vote 32-1

 State Bill Page:
 https://www.legislature.ohio.gov/legislation/legislationsummary?id=GA131-HCR-9

- **SB46 LAKE ERIE DRILLING BAN** (SKINDELL M) To ban the taking or removal of oil or natural gas from and under the bed of Lake Erie.
  - *Current Status:* 2/18/2015 Referred to Committee Senate Energy and Natural Resources
  - State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-SB-46
- **SB47 DEEP WELL BRINE INJECTION PROHIBITION** (SKINDELL M) To prohibit land application and deep well injection of brine, to prohibit the conversion of wells, and to eliminate the injection fee that is levied under the Oil and Gas Law.
  - *Current Status:* 2/18/2015 Referred to Committee Senate Energy and Natural Resources

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-SB-47

- **SB58 CONDITIONAL SEWAGE CONNECTION** (PETERSON B) To authorize a property owner whose property is served by a household sewage treatment system to elect not to connect to a private sewerage system, a county sewer, or a regional sewerage system under specified conditions.
  - *Current Status:* 3/4/2015 Referred to Committee Senate Energy and Natural Resources
  - State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-SB-58
- **SB100 SALES TAX HOLIDAY-ENERGY STAR** (BROWN E) To provide a three-day sales tax "holiday" each April during which sales of qualifying Energy Star products are exempt from sales and use taxes.

Current Status:	3/4/2015 - Referred to Committee Senate Ways and Means
State Bill Page:	https://www.legislature.ohio.gov/legislation/legislation-
	summary?id=GA131-SB-100

**SB120 OIL-GAS LAW REVISION** (SCHIAVONI J) To revise enforcement of the Oil and Gas Law, including increasing criminal penalties and requiring revocation of permits for violations of that Law relating to improper disposal of brine.

*Current Status:* 3/10/2015 - Referred to Committee Senate Energy and Natural Resources

- State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> <u>summary?id=GA131-SB-120</u>
- SB164
   UTILITY SMART METER CONSENT (JORDAN K) To require electric distribution utilities to obtain a customer's consent prior to installing a smart meter on the customer's property

   Current Status:
   5/27/2015 Referred to Committee Senate Public Utilities

   State Bill Page:
   https://www.legislature.ohio.gov/legislation/legislation-summary?id=GA131-SB-164
- SB166 HORIZONTAL WELL EMERGENCY PLAN (GENTILE L) To require the owner of a horizontal well to develop and implement an emergency response plan for the purpose of responding to emergencies.
   Current Status: 5/27/2015 Referred to Committee Senate Energy and Natural
  - Resources
  - State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> <u>summary?id=GA131-SB-166</u>

**SB185 SPECIAL IMPROVEMENT DISTRICTS** (SEITZ B) To revise the law governing special improvement districts created for the purpose of developing and implementing plans for special energy improvement projects.

*Current Status:* 6/23/2015 - Senate Energy and Natural Resources, (First Hearing)

- State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-SB-185
- **SCR6 EXPORT-CRUDE OIL** (BALDERSON T) The urge the U.S. Congress to lift the prohibition on the export of crude oil from the United States.

*Current Status:* 6/23/2015 - Senate Energy and Natural Resources, (First Hearing)

State Bill Page: <u>https://www.legislature.ohio.gov/legislation/legislation-</u> summary?id=GA131-SCR-6

### Energy

### "Stop Trying to Scare Ohioans"

Discussing the context of pending rate cases of FirstEnergy and AEP-Ohio with Columbus Business First reporter Tom Knox, Public Utilities Commission of Ohio (PUCO) chairman Andre Porter sent an unusually blunt message to the utilities: "Stop trying to scare Ohioans."

Both companies have asked the commission to require customers to subsidize operations of uneconomic power plants. FirstEnergy, in particular, has raised the specter of power failures should the commission not give it what it wants.

Knox <u>quotes the chairman</u> as saying Ohio should "stay the course." He said: "I think things are going to be fine here in the state of Ohio. I know that sometimes it seems as if there are folks who want to attempt to scare Ohioans, but that's not what we need to do. Let's stop attempting to scare Ohioans."

The <u>OMA Energy Group</u> opposes the two utilities' plans, yet aims for a future when the power companies are vibrant and innovative suppliers to manufacturing. *8/20/2015* 

### Heads I Win, Tails You Lose

OSU economist Ned Hill, on behalf of the <u>OMA Energy</u> <u>Group</u>, this week presented additional <u>testimony</u> on the FirstEnergy rate case pending before the Public Utilities Commission of Ohio (PUCO). In the case, FirstEnergy seeks to escape business risk, shifting that risk to customers, of operating two uneconomical generating plants.

Hill testified: "The Supplemental Stipulations are not in the public interest for two reasons. First, they adopt a scheme that will provide one certified retail electric supplier in Ohio with a competitive advantage in the Ohio market as its uneconomic generating plants will be subsidized by the Companies' ratepayers through approval of the Economic Stability Program and associated power purchase agreement (PPA).

Second, the Supplemental Stipulations and the PPA will deter entry into the power generation portion of the market by new competitors. Typically, if a market participant cannot compete in a competitive market, it will fail. Subsidizing an existing market participant in the hope that it may be able to compete at some point in the future is not in the public interest, nor is it good public policy. It will only deter entry and keep prices higher than they would be in a competitive market. The PPA can best be described as a coin-flip bet that FirstEnergy Corp. is making, one where it's "heads I win and tails you lose." *8/12/2015* 

### PUCO Reports Long Term Forecast

On July 22, 2015, the Public Utilities Commission of Ohio (PUCO) released "Ohio Long Term Forecast of Energy Requirements." Under Ohio Revised Code, the PUCO is required to estimate state and regional energy needs over a five-, ten- and twenty-year period. The findings are then submitted in a report to the Governor's Office and General Assembly, identifying emerging trends related to energy supply and demand and the costs of energy to consumers, specifying anticipated energy needs.

<u>Here are highlights</u> from the report, summarized by OMA Connections Partner, Bricker & Eckler LLP. 8/13/2015

### Clean Power Plan: Unprecedented Cost; Negligible Impact

The U.S. Environmental Protection Agency (EPA) this week released one of the most expensive and farreaching rules in its history when it rolled out the <u>Clean</u> <u>Power Plan</u>, designed to regulate carbon emissions from the electric power sector. The rule represents an unprecedented intrusion into affairs of the states that will increase costs for small businesses, manufacturers, and households while threatening electric reliability.

The OMA stands in opposition to this plan alongside business leaders from more than 170 organizations and trade associations in the Partnership for a Better Energy Future (PBEF). PBEF will continue to explore every possible remedy to make sure greenhouse gas (GHG) regulatory actions do not cost American jobs and hurt the U.S. economy.

The plan is expected to have a negligible impact on global GHG emissions, and may not reduce them at all, instead moving emissions to other countries that have not implemented similar restrictions, such as China and India.

The proposal includes numerous changes from the rule that was first proposed in June 2014. At the outset, however, it is clear that the numerous fundamental problems with rule not only remain, but have been exacerbated by the Obama administration's decision to make national emissions limits even more stringent. OMA, through PBEF, is committed to working through all available means to deflect the serious economic harms from this sweeping regulation. *8/4/2015* 

The Partnership for a Better Energy Future is a coalition of stakeholders representing nearly every segment of the U.S. economy, unified in our support for responsible energy regulations. The Partnership's fundamental mission is to ensure the continued availability of reliable and affordable energy for American families and businesses.

### Good Overview of Worrisome Proposed GHG Rules

The law firm of <u>Sidley Austin LLP</u> has compiled this <u>PowerPoint presentation</u> which provides an overview, timing, and elements of the landmark greenhouse emissions reduction plan, Clean Power Plan, proposed by U.S. EPA.

Detail includes a state by state graphic of the 2030 emission goal and a state specific illustration of the difference between the emission reduction target originally proposed and the higher final proposed goal. *8/6/2015* 

### **Ohio Reacts Critically to Clean Power Plan**

This week with the unveiling of the new Clean Power Plan 111(d) rules, reactions in Ohio from both the regulator and residential consumer advocate were critical.

While the state appears ready to gear up for multiple stakeholder meetings to fully digest the impacts of the new rules, <u>Ohio EPA director Craig Butler</u> stated, "I believe it is irresponsible to implement these rules until the courts decide if the U.S. EPA has the authority because, like we often see, changes driven by such rules are irreversible. Allowing the courts a full opportunity to review the rule will determine if the plan is reasonable, justified and consistent with congressional intent. Forcing states to rush forward with implementation deprives the courts this opportunity and will drive changes that are unrecoverable."

Ohio Consumers' Counsel spokesperson Dan Doron warned that the regulations have the potential to increase electricity rates for Ohioans, who are already paying higher rates than residential ratepayers in 32 other states.

U.S. EPA's Ohio specific fact sheet can be reviewed here. 8/6/2015

### Electric Transmission Increases in AEP Service Territory - Check Your Bill

Ratepayers within the AEP-Ohio service territory may have noticed a jump in on their electricity bills earlier this summer. The increase is attributed to a new rider called the Basic Transmission Cost Rider (BTCR) that went into effect on June 1, 2015. While lawyers for the OMA Energy Group contested the new rider, it was ultimately approved by the PUCO. Since the implementation of the new rider in June, some members (specifically, AEP-Ohio GS-2 and GS-3 customers) have seen a significant increase in their transmission costs.

OMA Energy Group chief counsel, <u>Kim Bojko</u> of Carpenter Lipps & Leland, encourages members to inspect your company's AEP-Ohio bills to determine impacts. <u>Read more about this</u> from Ms. Bojko.

Members who have been exposed to significant increases due to the BTCR are encouraged to contact the OMA's <u>Dan Noreen</u> or <u>Rob Brundrett</u> for more information about industry efforts to resolve these new charges. *8/6/2015* 

### FirstEnergy CEO Wants Generation Re-regulation

In an abrupt about-face from long-standing support for deregulated generation, FirstEnergy CEO Chuck Jones now is calling for the state to re-regulate generation.

Why? "I am trying to save the company," the Plain Dealer quotes Jones.

FirstEnergy is attempting to obtain massive subsidies from customers for two of its largest power plants for 15 years in a case pending before the Public Utilities Commission of Ohio (PUCO). The <u>OMA Energy Group</u> has intervened in the case to oppose the FirstEnergy subsidies.

It seems likely now that, if it fails at the PUCO, the company might seek a form of a bailout from the General Assembly.

Read more in the <u>Plain Dealer</u> and in the <u>Akron</u> Beacon Journal. 7/30/2015

### OMA Hosts Energy Forum for Findlay Area Manufacturers



OMA, OMA Connections Partner, Scioto Energy, and Findlay-Hancock Economic Development hosted a breakfast forum in Findlay this week to help manufacturers learn about electricity reliability, supply and cost.

Participating manufacturers heard an electricity reliability forecast from Kerry Stroup, Manager -Regulatory and Legislative Affairs, PJM Interconnections LLC, the power grid manager for Ohio and the region. He said that there is adequate electric supply in the state and reliability is under control.

Participants also heard energy management strategies from Susanne Buckley, Managing Partner, <u>Scioto</u> <u>Energy</u>, and Ryan Augsburger, VP & Managing Director, OMA Public Policy Services, (shown), described <u>OMA's energy services</u> that help OMA members buy and manage energy. 7/21/2015

### Energy Mandates Study Committee Wraps up Testimony

The <u>Energy Mandates Study Committee</u> wrapped up its hearings this week. The committee was charged with studying the costs and benefits of Ohio energy standards and make recommendations before the current freeze in the standards lifts at the end of 2016.

Members of the committee have until September 30 to deliver recommendations to Ohio legislative leaders. Committee leaders have not publicly indicated what recommendations the group might make to the full legislature.

Also in play, and expected to influence the recommendations, are the federal 111(d) Clean Power Plan rules scheduled to be finalized in August. U.S. EPA, under the authority of the Clean Air Act, proposed rules to reduce carbon pollution from existing electricity-generating power plants. The Clean Power Plan requires each state to develop a state-specific plan to achieve carbon reduction targets by 2030. Renewable energy and energy efficiency are tools that states can use to meet the standards, if they withstand legal challenges. *7/22/2015* 

### New Study Says Electric Choice Model Outperforms Monopoly Model

A new study sponsored by the <u>COMPETE Coalition</u>, "Evolution of the Revolution: The Sustained Success of <u>Retail Electricity Competition</u>," finds that states with retail electric competition are outperforming traditional monopoly states in both price and generation trends.

The study looked at nearly two decades of empirical data to determine that choice consumers benefit in terms of improved price, investment, and reliability.

Key findings include:

- From 1997 through 2014, prices in customer choice jurisdictions increased 4.5% less than inflation while prices in monopoly states increased 8.4% more than inflation.
- Electricity in monopoly states accounted for a larger share of the consumer cost of living in 2014 than in 1997, while electricity's share of the consumer pocketbook in customer choice jurisdictions was less in 2014 than in 1997.
- Generation in customer choice jurisdictions as a group outperformed that in monopoly states producing billions of dollars of new, more efficient generation with higher capacity factors than in monopoly states.

Here is the <u>news release</u> COMPETE Coalition put out this week. 7/14/2015

### DP&L Offers Incentives for Combined Heat & Power Projects

DP&L offers incentives of \$0.08/kWh generated and \$100/kW of capacity for qualifying <u>combined heat and</u> <u>power (CHP)</u> projects. CHP efficiently produces electricity on-site while using the waste-heat from the generator to produce hot-water or steam. Manufacturers with a year-round hot-water or steam load that operate 3-shifts are the most likely candidates for CHP.

DP&L's CHP incentives are capped at 50% of total cost, or \$500,000, for systems 500 kW and smaller. Terms for larger systems are negotiable.

Unsure if your operation is a good candidate for CHP? The OMA has teamed with DP&L to offer a screening assessment at no cost to you. Complete this <u>short survey</u> to receive your free assessment. If the screening assessment looks good, DP&L will cost share up to \$10,000 for a CHP feasibility study. Contact OMA's consulting energy engineer <u>John Seryak</u> for more information. 7/14/2015

### Ohio has \$11M for Low-Cost Energy Project Loans

The Ohio Development Services Agency will open a new round of funding for the Energy Loan Fund this week. The fund provides low-cost financing for energy efficiency and advanced energy projects to Ohio manufacturers and other entities. A total of \$11.25 million in funding is available for fiscal year 2016.

All applicants must submit a letter of intent in order to formally apply. Letters of intent will be accepted between July 15 and August 12, 2015 for this round of funding. Loan amounts range from \$250,000 to \$1,250,000. Applicants must attend the bidder's conference on August 26, 2015. Once an applicant has submitted a letter of intent, they will receive instruction on how to complete a formal application.

Guidelines and information about the applingetion of 156 process can be found <u>here</u>. Questions about applying

for the current round of funding can be <u>emailed</u> <u>here</u>. 7/16/2015

### We're Talking Combustion Burner Efficiency

The OMA's <u>Energy Efficiency Peer Network</u> will meet via webinar on <u>Wednesday</u>, July <u>15</u> from 10:00 - 11:00 a.m.

The topic of the meeting is combustion burner efficiency and controls. You'll hear from OMA member <u>Belden Brick</u> about efficiency projects in its combustion burner system, receive energy efficiency tips from experts at <u>Go Sustainable Energy</u>, and we've invited a combustion process control expert from <u>ABB</u>.

Please register for this webinar by sending an email to <u>Denise Locke</u> or register at <u>My OMA</u>. Here's more info about OMA's <u>Energy Efficiency Peer</u> Network. 7/2/2015

### Join Us for *Electricity Reliability, Supply & Cost* in Findlay on July 21

The availability, reliability and affordability of electricity - now and into the future - are concerns for all Ohio manufacturers.

The OMA has partnered with Findlay-Hancock County Economic Development to bring an interesting and useful conversation about electricity reliability to manufacturers in Hancock County and surrounding areas.

Our keynote speaker is Kerry Stroup, Manager -Regulatory & Legislative Affairs, with PJM Interconnection, the electric grid manager for Ohio and the region.

Join us on <u>Tuesday</u>, July 21 for this special nocharge breakfast meeting for manufacturers at the <u>Findlay Inn & Conference Center</u>. Register at **(800) 662-4463** or email us. More details here. 6/22/2015

### **Regulation of Submeters in Front of PUCO**

OMA Connections Partner, Bricker & Eckler LLP, reports that a recent case filed with the Public Utilities Commission of Ohio (PUCO), *Mark A. Whitt v. Nationwide Energy Partners, LLC*, is asking that submetering companies be regulated as a public utility or as an energy marketer. If the action is successful, its consequences could extend beyond the issue of submetering to possibly include the regulation of certain onsite distributed generation facilities.

Read more from Bricker here. 6/17/2015

### Severance Tax Increase Dead, For Now

Senate President Keith Faber (R – Celina) has been trying to broker a severance tax increase within the pending state operating budget, HB 64. He announced this week that it is not going to happen.

Instead, the House and Senate will create a "Legislative Task Force on Severance Tax Policy." It will be co-chaired by the Ways and Means Committee chairmen from both chambers – Senator Bob Peterson (R – Sabina) and Rep. Jeff McClain (R-Upper Sandusky). The task force will include both Democrats and Republicans from each chamber, as well as representatives of the oil and gas industry, which opposes tax increases. It has an October 1 deadline for reporting.

The task force will exist within the 2020 Tax Policy Study Commission, proposed by Speaker Cliff Rosenberger (R – Clarksville) to take a more thoughtful, longer range study of Ohio's system of taxation. *6/18/2015* 

### New Energy Amendments in State Budget

The Senate made a number of revisions to state energy statutes in the budget bill this week.

Here are the subjects of the changes: wind setback exception, tax exemption for renewable generation projects, grants for large users of wind energy, repeals tax on generation property, and allowing a utility to file a reconcilable rider to collect increased tax.

Read more in <u>this memo</u> prepared by OMA energy counsel <u>Kim Bojko</u> of Carpenter Lipps & Leland. *6/18/2015* 

### Whirlpool Breaks Ground on Wind Farm



OMA member Whirlpool Corp. in Findlay hosted a groundbreaking ceremony this week for its wind farm.

Two wind turbines will be operational late this year and are part of a \$7.4 million project estimated to offset about 22% of the plant's energy use. Ball Co. will construct three other wind turbines on the farm.

Congratulations Whirlpool and thank you for inviting OMA to this exciting event! 6/18/2015

### PUCO Chair Talks Energy Policy with OMA Directors



The new chairman of the Public Utilities Commission of Ohio (PUCO), <u>Andre Porter</u>, met with the OMA board of directors this week. He talked about his intentions for the agency, his management philosophy, his principles for decision-making, and a range of energy policy matters. He encouraged manufacturers to participate actively through the OMA in matters before the agency, and he noted the importance of the economic impacts of manufacturing on the state. *6/9/2015* 

### FERC Approves PJM's Capacity Performance Proposal - Delayed Electric Capacity Auction Scheduled

The Federal Energy Regulatory Commission (FERC) <u>approved</u> this week a major restructuring of PJM's capacity markets. As a result, electricity generators could receive higher payments for capacity, but will face stiffer penalties for non-performance.

PJM's Base Residual Auction (BRA) for capacity will be held the week of August 10<sup>th</sup>, after being delayed since mid-May pending FERC's review of and decision on PJM's proposal.

PJM's controversial proposal, called Capacity Performance, stems from the failure of 40,000 MW of generation plants during the 2014 polar vortex. Opponents criticized the proposal, citing improved generator performance in later cold-snaps and the already handsome revenue generators receive from energy markets during peak periods.

The approval is expected to result in higher capacity prices for consumers, including manufacturers. Shares of electric generating companies Dynegy, NRG, and Exelon traded significantly higher on the news.

The <u>OMA Energy Group</u> was one of the few industrial representatives to <u>voice concerns</u> to PJM on its proposal. *6/11/2015* 

### Ambassador Ron Kirk Visits OMA - Talks Nuclear Energy & Cavs Basketball



Ambassador Ron Kirk, co-chair of the <u>Clean and Safe</u> <u>Energy Coalition</u>, met with OMA president Eric Burkland this week to discuss nuclear energy and its benefits to the American economy and its manufacturing base. Kirk says he began to appreciate the benefits of nuclear power during his tenure as Trade Representative for President Obama, working with U.S. companies seeking market share around the world, particularly in developing companies. Kirk and Burkland also talked basketball; the former Dallas mayor, a Mavs fan, has gotten some religion from his Cleveland-born and -bred wife. Go Cavs! 6/10/2015

### OMA Leads Point-of-Sale Incentive Program for Energy Efficient Parts

Manufacturers purchase high volumes of products every day from distributors which offer both energy efficient and energy inefficient versions of products like motors, gears, filters, V-belts, lubricants, on so on. While the energy savings for any one product can be low, the overall high volume of the products purchased by manufacturers means there can be significant energy savings for the industrial sector as a whole.

OMA approached DP&L and AEP-Ohio with this in mind. Would the utilities be willing to provide incentives to distributors for selling energy-efficient products? Acquiring energy efficient products at the point-of-purchase is easy for manufacturers and boosts the overall number of energy-efficient products in use.

The first result of this collaboration was <u>recently</u> <u>announced</u>, as DP&L and AEP-Ohio launched a pilot program to reduce the costs of energy efficient cogged V-belts purchased from <u>Allied Supply</u> in Dayton, Lima and Columbus and <u>Johnstone Supply</u> in Columbus.

We are actively seeking additional energy efficient products, purchased through distributors, that can be rebated at point-of-purchase as well as additional participating distributors. Contact OMA energy consultant John Servak with your ideas. 6/3/2015

### DP&L Nets \$1 Million for Customers through PJM Efficiency Bid

DP&L voluntarily bid in 21.9 MW of energy-efficiency capacity into PJM's <u>3rd Incremental Auction</u> for the 2015/16 delivery year. As a result, DP&L will pass through around \$1 million of the capacity payment to customers, offsetting some of the costs of operating energy-efficiency programs.

The auction was opened on February 23, 2015. Annual capacity resources cleared at \$163.20 /MW-day. A total of 3,301 MW were sold in the auction, with 25% coming from customer-sited energy-efficiency and demand-response resources throughout PJM.

Energy-efficiency and demand response are typically low-cost capacity resources, and thus help check capacity prices while creating revenue for manufacturers and other customers. PJM procures capacity through a Base Residual Auction (BRA) held 3 years prior to the delivery year, followed by three Incremental Auctions between the BRA and the delivery year. *6/3/2015* 

### **Ohio's Energy Mandates Continue to be Debated**

The Energy Mandates Study Committee heard from several witnesses this week and announced plans for just one more meeting in July before the September 30 deadline to issue recommendations.

Witnesses from Dynegy, PJM Power Producers, and Calpine, a natural gas generator, all emphasized that capacity is adequate dispelling rumored reliability shortages.

The generator witnesses were cool toward a return to mandated energy standards for energy efficiency and renewables, and subsidies for traditional power generating plants. Conversely, Ohio's Consumers Counsel recommended reinstatement of the energy efficiency standards to benefit consumers.

To view testimony, visit the Energy Mandates Study Committee <u>website</u>. *6/4/2015* 

### PUCO Decides in OMA Favor, Saving Duke Customers Tens of Millions

In 2014, Duke filed an application with the Public Utilities Commission of Ohio (PUCO) for permission to charge customers for program costs associated with Duke's energy efficiency and demand response rider (Rider EE/DR). The electric distribution utility sought from customers an incentive payment for surpassing its EE/DR benchmarks using banked savings.

On May 20, 2015, the PUCO issued a <u>Finding and</u> <u>Order</u> determining, among other things, that Duke may use its banked savings to reach EE/DR benchmarks, but *may not* use banked savings to obtain performance incentives from customers. In its ruling, the PUCO sided with the OMA, stating that "the Commission agrees with OMA and finds the Company (Duke) may only use the banked savings to reach its mandated benefit."

The PUCO determination prevents Duke from collecting tens of millions of dollars from customers without additional customer benefit.

Manufacturers make a difference by intervening in rates cases through the <u>OMA Energy Group</u>. Contact OMA's <u>Ryan Augsburger</u> to learn more. *5*/28/2015

### Coal Plant Retirements Expected to Double under Clean Power Act

In its most recent analysis, the U.S. Energy Information Agency (EIA) projects retirements of coal-fired electricity generation plants to more than double by 2040. About 90 GW of power are projected to be retired under the proposed regulations; approximately 40 GW have been projected to be shuttered without the regs.

The agency thinks the law would increase U.S. electricity rates by 4.9%. It foresees a carbon emission reduction of between 484 to 625 million metric tons by 2030.

On the law's effects on natural gas prices, EIA says: "The Clean Power Plan increases natural gas use significantly relative to baseline at the start of Clean Power Plan implementation, but this effect fades over time as renewables and efficiency programs increasingly become the dominant compliance strategies ... the Clean Power Plan itself does not significantly move natural gas prices with the exception of an initial impact expected during the first 2-3 years after the start of implementation." *5*/26/2015

### AEP Ohio Continuous Energy Improvement Program Offers Incentives

AEP Ohio is calling on manufacturers that use more than 3,000,000 kWh annually to consider participating in its <u>Continuous Energy Improvement (CEI)</u> <u>program</u>. The CEI program offers an incentive of \$0.02/kWh saved for no-and-low cost energy reductions such as repairing compressed air leaks and fine tuning chiller set-points.

The program also provides tools, coaching, and resources to help manufacturers achieve energy savings through operations and maintenance improvements. For more information, contact AEP Ohio's <u>Michelle Cross</u> or OMA energy consultant <u>John</u> <u>Seryak</u>. *5*/27/2015

### FirstEnergy Customers: PJM Capacity Payments Available for Energy-Efficiency Projects

While FirstEnergy has suspended its energy efficiency programs for 2015 and 2016, manufacturers in FirstEnergy service territory can bypass the utility to receive incentives for energy efficiency projects! of the regional grid operator, offers payments for

permanent reductions in energy use from efficiency projects through its capacity auctions. Projects are eligible if they permanently reduce electricity demand during summer daytime hours, such as lighting retrofits, chiller replacements, or air compressor upgrades.

Contact OMA energy consultant <u>John Seryak</u> to learn more about the PJM process, and to determine if your company's planned or recently completed energy efficiency project is eligible for PJM incentive payments. 5/27/2015

### OMA Energy Group Elects New Leadership



Last week at its annual meeting, the OMA Energy Group elected Brad Belden of The Belden Brick Company as chair and Whirlpool Corporation's Bill Mast as vice chair.

Belden accepted the gavel from Barry McClelland who retired from Honda North America, Inc. A founding member of the OMA Energy Group, McClelland was elected to serve as director emeritus.

The OMA Energy Group was formed to provide manufacturers with a voice in critical Public Utilities Commission of Ohio (PUCO) cases. OMA Energy Group members steer the OMA's legal intervention in PUCO rate cases and get first-hand updates and members-only case summaries.

Learn more about the OMA Energy Group, a buy-up opportunity for energy intense OMA members. *5/28/2015* 

Left, Brad Belden, Director, Support Services, The Belden Brick Co., and right, Bill Mast, Manager, Facilities Engineering, Whirlpool Corporation.

### Whirlpool Briefs OMA Members on Wind Energy Project

This week, Mike Kaser, Director of Engineering and Technology, and John Rosenburg, Senior Manager of Construction and Sustainability, of Whirlpool Corporation's Findlay Division, the largest manufacturer of dishwashers in the world, briefed OMA Energy Committee members on a major wind energy project. Two wind turbines were added to reduce the facility's energy costs and reduce its manufacturing carbon footprint (also, three other turbines were developed for neighboring Ball Corp.). Here's the <u>PowerPoint</u> presentation. 5/21/2015

ENERGY COMMITTEE - AUGUST

### **RESOURCES REPORT CUSTOMER-SITED**



### RUNNERSTONE INFORMATION IS POWER

## □ Power resources are moving behind the meter

□ Customer-sited resources effect the price of electricity, can reduce costs for manufacturers, and may provide revenue. They are:











Power / Waste Energy Combined Heat & Recovery



Renewables & Distributed Storage



jseryak@gosustainableenergy.com 614-268-4263 x302 Questions?

CUSTOMER-SITED RESOLIRGES



# **Energy Efficiency Peer Network**

- 9/16/15 Tour of Crown Battery
   Fremont, Ohio
   9:30 Noon followed by lunch
- □ Geothermal cooling





Questions? jseryak@gosustainableenergy.com 614-268-4263 x302

## ENERGY EFFICIENCY

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# <u>Energy Efficiency Peer Network</u>

- □ November 11<sup>th</sup> webinar, compressed air DIY □ September 16<sup>th</sup>, tour @ Crown Battery □ Coming meetings
- □ Network
- □ Free technical assistance (10 companies received assistance last year) □ DIY tools
- □ Join http://www.ohiomfg.com/omas-chpwereework-group/
- Questions? jseryak@gosustainableenergy.com 614-268-4263 x302

## ENERGY EFFICIENCY



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## RUNNER STONE

Utility	Efficiency Programs 2015- 16	Opt-Out in Available	Updates
			<u>Rebate Cap</u>
			Project incentives capped at \$25k unless entered in Bid2Win
			Green Motor Rewind
AEP	Yes	°Z	https://aepohio.com/save/business/programs/EmotorRe windProgram.aspx
			<u>Financing w/ Key Bank</u>
			https://www.aepohio.com/save/business/programs/Effi cientFinancingPilot.aspx
DP&L	Yes	оХ	<u>CHP incentives</u> in custom program - \$0.08 /kWh, \$100 /kW, Cap - \$500k or 50% of cost

## ENERGY EFFICIENCY

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Utility	Efficiency Programs in 2015- 16	Opt-Out Available	Updates
Joint (DP&L, AEP)			Discounted cogged belt @ point-of-sale
Duke	Yes	Q	Self-direct exemption should be evaluated in <del>lieu of custom rebate</del>
FirstEnergy	None	Yes	Rider persists, we recommend – Opt-out for above-primary customers – Self-direct exemption for <u>secondery</u> , primary
Municipals	Varied	ĝ	<ul> <li>27 communities in Efficiency Smart</li> <li>http://www.efficiencysmart.org/communities</li> <li>+ Westerville, Cuyahoga Falls city run</li> <li>programs</li> </ul>
Cooperatives	Minimal	<mark>8</mark>	

ENERGY EFFICIENCY

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### ENERGY EFFICIENCY

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чмя/ \$

RUNNER STONE



efficiency capacity available to all manufacturers; □ Payments available - PJM payments for energymoney on the table if you complete an efficiency project

Lowers electricity price - Suppresses price of capacity

manufacturers with no access to utility-operated □ All can participate - Especially important for energy-efficiency programs



# ENERGY EFFICIENCY - P J



We kicked the tires, it works



□ DR and EE (ER15-852) – FERC rejected PJM filing as premature, considering Supreme Court hearing of EPSA v FERC

<u> Elimination of DR from capacity market would result in \$9</u> billion/year extra in costs  $\Box$  At issue – whether demand response is a retail or wholesale product, which effects whether FERC has authority over it

Questions? jseryak@gosustainableenergy.com 614-268-4263 x302

DEMAND RESPONSE – AT THE SUPREME COURT





# PJM BASE RESIDUAL AUGIG

Questions? jseryak@gosustainableenergy.com 614-268-4263 x302

# BRA RESULTS - RELIABILITY

Questions? jseryak@gosustainableenergy.com 614-268-4263 x302









## <u> J Imports limited, demand response (DR) capped, energy-efficiency</u> constrained by utilities



**BRA - CONSTRAINTS** 

Questions? jseryak@gosustainableenergy.com 614-268-4263 x302

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# **Capacity Performance Review**

Jason Jarecki

Managing Director, Energy Solutions JCJarecki@aepes.com 614.583.7034

Todd Altenburger Director, Energy Solutions TAltenburger@AEPEnergy.com 614.507.5941

### **Capacity Overview**

### What Factors Define Capacity?

Capacity costs are paid to power generators by electricity consumers to ensure generation supply meets demand during peak periods. Capacity rates can differ from one utility to the next; therefore, the cost of capacity can vary by location.

PJM is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.
Peak Load Contribution (PLC) is unique to each customer and is determined

demand level during the five highest demand hours for the entire PJM system. This information can be obtained from your AEP Energy Sales Representative

by each utility. In many utilities, the PLC is calculated by taking your average

Reliability Pricing Model (RPM) is PJM's capacity-market model that establishes the price for capacity subject to generation constraints and other marketing conditions. Prices are determined by multiple auctions and are initially set three years in advance. The RPM rates can vary by utility and are effective every year from the first of June through the last day of Mar the next year.

Forecast Pool Requirement (FPR) provides extra capacity to meet PJM's unforced reserve reliability criterion and is the same throughout all utilities in PJM. The FPR ensures there is enough supply to meet unforeseen demand. Zonal Scaling Factor (ZSF) is specific to your utility and accounts for load growth from prior years and other excess capacity resources.



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cts in terms of DR and intermittent resources	<b>Big impact</b>	
y will be phased out over 5 years	Base Capacity	•
formance will be phased in completely over next 5 years	Capacity Perfo	
sed Penalties for non-Performance	<ul> <li>Increased</li> </ul>	
Capacity Performance	Added Risk of Ca	
ce Performance during Capacity Assessment Hours	<ul> <li>Resource</li> </ul>	
Capacity Performance	Revenue from Ca	
irces required to be available all round the year	Capacity Resourc	
rformance during peak demand periods	operational perfo	
rmance is the new capacity product intended to improve PJM's	Capacity Perform	•
Pertormance: Overview	apacity P	

		:				
0/100%	20/80%*	20/80%	30/70%	40/60%	Base Capacity/Capacity Performance %	
20/21	19/20	18/19	17/18	16/17		
	formance	oacity Per	city & Cap	ase Capa	<ul> <li>New RPM value = A Blend of B</li> </ul>	
S	sment hour	ance asses	r performa	enalties fc	<ul> <li>Subject to performance p</li> </ul>	
			peration	dictable o	<ul> <li>Capable of sustained, pre</li> </ul>	
					<ul> <li>One standard</li> </ul>	
			ormance	acity Perf	<ul> <li>New Product – To Include Cap.</li> </ul>	
	ear round <	but not ye AR VORTEX	perations, ince – POL/	weather c performa	<ul> <li>Kesources capable of not sustained and predictable</li> </ul>	
		er, Limited	ded Summ	DR, Exten	<ul> <li>Annual Resource, Annual</li> </ul>	
					<ul> <li>"Old Product" – Base Capacity</li> </ul>	
	duct	/ Pro(	A New	Jce: /	Capacity Performan	

\* PJM has discussed a 90% CP weighting for '19/20



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	approved PJM
Timing	Commission
nance:	/ Regulatory
Perfor	ederal Energy
apacity	une 9 <sup>th</sup> , the F
ü	ГU

's Capacity Performance (CP) proposal, subject to certain modifications.

2018/19 Base Residual Auction: **Results Posted Last Friday, August 21**<sup>st</sup> 2016/17 Transition Auction: Offer Window Aug 26-27, Results Aug 31<sup>st</sup> 2017/18 Transition Auction: Offer Window Sept 3-4, Results Sept 9<sup>th</sup> After delays for the '16/17 & '17/18 Transition Auctions, the schedule is:

- '16/17 Transition Auction, 60% of Capacity will be CP Based
- Price Capped at 50% of CONE
- '17/18 Transition Auction, 70% of Capacity will be CP Based
- Price Capped at 60% of CONE
- '18/19 Full Auction, 80% of Capacity was CP Based
- There was no Cap on Auction Clearing Price

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# Where Did BRA Prices Clear Across PJM?





**2018/2019 RPM Base Residual Auction Results** 

Table 4 contains a summary of the clearing results in the LDAs from the 2018/2019 RPM Base Residual Auction.

### Table 4 - RPM Base Residval Auction Clearing Results in the LDAs

Auction Results		RTO	MAAC	SWMAAC	<b>PEPCO</b>	BGE	EMAAC	DPL-SOUTH	PSEG	<b>PS-NORTH</b>	ATSI	ATSI-CLEVELAND	ЪРГ	COMED
Offered MW (UCAP)		179,891.2	73,545.7	12,621.2	5,991.2	4,224.9	33,840.0	1,695.9	6,939.3	3,645.3	11,085.7	2,590.4	11,157.6	26,275.6
Cleared MW (UCAP)		166,836.9	66,071.2	11,180.7	5,478.7	3,296.9	31,069.0	1,693.5	5,300.8	3,168.0	10,171.6	2,258.1	9,526.9	23,320.4
System Marginal Price		\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$ 64.77	\$164.77
Locational Price Adder*							\$60.65	,		•				\$50.23
Base Capacity Resource Price Decrement	ŧ.	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79)	(\$14.79	(\$14.79)	(\$14.79)	(S: 9.77)	(\$14.79)
Base DR/EE Capacity Price Decrement				(\$90.03)	(\$108.89)	(\$90.03)		,		•	•			
RCP for Base DR/EE Resources	_	\$149.98	\$149.98	\$59.95	\$41.09	\$59.95	\$210.63	\$210.63	\$210.63	\$210.63	\$149.98	\$149.98	S 5.00	\$200.21
RCP for Base Generation Resources	_	\$149.98	\$149.98	\$149.98	\$149.98	\$149.98	\$210.63	\$210.63	\$210.63	\$210.63	\$149.98	\$149.98	\$75.00	\$200.21
RCP for Capacity Performance Resource	s	\$164.77	\$164.77	\$164.77	\$164.77	\$164.77	\$225.42	\$225.42	\$225.42	\$225.42	\$164.77	\$164.77	164.77	\$215.00
*Locational Price Adder is with respect to	ote	immediate pull	rent LDA											
**Base Generation and Base DR/EE receipt	ive h	e Base Carai	city Resourc	e Price Decre	ment									
		)									/	)		

http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/2018-2019-base-residual-auction-report.ashx



Capacity Markets – Volatile by Nature



https://www.snl.com/InteractiveX/article.aspx?ID=33629237

**Historic Annual Costs of Capacity** 





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68,036

50,180 \$

38,113 \$

123,157 \$

53,769 \$

11,915 | \$

8,569 \$

ŝ

ATSI - First Energy

Subject to Future Auction Activities



Performance assessment will be performed by PJM during select peak hours and assessed by 



Annual Revenue for a resource is based on:



	Target Procurement	Auction Clearing	Price Caps		Non- Performance Penalty Charge Rate	Annual Penalty Stop - Loss
2016/17 CP Transition IA	95,096 MW	50% of RTO Net CONE	\$165.27/MW-day	2016/17 CP Transition IA	\$1,896 /MWh	\$85,334/Committed CP UCAP MW
2017/18 CP Transition IA	112,194 MW	60% of RTO Net CONE	\$210.83/MW-day	2017/18 CP Transition IA	\$2,420/MWh	\$108,910/Committed CP UCAP MW



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8/27/2015

**Impacts on Demand Response** 

### Going, going, gone...

ity Performance nd Resource tive 18/19 DΥ)	ay during DY s on an approved enance outage OctApril )	ted	Oct. and following – 10 PM April: 9 PM	Ŧ
Capac Demal (Effect	Any da (unless mainte during	Unlimit	Jun – ( May: 10 AM Nov. – 6 AM-	No lim
Base Capacity Demand Resource (18/19 & 19/20 DY only)	Any day during June- September of DY	Unlimited	10:00 AM - 10:00 PM	10 Hours
Annual DR	Any day during DY (unless on an approved maintenance outage during Oct April)	Unlimited	Jun – Oct. and Following May: 10AM – 10 PM Nov. – April: 6 AM- 9 PM	10 Hours
Extended Summer DR	Any day during June- October period and Dyning May of Dyning May of	Unlimited	10:00 AM - 10:00 PM	10 Hours
L'mited DR	Any weekday, other than NERC holidays, during June – Sept. period of DY	10 interruptions	12:00 PM - 8:00 PM	6 Hours
Requirement	Availability	Maximum Number of Interruptions	Hours of Day Required to Respond (Hours in EPT)	Maximum Duration of Interruption



nsition Auction	ates for the '16/17 Transition Auction from \$120/MW-day to \$165/MW-day.	Securities estimates \$120 - \$130 acquarie Capital estimates \$165 ://www.snl.com/InteractiveX/article.aspx?ID=33629237)	As An Example: 2016/17 Net Load Price per-MW-day of PLC	TransitionTransitionIENTClears @ \$120Clears @ \$130Clears @ \$120Clears @ \$16559.37\$80.31\$	59.37         \$         80.31         \$         85.90         \$         105.48           59.37         \$         80.31         \$         85.90         \$         105.48	89.48         \$ 110.42         \$ 116.01         \$ 135.59           -         \$ 20.94         \$ 26.53         \$ 46.11
<b>17 Tra</b>	Ition Sama Net Load SAMV-day Sama	UBS Mc		CURR \$	\$	s s
For '16/	All Auctions including CP Transition Auctional CP         Final Zonal Capacity         Final Zonal Zonal Capacity         Final Zonal Zonal Capacity         Final Zonal Zonal Zonal Capacity         Final Zonal Zonal Zonal Capacity         Final Zonal Zonal Zonal Zonal Zonal Zonal Zonal Capacity         Final Zonal Zonan Zonal Zonan Zonal Zonan Zonal Zonal Zonal Zonal Zonal Zonal Zona	ton.		AEP Ohio	on Power & Light (DP&L) Duke Energy Ohio	ATSI - First Energy Idditional CP Charge
ODS I city Prices, Zonal CTR C	tions R Final Zonal Net Load Price [S/M/V-day] 0.00 560.00 0.00 560.00 0.00 560.00	Additional Control Control	000 011 000 000 000 000 000 000 000 000	-day \$20.94	Dayt	A
<b>ati</b>	ed Incremental Auc Final Zonal CTF Credit Rate * [hwv/uCAP Obligation-dary \$15 \$16 \$16 \$16 \$16 \$16 \$16 \$17 \$17 \$17 \$17 \$17 \$17 \$17 \$17 \$17 \$17	tate do not chang Cleaning only BF Cleaning Price.	SAW/4ay 5120 00 5120 00 51200 00 5120000 5120000 5120000 5120000 5120000 5120000 5120000 5120000 5120000 5120000 5120000 51200000 5120000000000	CP Charge, \$/MW.		
	BRA + Three Schedule Zonal Capacity Price without CP Charges (\$/MW-day) \$60.00 \$105.00 \$60.00 \$60.00	Annual Resource	[SMNV-day] S69.37 S619.13 S119.13 S119.13 S119.13 S114.22 S	Additional		
<b>DSiC</b> <sup>B</sup> <sup>2017 Final Zonal</sup>	E Final Zonal UCAP Obligation (MW) * 13,282 14,832 3.67 5.219	Obligation and Failed	917 912.648 13.244 13.248 917 3.233 3.233 1.527 1.527 95.097			
	2 Zone 6 AEP 12 AAEP 12 DAVTON	27 CP Transition Inc.	28 Rest of RTO 29 Rest of RTO 31 Rest of ENAAC 32 Rest of FMAAC 33 Rest of PS 33 Rest of PS 34 PSNOTH 35 PEPCO 36 PEPCO 37 Rest of ATS	41		

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AFP ENERGY

Auction	
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Ŧ	ices		Auction	inal Zonal Net Load rice [\$/MW-day]	\$80.94	\$110.94	\$80.94	\$80.94	25 125	<u> </u>		<u>\$1411 80</u>	24 11663	S121 50		S1211 60		
U	nal Net Load Pr		uding CP Transition	Zonal Capacity F [\$/MW- P day]	\$80.94	\$125.94	\$80.94	\$80.94	75 IX5	2 2 1 CA	22	<u>8-121</u> 32	80 1818	20 213	40 H(-2	<u>\$121 d2</u>		
	IdZor	u /	up indu	Fina Price	4	4	4	4	4				+					
ш	edit Rate, ar	ons: Illustratio	All Auctio	lditional CP Charge \$/MW-day]	\$20.9	\$20.9	\$20.9	\$20.9	5.1178			<u>\$</u> 511 d	R 11/2			5   5 <u>8</u>		
	R Cre	Auctio		Ad [9													uction	
ш	Prices, Zonal CT	tional Incremental		Final Zonal Net Load Price [\$/MW-day]	\$60.00	\$90. <mark>00</mark>	\$60.00	\$60.00	201105	A DAY	2010	S-13 / S	a/ Rtta	47 51 5		<u>\$174 //5</u>	e to CP Transition A	vnnual Resources
D	s, Zonal Capacity	s due to CP Transi	d Incremental Auctions	Final Zonal CTR Credit Rate * [MW-UCAP Obligation-dav]	\$0.00	\$15.00	\$0.00	\$0.00	7	THE REAL PROPERTY AND ADDRESS OF		<u>SH 55</u>	<u>32. IR</u>	22		<u>-11 / 12</u>	ate do not change du	Clearing only BRA /
С	UCAP Obligation	Additional Charge	BRA + Three Scheduled	Zonal Capacity Price without CP Charges (\$/MW-day)	\$60.00	\$105.00	\$60.00	\$60.00	5	64.3	44	<u>\$151 III</u>		12.5	2.13	<u>\$151 III</u>	al Zonal CTR Credit Ra	Results: Illustration (
Β	6/2017 Final Zonal			Final Zonal UCAP Obligation (MW) *	13,282	14,832	3,967	5,219	147	7 643	2418	1 4 2 3 3	SPA A	1 585	768 8	797	P Obligation and Fine	icremental Auction I
A	201			Zone	AEP	ATSI	DAYTON	DEOK				MF(FI)			1	RFCO	* Final Zonal UCA	<ul> <li>CP Transition In</li> </ul>
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zones, not just those within markets with additional Cleared CP Resource MWs.

Additional CP Charges are relevant for all PJM

Western PJM (RTO) zones will have increased costs subsidized by Eastern PJM zones that are already well above \$60/MW-Day.

\$2,813

\$120.00 \$120.00 \$120.00

\$119.13 \$114.23

\$120.00 \$120.00

\$219.00 \$119.13 \$114.23

> 277 3,233 2,672 1,527 95,097

> > ATSI-CLEVELAND

8 40

Total

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Rest of ATSI

DPLSOUTH Rest of PS PSNORTH PEPCO

33 34 35 35 37

\$219.00

\$15,41

\$8,811 \$3,559,051 \$20.94

170,000

Total RTO UCAP Obligation, MW Additional CP Charge, \$/MW-day

8 5 \$850

\$11,004 \$2,600 \$11,505

\$120.00 \$120.00 \$120.00

\$119.13 \$119.13

12,648 57,827 13,224 2.989

Rest of SWMAAC

Rest of EMAAC

3 32

Rest of MAAC Rest of RTO

8

8 8

\$59.37

\$120.00

\$119.13

\$120.00

\$3,506,051

Additional CP Credits. \$/day

CP Resource Clearing Price, \$/MW-day

Annual Resource Clearing Price in BRA

[\$/MW-day]

Resources, MW Cleared CP

LDA

<u>~</u>

## **Other Considerations For the Future**

- 2017/18 Transition Auction
- UBS expectations again \$120/MW-day to \$130/MW-day range<sup>\*</sup>
- Macquarie expectations are as high as \$210/MW-day\*
- 2016/17 3<sup>rd</sup> Incremental Auction 2/29/16 3/4/16, Results on 3/11/16

## **Capacity Costs Are Going to Rise**

- More active load/PLC management will be required & valuable
- Traditional DR is going to take a huge hit (Limits on Diesel in Jun-2016)
- Energy Market Pricing heavily backwardated, can offset some capacity uncertainty

# Understanding & Providing Transparency to Customers is Key!

\*https://www.snl.com/InteractiveX/article.aspx?ID=33629237&KPLT=4

### CARPENTER LIPPS & LELAND LLP

ATTORNEYS AT LAW

280 PLAZA, SUITE 1300 280 NORTH HIGH STREET COLUMBUS, OHIO 43215

### MEMORANDUM

To: OMA Energy Committee

From: Kim Bojko and Rebecca Hussey, OMA Energy Counsel

Re: Energy Committee Report

Date: August 27, 2015

### Active Administrative Actions in which OMA Energy Group is Involved:

### **American Electric Power (AEP Ohio):**

- ESP Application (Case No. 13-2385-EL-SSO, et al.)
  - Opinion and Order issued on February 25, 2015
  - Entry on Rehearing subsequently issued Commission deferred ruling on applications for rehearing related to the PPA rider
  - > Applications for rehearing on the same are under consideration
- PPA Rider Expansion Case (Case No. 14-1693-EL-RDR, et al.)
  - AEP filed an Amended Application in which AEP seeks Commission approval of AEP's proposal to enter into a new affiliate power purchase agreement between the Company and AEP Generation Resources, Inc., through which the Company would purchase the output of specific generating units owned by AEPGR
  - Pursuant to a recently issued procedural schedule, an evidentiary hearing on the matter is scheduled to commence on September 28, 2015
- Fuel Adjustment Clause Case (Case No. 11-5906-EL-FAC, et al.)
  - The Commission is entertaining arguments on AEP Ohio's alleged double recovery of certain capacity-related costs in these cases
  - Discovery is ongoing

### **Duke Energy Ohio:**

- ESP Application (Case No. 14-841-EL-SSO, et al.)
  - Opinion and Order issued on April 2, 2015, wherein Commission approved establishment of the Price Stabilization Rider (PSR) but did not authorize Duke to collect any costs through the PSR
  - Several parties, including OMA, filed applications for rehearing of the Commission's decision – the applications for rehearing are still under Commission consideration

- 2013 Shared Savings Incentive Audit Case (14-457-EL-RDR)
  - The Commission recently issued a decision in which it adopted the rationale advanced by OMA in denying Duke the ability to collect a shared savings incentive for 2013 through use of banked energy efficiency savings in years in which Duke had not met its benchmark through savings achieved through its approved programs alone
  - > The Commission is presently considering applications for rehearing filed in this matter
- Shared Savings Mechanism Extension Case (14-1580-EL-RDR)
  - Duke sought Commission approval of its request to extend the use of its shared savings incentive mechanism in 2016
  - A hearing on Duke's application took place on July 7, 2015 and the parties are presently in the process of submitting briefs on the issue

### **FirstEnergy:**

- ESP IV Application (Case No. 14-1297-EL-SSO)
  - In late May and early June 2015, FirstEnergy filed two additional supplemental stipulations which included specific provisions for the purpose of gathering additional support for FirstEnergy's Economic Stability Program
  - OMA Energy Group filed additional testimony (Second Supplemental Testimony of Ned Hill) addressing the supplemental and second supplemental stipulations
  - > The evidentiary hearing is scheduled to commence on August 31, 2015

### Statewide:

- PJM Capacity Auction Results
  - The first PJM capacity auction to include the new Capacity Performance requirement was held on August 21, 2015
  - The 2018-19 delivery year clearing price for Capacity Performance resources, which include generation, demand response, and energy efficiency, was \$164.77/megawatt-day for all Ohio delivery zones
- Challenges to the FirstEnergy Solutions RTO Expense Surcharge
  - Numerous complaints have been filed with the Commission, however none have been set for a settlement conference

### Judicial Actions—Active Cases Presently on Appeal from the Commission to the Supreme Court of Ohio

### **AEP Ohio:**

- In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Ohio Revised Code, in the Form of an Electric Security Plan, Case No. 2015-1225 (Appeal of Case No. 13-2385-EL-SSO, et al.)
  - **Case Status:** Notices of appeal filed on July 27, 2015 by the Office of the Ohio Consumers' Counsel, Industrial Energy Users-Ohio, and the Environmental Law and Policy Center
  - **Brief Synopsis:** Appellants filed appeals of the Commission's recent decision on AEP Ohio's ESP III, contending, among other things, that the Commission erred when it established the PPA Rider and approved the Basic Transmission Cost Rider.

### **Duke Energy Ohio:**

- In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in its Natural Gas Distribution Rates, Case No. 2014-328 (Appeal of Case No. 12-1685-EL-AIR, et al.)
  - **Case Status:** The matter is fully briefed; however the Court has not yet set the case for oral argument.
  - **Brief Synopsis:** OMA, OCC, Kroger, and Ohio Partners for Affordable Energy appeal a Commission order that permitted recovery from ratepayers for environmental remediation costs associated with two former manufactured gas plant sites.

### CARPENTER LIPPS & LELAND LLP

ATTORNEYS AT LAW

280 PLAZA, SUITE 1300 280 NORTH HIGH STREET COLUMBUS, OHIO 43215

### MEMORANDUM

**TO:** OMA Members with facilities located in AEP-OH's service territory

FROM: Kim Bojko, Carpenter Lipps & Leland LLP

**DATE:** August 6, 2015

**SUBJECT:** Transmission rate increases in AEP-OH's service territory

On June 1, 2015, as authorized by the Public Utilities Commission of Ohio (Commission) in its most recent electric security plan (ESP) case, AEP Ohio implemented the Basic Transmission Cost Rider (BTCR). According to AEP Ohio, the BTCR was designed to (1) replace AEP Ohio's Transmission Cost Recovery Rider, and (2) ensure that all customers, both shopping customers and non-shopping customers, only pay the actual costs of non-market based transmission expenses. AEP Ohio witnesses also testified during the course of the ESP case that making the change from the previous mechanism, the Transmission Cost Recovery Rider, to the BTCR, would "come at no cost to customers as cost responsibilities are simply being shifted from the CRES providers to AEP Ohio."

Before the implementation of the BTCR, either CRES suppliers billed customers for nonmarket based transmission costs, or customers contracted directly with PJM for the services. The amount that CRES suppliers previously built into their supply prices for non-market based transmission costs was based on the transmission rate applied to a customer's individual demand at the time of the system peak (1 CP). AEP Ohio is now collecting non-market based transmission costs from customers based on individual customers' monthly maximum demand instead of their contribution to that one hour peak load. Whether this new approach results in increased or decreased costs to an individual customer depends on the customer's coincidence of demand with the system peak and how that relates to the customer's monthly maximum demands.

Since the implementation of the BTCR, a number of AEP Ohio's GS-2 and GS-3 customers have seen a significant increase in their transmission costs. We have been working with some OMA members that have in fact experienced these increases. It is our understanding

that the Commission Staff has also received a number of questions and inquiries related to the recent changes in the BTCR rider, and the potential of dual billing for these charges.

In the ESP orders approving AEP Ohio's ESP, the Commission directed CRES providers and customers to work with Staff and AEP Ohio if problems arise regarding the transition to the BTCR. Given the Commission's directive to work with Staff and to ensure that customers are not being double billed for transmission-related expenses, we are requesting each OMA member with facilities located in AEP Ohio's service territory to inspect its AEP Ohio bills issued for periods beginning June 1, 2015, to determine whether your company is also experiencing significant increases in transmission costs as compared to January 2015 bills. (It is our understanding that the May bills included some true-up costs, therefore, it is not a good comparison month. Therefore, please compare your June/July bills (June usage) with the January 2015 bills.)

It is also important for each OMA member to inspect its AEP Ohio bills issued for the same period to determine whether your company was billed for transmission-related expenses from both AEP Ohio and your CRES provider. It has come to our attention that some customers taking service from CRES suppliers are being double-billed for transmission costs as a result of the implementation of the BTCR. It appears that both the applicable CRES supplier and the distribution utility (AEP Ohio) collected non-market based transmission costs for the billing periods in which the BTCR was implemented, resulting in double recovery of transmission costs by the CRES supplier and AEP Ohio during this period. An analysis of applicable bills appears to show that the CRES supplier may have continued to charge the full amount it had charged for transmission costs prior to the implementation of the BTCR in the billing period after the BTCR's implementation (after June 1). During the same period, AEP Ohio also prorated the BTCR in order to collect the transmission-related expenses. Unfortunately, this results in some customers being billed twice for the same transmission costs in the billing period immediately following the implementation of the BTCR.

If, upon inspection, your company determines that its transmission costs have appreciably increased since June 1, 2015, please contact Ryan Augsburger so that OMA may take steps to attempt to resolve any unforeseen and unintended consequences of the implementation of the BTCR, including steep transmission cost increases. Mr. Augsburger can be reached at raugsburger@ohiomfg.com or 614.629.6817.

### BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio							
Edison Company, The Cleveland Electric							
Illuminating Company, and The Toledo	)						
Edison Company for Authority to	)	(					
Provide for a Standard Service Offer	)						
Pursuant to R.C. 4928.143 in the Form of	)						
an Electric Security Plan.	)						

Case No. 14-1297-EL-SSO

### SECOND SUPPLEMENTAL TESTIMONY OF EDWARD W. HILL ON BEHALF OF THE OHIO MANUFACTURERS' ASSOCIATION ENERGY GROUP

August 10, 2015

### 1 Introduction, Purpose and Summary of Conclusions

### 2 Q. Please state your name, title and business address.

A. My name is Edward W. Hill, Ph.D. I recently retired as the Dean of the Maxine
Goodman Levin College of Urban Affairs at Cleveland State University and Professor of
Economic Development. My current address is 1121 Forest Rd., Lakewood, Ohio 44107.

### 6 Q. Have you provided written testimony before in this proceeding?

7 A. Yes, I provided written direct testimony on December 22, 2014, and supplemental 8 written testimony on May 11, 2015. My testimony addressed the policy implications that 9 I believe the Public Utilities Commission of Ohio (Commission) should consider 10 regarding the request of Ohio Edison Company (Ohio Edison), The Cleveland Electric 11 Illuminating Company (CEI), and The Toledo Edison Company (Toledo Edison) 12 (collectively, the Companies) for approval of an Economic Stability Program (Program), 13 which includes shifting the financial risk of operating generation plants onto their 14 customers through a rider and the utilization of a power purchase agreement (PPA) to 15 subsidize portions of the generation capacity owned by the Companies' affiliate, 16 FirstEnergy Solutions. I explained that the proposal shifts the risk of owning and 17 operating generating capacity to customers, including those customers who choose to 18 shop and purchase their generation from alternative suppliers or generators other than the 19 Companies' affiliate, FirstEnergy Solutions. I also addressed, in response to the Attorney 20 Examiner's Entries dated March 23, 2015 and May 1, 2015, whether and how the 21 Commission's factors set forth in the recent AEP Ohio Order regarding AEP's electric

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security plan and request for cost recovery associated with a PPA<sup>1</sup> should be considered
 in evaluating the Companies' request for future cost recovery associated with a PPA.<sup>2</sup>

### **3 Q.** What is the purpose of your second supplemental testimony in this proceeding?

A. Pursuant to the established procedural schedule,<sup>3</sup> I am testifying in response to the 4 5 Supplemental Stipulation and Recommendation that was filed on May 28, 2015 by the Companies and signatory parties in this proceeding (Supplemental Stipulation)<sup>4</sup> and the 6 7 Second Supplemental Stipulation and Recommendation that was filed on June 4, 2015 by the Companies and signatory parties in this proceeding (Second Supplemental 8 Stipulation)<sup>5</sup> (collectively, Supplemental Stipulations). Both Supplemental Stipulations 9 10 modify and adopt the initial Stipulation and Recommendation filed by the Companies and signatory parties in this proceeding on December 22, 2014 (Stipulation).<sup>6</sup> 11 In the 12 Supplemental Stipulations, the Companies continue to raise new issues, offer new 13 arguments, expand the carefully crafted coalition of supporters, and, when considered 14 together with the initial Stipulation, further its attempt to influence the public policy

<sup>&</sup>lt;sup>1</sup>In the Matter of the Application of Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to R.C. 4928.143, in the Form of an Electric Security Plan, Case No. 13-2385-EL-SSO, et al., Opinion and Order at 25 (February 25, 2015) (AEP Ohio Order).

<sup>&</sup>lt;sup>2</sup>In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan, Case No. 14-1297-EL-SSO (ESP IV Proceeding), Entry at 2 (March 23, 2015) and Entry at 10 (May 1, 2015) (citing AEP Ohio Order).

<sup>&</sup>lt;sup>3</sup> ESP IV Proceeding, Entry at 4 (July 2, 2015), modifying the schedule established at the June 2, 2015 Prehearing Conference, Transcript at 93, 95-96.

<sup>&</sup>lt;sup>4</sup> ESP IV Proceeding, Supplemental Stipulation and Recommendation (May 28, 2015) (Supplemental Stipulation).

<sup>&</sup>lt;sup>5</sup> ESP IV Proceeding, Second Supplemental Stipulation and Recommendation (June 4, 2015) (Second Supplemental Stipulation).

<sup>&</sup>lt;sup>6</sup> ESP IV Proceeding, Stipulation and Recommendation (December 22, 2014), as modified by the Errata filed on January 21, 2015 (Stipulation).

process in ways that are harmful for the state of Ohio. Accordingly, I offer an analysis of
the multiple stipulations, the supporters of those stipulations, and the cumulative effect of
the multiple stipulations on the business community in Ohio.

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### Q. Have you had an opportunity to review the Supplemental Stipulation and Second

### 5 Stipulation, both of which modify the Stipulation?

A. Yes. I have reviewed all of the stipulations that have been filed to date, as well as
relevant portions of the Companies' Plan termed at different times *Powering Ohio's Progress*, Electric Security Plan IV, and ESP IV. I have also reviewed the supplemental
testimony of Eileen Mikkelsen (multiple filings), filed on behalf of the Companies, which
claim to support the various stipulations.<sup>7</sup>

### Q. Which provisions contained in the Supplemental Stipulations are new to the Companies' initial ESP IV Plan and Stipulation?

13 The Supplemental Stipulations modify various provisions of Rider ELR (the A. 14 interruptible program), create a new pilot program for certain customers regarding 15 transmission costs, and create a new time-of-use proposal for certain customers. In 16 exchange for these new or modified provisions, the Supplemental Stipulations add two 17 additional entities to the group of 12 entities that were signatory parties to the Stipulation, 18 all of which have agreed to either support or not oppose the Companies in their request 19 for approval of the Companies' ESP IV Application (Signatory or Non-opposing Parties). 20 These Signatory or Non-opposing Parties state that they joined the Companies in

<sup>&</sup>lt;sup>7</sup> ESP IV Proceeding, Supplemental Testimony of Eileen M. Mikkelsen (December 22, 2014) (Mikkelsen Supplemental Testimony), Third Supplemental Testimony of Eileen M. Mikkelsen (June 1, 2015) (Mikkelsen Third Supplemental Testimony), and Fourth Supplemental Testimony of Eileen M. Mikkelsen (June 4, 2015) (Mikkelsen Fourth Supplemental Testimony).

1 supporting the proposed ESP IV Application after "a serious compromise of complex 2 issues."<sup>8</sup> However, the Signatory or Non-opposing Parties extracted payments, rate 3 discounts, and/or customer-specific special programs from the Companies through 4 several new provisions added to the ESP IV Application through the stipulations, many 5 of which are on topics that did not appear in the Companies' original ESP IV Application 6 and were not discussed in pre-filed testimony. After successfully extracting benefits 7 from the Companies, the Signatory or Non-opposing Parties agreed to recommend 8 approval of the Companies' proposed ESP IV Application (as modified by the 9 stipulations), including the Economic Stability Program and establishment of the Retail Rate Stability Rider (Rider RRS) associated with the PPA.<sup>9</sup> 10

11 While the Supplemental Stipulations, as well as the corresponding third and fourth 12 supplemental testimony of Ms. Mikkelsen, tout the additional issues addressed in the 13 Supplemental Stipulations (that adopt the entirety of the initial Stipulation<sup>10</sup>) as small and 14 narrow, the fact of the matter is that both Supplemental Stipulations raise additional 15 matters that have not been presented previously.

<sup>&</sup>lt;sup>8</sup> Supplemental Stipulation at 1, 5, and Second Supplemental Stipulation at 1, 2, adopting Stipulation in its entirety; see Stipulation at 5.

<sup>&</sup>lt;sup>9</sup> Supplemental Stipulation at 1, 5, and Second Supplemental Stipulation at 1, 2, adopting Stipulation in its entirety; see Stipulation at 6.

<sup>&</sup>lt;sup>10</sup> Supplemental Stipulation at 1 and Second Supplemental Stipulation at 1.

### Q. Are the benefits extracted from the stipulations available to all customers or all parties to the proceeding?

A. No. Several benefits only pertain to the interests of a specific Signatory or Nonopposing Party or are only available to specific Signatory and Non-opposing Parties, or
their members.

6 For example, under the Supplemental Stipulation, the Stipulating and Non-opposing 7 Parties propose a new, small-scale pilot program for some of the Signatory and Non-8 opposing Parties and their members, which allows those pilot participants to opt-out of 9 the Companies' Rider NMB and obtain all transmission and ancillary services directly 10 through PJM's Open Access Transmission Tariff (OATT), or indirectly through a 11 certified retail electric supplier. It is not clear whether the costs associated with the 12 implementation of this pilot program will be passed on to other customers, nor is it clear 13 whether any costs included in Rider NMB that are not paid for by opt-out pilot 14 participants will be borne by other customers.

As another example, under the latest stipulation filed (i.e., Second Supplemental Stipulation), the Stipulating and Non-opposing Parties propose to deploy a Commercial High Load Factor ("HLF") Experimental Time-of-Use Rate Proposal that will be available for only commercial customers that have headquarters located in Ohio and have at least 30 facilities in the Companies' service territories (with each facility consuming at least 1.5GWh annually). Refrigeration must also be a major portion of the customer's load. Furthermore, each of the customer's participating facilities must have interval

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metering, must have an average monthly load factor during the preceding 12 months of
70% or higher, and must be served under the Companies' GS or GP rate schedules.<sup>11</sup>

3 The Experimental Time-of-Use Rate was not included in the Company's ESP IV 4 Application, the Stipulation, or the Supplemental Stipulation. It appears for the first time 5 in the Second Supplemental Stipulation and adds one Signatory Party to the overall 6 settlement. Ms. Mikkelsen states that the provision will give a customer that meets the 7 specified narrowly-tailored criteria an opportunity to reduce its overall energy bills with 8 the "[r]ecovery of differences, if any, between revenues collected to provide this 9 generation service and the cost associated with providing this generation service" from other customers through Rider GCR.<sup>12</sup> The amount or impact on Rider GCR is not 10 disclosed.<sup>13</sup> 11

### 12 Q. What are some of the other benefits that only pertain to the interests of specific

### 13 Signatory or Non-opposing Parties?

A. In addition to the new programs created and the special rate programs continued that
are, essentially, limited to only Signatory or Non-opposing Parties, various payments are
promised to a few Signatory Parties associated with energy efficiency and assistance

<sup>&</sup>lt;sup>11</sup> See Second Supplemental Stipulation at 1-2.

<sup>&</sup>lt;sup>12</sup> Mikkelsen Fourth Supplemental Testimony at 2; see also Response of the Companies to OCC-16-INT-601, attached hereto at EWH Supplemental Attachment A at 1.

<sup>&</sup>lt;sup>13</sup> See Response of the Companies to OCC-15-INT-590 and RESA/EPSA-2-INT-16, attached hereto at EWH Supplemental Attachment A at 2-3.

programs.<sup>14</sup> The stipulations and supporting testimony show that these Signatory Parties
will receive approximately \$15.31 million in payments.<sup>15</sup>

### 3 Q. Do ratepayers pay for the cumulative benefits available to the Signatory and 4 Non-signatory Parties?

5 A. Yes, for the most part. The costs associated with providing the special rate 6 discounts will be recoverable from ratepayers through Rider DSE1, Rider EDR(e), Rider 7 EDR(i), and Rider DRR,<sup>16</sup> the costs associated with implementing and running the energy 8 efficiency programs or audits will be recoverable from ratepayers through Rider DSE,<sup>17</sup> 9 the costs associated with funding the Community Connections program will be 10 recoverable from ratepayers,<sup>18</sup> and any net costs associated with providing the new 11 experimental time-of-use rate will be recovered from ratepayers through Rider GCR.<sup>19</sup>

### 12 Q. Have you been able to quantify the costs of the cumulative benefits of the

### 13 stipulations that will be paid for by ratepayers, most of which will not be receiving

### 14 the direct benefits delineated in the stipulations?

- 15 A. The stipulations only provide partial information about the cost shifting and payments
- 16 that are proposed during the ESP IV. I received some supplemental information from

<sup>15</sup> List of benefits compiled based upon Stipulation at 10-15 and Mikkelsen Supplemental Testimony at 4-5.

<sup>&</sup>lt;sup>14</sup> See, e.g., Stipulation Sections B and C.

<sup>&</sup>lt;sup>16</sup> Supplemental Stipulation at 2-3; Mikkelsen Third Supplemental Testimony, Attachment EMM-3 at 2; Stipulation at 9-10; Mikkelsen Supplemental Testimony at 3-4.

<sup>&</sup>lt;sup>17</sup> Stipulation at 10-12; Mikkelsen Supplemental Testimony at 4-5.

<sup>&</sup>lt;sup>18</sup> Mikkelsen Supplemental Testimony at 10 (Although not stated in the Stipulation, Ms. Mikkelsen's Supplemental Testimony asserts that the Companies will not seek to recover from other ratepayers the \$7.1 million in funds designated to assist at-risk populations. There is no similar commitment made regarding the recovery of the \$5.1 million in payments to the CHN from the Community Connections program funding).

<sup>&</sup>lt;sup>19</sup> Mikkelsen Fourth Supplemental Testimony at 2; see also supra n.13.

discovery responses given by the Companies. Unfortunately, however, the overall
financial impact upon the customers that cannot receive the settlement benefits that are
only attainable by a few Signatory or Non-opposing Parties are not made clear in the
material submitted.<sup>20</sup>

From the information that we have been able to obtain to date through the testimony and discovery responses, I have been able to quantify some of the costs that will be borne by the ratepayers due to the cumulative impact of the stipulations. From the special programs, payments, and rate discounts, ratepayers may be responsible for \$228.2 million.<sup>21</sup> Any projected costs assessed to ratepayers through Rider RRS would be in addition to the direct benefits received by the Stipulating or Non-opposing Parties.

<sup>&</sup>lt;sup>20</sup> For example, it is not clear who will bear the cost of administrative oversight of some of the new programs. Although the Companies claim in response to PUCO-DR-33, Part 10, attached hereto at EWH Supplemental Attachment A at 4-6, that they will not seek recovery of administrative costs for the new transmission Pilot Program that would permit certain customers to opt out of Rider NMB, the Companies did not include such a guarantee in the Supplemental Stipulation or filed testimony. Nonetheless, the Companies admitted that there are administrative activities associated with the Pilot Program's implementation. See response to PUCO-DR-33, Part 9, attached hereto at EWH Supplemental Attachment A at 4-6. If those activities are completed by employees of the Companies (regulated distribution companies) or costs are allocated to the distribution business, the labor and costs of such activities may be borne by ratepayers. See also supra n.13, and the Response of the Companies to RESA/EPSA-1-INT-34, attached hereto at EWH Supplemental Attachment A at 7, regarding the Experimental Time-of-Use Rate Proposal (the participants of the Experimental Time-of-Use Rate Proposal will not pay the same cost for capacity as standard service customers).

<sup>&</sup>lt;sup>21</sup> See Stipulation at 7-8, 9-10, 10-15 and Mikkelsen Supplemental Testimony at 3-5; Supplemental Stipulation at 2-3; Mikkelsen Fourth Supplemental Testimony at 2; Response of the Companies to: OMAEG-3-INT-46(b); OMAEG-4-INT-88; OCC-12-INT-296; OCC-12-INT-300; OCC-15-INT-578; OCC-15-INT-579; OMAEG-5-INT-118; and OMAEG-5-INT-119, respectively attached hereto at EWH Supplemental Attachment A at 8-15. See also Response of the Companies to OMAEG-3-RPD-021, Attachment 1 (Confidential); OMAEG-4-RPD-32, Attachment 1 (Confidential); and PUCO-DR-30(a) (Confidential), respectively attached hereto at EWH Supplemental Attachment B at 1-7 (Confidential).

### Q. Do economic development discounts and incentives provide benefits to all ratepayers?

A. If structured properly, yes. Economic development incentives can help companies lower production costs, control or provide increased certainty over their operating costs, speed the opening of a plant, and influence the design of plant and equipment. Economic development incentives can be used to bring fallow land into use and they can be used to provide a trained workforce. In other words, a public benefit should be identifiable and the incentive should pass the "but for" test—but for the incentive the operation would not have opened.

10 Incentives may be appropriate for economic development reasons, but the incentives need 11 to be uniformly applied and available to all similarly situated customers. The criteria for 12 qualifying for the incentives and discounts should not be so narrowly tailored that they 13 are discriminatory or only apply to one or a few companies. Economic development 14 incentives also should be restricted to companies that primarily sell goods and services to 15 out-of-state customers or have their goods and services bundled into these exported goods 16 and services. These firms are considered to be part of the economic base of the state.

The selection of the recipients of narrowly defined economic development incentives should not be made by a private company that is in a position to provide one of its customers with a competitive advantage over another company in its service territory. This is especially true if there is a quid-pro-quo as is the case in the proceeding currently pending before the Commission. Most importantly, the state of Ohio should not be

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delegating its economic development strategy and authority to a privately owned electric
 utility.

3 What is presented in the stipulations is not a set of economic development incentives. 4 Instead, the incentives are targeted price reductions and discounts that are being offered 5 by the Companies through the regulatory process to only those customers or groups that 6 have been invited to join the exclusive club or coalition formed by the Companies, and 7 the costs of such discounts and incentives are being largely passed on to the broad pool of 8 ratepayers in the Companies' service territories who were not invited to join the club 9 formed by the Companies. Typically, in operating competitive markets, the decision to 10 offer a discount is up to the provider and that provider and its stockholders absorb the 11 discount in expectation of other gains, such as increased sales volumes tied to efficiencies 12 of scale or using slack production capacity, or to prevent the loss of the customer. The 13 cost of these discounts is not typically passed onto other customers unless the provider 14 has some form of market power. Also, in competitive markets, cost shifting does not 15 occur to customers in a defined geographic area using the regulatory powers of the state.

While incentives may reduce the expenses and provide associated benefits to the Signatory or Non-opposing Parties that are receiving the incentive, such discounting becomes problematic when the cost of the incentive is then passed on to other customers or other classes of customers.

The value of incentives should not be shifted to other customers or established in a manner that is tailored to discriminate among competitive customers, unjustly choosing winners and losers. Economists consider such cost shifting to be a form of cross-

11

subsidization where parties that lack market power are paying for incentives offered to
 parties that have market power. Such cross-subsidies are inherently market distorting.

There is no longer an integrated generation, transmission, and distribution power market in Ohio. Electric generation in Ohio is now a competitive service. The only remaining natural monopoly is in the distribution system. Regulatory policy should be very careful not to allow the existence of a natural monopoly in the distribution system to be used as leverage to protect non-competitive firms in the other two components of electric service.

### 8 Q. Will the costs of the stipulations be borne equally and fairly by all ratepayers?

9 A. No. From reviewing the stipulations, testimony, and applicable tariff schedules, it 10 appears that some of the costs or charges to ratepayers for the settlement programs and 11 rate discounts will be paid for by only certain commercial rate schedules, mainly the 12 General Service (GS) and General Primary (GP) customers in the Companies' service 13 territories, some costs will be paid for by all ratepayers in the Companies' service 14 territories, and some costs will be borne by all ratepayers in the Companies' service territories except for the customers receiving the direct benefits.<sup>22</sup> If this occurs, then 15 16 certain customers or classes will pay a disproportionate share of the benefits outlined in 17 the stipulations.

<sup>&</sup>lt;sup>22</sup> See generally, Ohio Edison Company, P.U.C.O. No. 11, Sheets 101 (Rider ELR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2011 and July 1, 2015, depending on section); The Cleveland Electric Illuminating Company, P.U.C.O. No. 13, Sheets 101 (Rider ELR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2011 and July 1, 2015, depending on section); and The Toledo Edison Company, P.U.C.O. No. 8, Sheets 101 (Rider ELR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Sheets 101 (Rider ELR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2015), 115 (Rider DSE, Effective July 1, 2015), and 116 (Rider EDR, Effective June 1, 2011 and July 1, 2015, depending on section), respectively attached hereto as EWH Supplemental Attachment A at 16-57; see also, Response of the Companies to OCC-13-INT-345; OCC-15-INT-580; OCC-15-INT-581, respectively attached hereto as EWH Supplemental Attachment A at 58-60.

### Q. Are there other Signatory or Non-opposing Parties that indirectly benefit from the stipulations?

3 A. Yes, given that the Supplemental Stipulations adopt the Stipulation and the ESP IV Application, as modified by the stipulations,<sup>23</sup> beneficiaries to the stipulations include 4 5 those who benefit from the establishment of a rider to recover from ratepayers all costs 6 associated with the generating plants subject to a purchase power agreement between the 7 regulated utility and unregulated affiliate. Rider RRS provides the regulated entities' (the 8 Companies') parent company, FirstEnergy Corp., with a guaranteed return on the 9 generation assets owned by FirstEnergy Solutions that are included in the PPA transaction that forms the basis of Rider RRS.<sup>24</sup> Beneficiaries of the stipulations would 10 include the Companies, Ohio Power, and their affiliates.<sup>25</sup> 11

### 12 Q. Are the Supplemental Stipulations in the public interest?

13 A. No. In addition to the discussion above regarding costs of incentives and the unfair 14 cross-subsidization of costs to a select group of customers, the Supplemental Stipulations 15 are also not in the public interest because they adopt the Companies' Application with 16 regard to the Economic Stability Program and Rider RRS, as well as the associated PPA. 17 As explained in my Supplemental Testimony, the proposed PPA requires the Companies 18 to purchase all of the power from uncompetitive generating plants owned by its affiliate, 19 FirstEnergy Solutions, and pass on the costs of fuel and any plant upgrades, plus a return, 20 to ratepayers. The output from the generating units will be sold into the regional

<sup>&</sup>lt;sup>23</sup> See supra n.9.

<sup>&</sup>lt;sup>24</sup> See generally, Testimony of Stephen E. Strah at 4-5 (August 4, 2015).

<sup>&</sup>lt;sup>25</sup> Stipulation at 25 (Ohio Power Signature Page).

wholesale market, and any losses or profit resulting from the sale will be passed on to all
customers in the Companies' service territories through Rider RRS. The Companies
have projected that there will be no profit in the first three years covered by all three
stipulations.

5 Although the Companies assert that the Stipulation, which is adopted by the 6 Supplemental Stipulations in its entirety,<sup>26</sup> preserves the competitive retail market, an 7 overall settlement that includes the PPA proposal prevents a completely free market from 8 evolving and, therefore, is not in the public interest.

9 More specifically, the Supplemental Stipulations are not in the public interest for two 10 reasons. First, they adopt a scheme that will provide one certified retail electric supplier 11 in Ohio with a competitive advantage in the Ohio market as its uneconomic generating 12 plants will be subsidized by the Companies' ratepayers through approval of the Economic 13 Stability Program and associated PPA. Second, the Supplemental Stipulations and the 14 PPA will deter entry into the power generation portion of the market by new competitors. 15 Typically, if a market participant cannot compete in a competitive market, it will fail. 16 Subsidizing an existing market participant in the hope that it may be able to compete at 17 some point in the future is not in the public interest, nor is it good public policy. It will 18 only deter entry and keep prices higher than they would be in a competitive market. The 19 PPA can best be described as a coin-flip bet that FirstEnergy Corp. is making, one where 20 it's "heads I win and tails you lose."

<sup>&</sup>lt;sup>26</sup> See supra n.9.

By examining the algebra behind the logic of the proposal, the inequities of the proposal
 become apparent:

Let p<sub>C</sub> represent the price paid for by consumers, p<sub>FE</sub> the price charged by FirstEnergy
Solutions, and p<sub>A</sub> is the price charged by alternative suppliers.

5 Also let the production cost of energy be represented by  $c_{FE}$  for FirstEnergy Solutions 6 and  $c_A$  for the alternative producers.

7 If  $p_C = p_A = p_{FE}$  then the market is at a short-term equilibrium and there is no incentive to 8 change suppliers. This can only be a stable solution over time only as long as  $c_A = c_{FE}$ .

9 However, the Companies have informed the Commission that its affiliate could not sell 10 the output from the generating plants covered by the PPA for a profit, implying that for 11 some fraction of its capacity its production cost is higher than the cost of competitors. 12 Therefore,  $c_{FE} > c_A$ .

13 Now let  $t_{FE}$  represent the tax or surcharge imposed by the Companies through the 14 proposed regulation (Rider RRS) on all customers if the net costs outweigh the revenues 15 that the plants obtain in the market; then  $t_{FE} = f(c_{FE} - c_A)$ . This equation notes that as the 16 cost differential increases between the plants in question and alternative sources of 17 generating capacity the tax increases automatically.

18 There is a secondary effect to this dynamic that offers greater pause, which is the power 19 of precedent. If the PPA is approved and other generating assets become uncompetitive 20 then the Commission has established a precedent that will be used to bring those assets under regulatory protection with an assured rate of return on capital. This will affect not just the Companies' affiliated generating assets but all generating plants located in the state of Ohio; after all, what is fair for one must be fair for all. In this case, allow **b** to represent the decimal fraction of non-competitive generating assets expressed in terms of kilowatt-hours and (1-b) is the fraction that is competitive; then **b** +(1-b) = 1.00.

6 Then:  $\mathbf{t}_{FE} = \mathbf{f}(\mathbf{b})$  meaning that the tax (or costs) imposed by the Companies, and others in 7 similar situations, will be a function of the portion of generating capacity that falls under 8 a PPA and its successors and as b increases, so does  $\mathbf{t}_{FE}$ .<sup>27</sup> In other words, as **b** increases, 9 or as the portion of the state's generating fleet that is not price competitive in the 10 wholesale markets increases, the tax will increase. This will effectively deter entry and 11 investments by competitors in generating capacity.

12 Then: 
$$p_{C} = p_{A} + t_{FE} = p_{FE}$$
.

13 The algebra states that as the production cost differential increases compared to that of 14 alternative producers, the imposed tax increases proportionately, thereby redistributing 15 income from customers located in the Companies' service territories to FirstEnergy 16 Solutions and FirstEnergy Corp.'s shareholders. Heads, FirstEnergy Solutions wins; tails 17 FirstEnergy Solutions' competitors lose. No matter what, FirstEnergy Solutions' 18 customers will have, at best, market electric rates; but, more likely, they will have higher 19 electric rates than if a competitive generating market existed. The second conclusion I 20 reach is that entry into the state by alternative energy producers will be deterred because

<sup>&</sup>lt;sup>27</sup> The actual function is nested:  $\mathbf{t}_{FE} = \mathbf{f}(\mathbf{b})$  with  $\mathbf{b} = \mathbf{g}(\mathbf{c}_i - \mathbf{c}_A)$ , where  $\mathbf{c}_i$  is the operating cost at power plant i.

the precedent provided by the PPA will eliminate their pricing advantage held by new entrants. The PPA is a way of using the regulatory power of the state to create political market power in the electric market for the legacy generators. Deterring entry and investment in the state of Ohio is not in the public's interest.

### Q. Have you been able to quantify the costs of the indirect benefits attributed to the Signatory or Non-opposing Parties that benefit from the establishment of Rider RRS, which was adopted by the Supplemental Stipulations?

A. No. As explained in my previous testimony,  $^{28}$  Ms. Mikkelsen appears to value the 8 9 PPA provision of the ESP IV Application at \$2.0 billion in favor of customers, but 10 recognizes that that benefit may not come to fruition, and if it does, it will not occur during the term of ESP IV.<sup>29</sup> The stipulations appear to adopt the Companies' proposed 11 12 Rider RRS in its entirety with one modification. The Supplemental Stipulations' blanket 13 adoption of the Companies' Application with regard to the Economic Stability Program 14 and Rider RRS, as well as the associated PPA (with one modification), adds costs to the 15 proposed overall settlement that will be borne by ratepayers, and, as explained above, is not in the public interest.<sup>30</sup> 16

<sup>&</sup>lt;sup>28</sup> Hill Supplemental Testimony at 16.

<sup>&</sup>lt;sup>29</sup> See Mikkelsen Supplemental Testimony at 2.

<sup>&</sup>lt;sup>30</sup>See, e.g., Supplemental Testimony of Ramteen Sioshansi at 2; Supplemental Testimony of James F. Wilson at 3-4; Direct Testimony of Steven Ferrey at 12 (all filed May 11, 2015).

### Q. Why do you believe the Companies, through the Supplemental Stipulations, increased the size of what you have termed a "redistributive coalition"?

A. In my previous testimony, I explained how the Stipulation formed a redistributive
coalition, which is a relatively small group that promotes policies for their mutual
financial benefit.<sup>31</sup>

6 The redistributive coalition was assembled to present to the Commission and to the 7 public the façade not only of broad support for the ESP IV, but of a broad range of 8 benefits flowing to the classes of customers represented by the Signatory or Non-9 opposing Parties. The stipulations and testimony are careful to state that the participation 10 of the members of the redistributive coalition indicates broad support and benefits 11 flowing to the classes that they represent. Unfortunately, the benefits only flow to the 12 Signatory or Non-opposing Parties.

13 While the Companies imply that the outcome was universal, the stipulations are clear 14 that the provisions only apply to the entities that were involved in the negotiations and 15 the benefits derived only apply to the Signatory or Non-opposing Parties. In her 16 testimony, Ms. Mikkelsen asserts: "As can be seen from this list, the Signatory Parties 17 represent varied and diverse interests including large industrial customers, small and 18 medium businesses, mercantile customers, colleges and universities, low income residential customers, organized labor and a large municipality."<sup>32</sup> The facade of 19 20 universality, however, is apparent later in her testimony: "The Signatory Parties represent

<sup>&</sup>lt;sup>31</sup> Hill Supplemental Testimony at 14.

<sup>&</sup>lt;sup>32</sup> Mikkelsen Supplemental Testimony at 6.

a broad range of interests including the Companies, another Ohio electric distribution
utility, organized labor, various consumer groups (themselves representing a broad range
of customer classes and varied interests), and a large municipality." <sup>33</sup>

Ms. Mikkelsen then concludes that given the group of Signatory Parties that make up the
coalition, the stipulation as a package benefits customers and the public interest.<sup>34</sup> As I
have stated before, this is a carefully crafted coalition designed to look as if it represents
broad groups, rather than the specific entities that they actually represent.

8 The Supplemental Stipulations merely add two more entities to that redistributive 9 coalition by adding additional provisions that are for the benefit of the Signatory or Non-10 opposing Parties.

### 11 Q. How does the concept of a redistributive coalition apply?

A. Here, the Companies have assembled a coalition to promote a policy that benefits their affiliate, FirstEnergy Solutions, and the other coalition members. The benefit to the Companies consists of a subsidy to pay for its affiliated company's underperforming generation. This benefit to the Companies has been valued at \$3 billion by one expert witness for a non-signatory party, the Office of the Ohio Consumers' Counsel.<sup>35</sup>

17 The large heterogeneous group that has to pay for the majority of this proposed policy, as18 well as the other costs embedded in the stipulations, consists of the remaining

<sup>&</sup>lt;sup>33</sup> Id. at 7.

<sup>&</sup>lt;sup>34</sup> Id. at 8.

<sup>&</sup>lt;sup>35</sup> See Direct Testimony of James F. Wilson at 12 (December 22, 2014).

commercial, industrial, and residential ratepayers of northern Ohio who are not members
 of the redistributive coalition. This large ratepayer group would be very difficult and
 expensive to organize for purposes of advocating the group's interests.

4 Further, the costs of learning about and understanding the impact of the proposals set 5 forth in the various stipulations and the ESP IV Application are substantial because these 6 costs are opaque, buried in a series of riders that are beyond the ability of a typical 7 ratepayer to understand, and provided through an evolving regulatory process that needs 8 to be constantly monitored. Non-members of the redistributive coalition are further 9 disadvantaged by the large, complicated, last minute submittals to the Commission. 10 Additionally, many of the provisions embedded in the stipulations are written in ways 11 that are extremely difficult to disentangle, including the wholesale adoption of the 12 Companies' large ESP IV Application with limited exceptions.

13 Economists and political theorists who have developed public choice theory anticipated 14 the dense and opaque nature of these sorts of submittals with another concept: rational *ignorance*.<sup>36</sup> A redistributive coalition can raise the costs of obtaining and understanding 15 16 information that relates to their proposed actions by making submittals as opaque and 17 The term "rational ignorance" was coined to describe the technical as possible. 18 reasonable disengagement of the public from trying to understand technical information 19 and expert testimony where the cost of obtaining the knowledge is high and the return to 20 individuals from their effort is low, even if the collective impact is large. Rational 21 ignorance also explains how members of a redistributive coalition will focus on the direct

<sup>&</sup>lt;sup>36</sup> Downs, Anthony. An Economic Theory of Democracy. New York: Harper Row, 1957.

impact of payments and benefits to them or their members without acknowledging the full impact of the proposed redistribution on the public at large. This is a point to keep in mind when the Commission's three part test of the reasonableness of the multiple stipulations is discussed below: the calculation used by the members of a redistributive coalition is their net benefit, not society's net benefit.

### Q. Does the expansion of the redistributive coalition through the Supplemental Stipulations improve the overall settlement or address your previously stated concerns?

9 A. No. The cost of organizing the group and adding two more parties to the group is 10 small relative to the benefits received by the Signatory or Non-opposing Parties. The 11 costs associated with providing incentives to a group of parties, much of which are 12 funded by ratepayers that have been excluded from the settlement, are far outweighed by 13 the returns.

14 The actual cost of organizing the redistributive coalition will not be borne significantly 15 by the organizer, the Companies. These costs will instead be passed on to ratepayers in 16 the form of various costs or expenses of the regulated utility. Therefore, the direct or 17 lasting expense incurred by the organizer, the Companies, is minimal. Some of the 18 coalition members receive cost reductions, a predictable financial benefit, some obtain 19 benefits that will be passed on to the members of their organizations, and others find 20 funds to support their organizations' missions. Many coalition members may be able to 21 use the windfalls to pay for their administrative expenses. Nonetheless, while many of 22 these pass-through benefits may be socially beneficial or meritorious to a relatively small 23 group of beneficiaries, it is at the expense of a much larger group. Accordingly, the overall settlement, as a package, does not benefit most ratepayers and is not in the public
 interest.

### **3 Q.** How do you think the coalition members were selected?

4 A. The list of signatories was carefully constructed. The Companies stated that the 5 members of the redistributive coalition "represent varied and diverse interests including 6 large customers, small and medium businesses, mercantile customers, colleges and 7 universities, low income residential customers, organized labor, and a large municipality."<sup>37</sup> However, the list also raises a series of questions: how are they 8 9 representative? Did they represent their peers and similar organizations in the negotiation 10 process? Were they able to obtain similar benefits for their peers or at the exclusion of 11 their peers? Generally speaking, the answers to the last two questions are no: they 12 represented themselves and the incentives they obtained are for their organizations or 13 companies alone.

For example, why is the City of Akron a direct beneficiary while other communities with low-income populations, such as Toledo, are excluded? Why are private colleges and universities beneficiaries, while public colleges and universities are excluded? Why are COSE's members eligible for audits, while small business members of other chambers of commerce or organizations are left out? Why would a grocer that is able to meet certain requirements receive an operating cost advantage over its competitors?

<sup>&</sup>lt;sup>37</sup> See Mikkelsen Supplemental Testimony at 2.

1 The simple answer is that not all customers were invited to become members of the 2 coalition. This is a political coalition assembled to provide a veneer of inclusion and the 3 image of universal support in exchange for a limited set of pre-defined financial benefits. 4 In exchange, the members of the coalition (i.e., Signatory or Non-opposing Parties) have 5 committed to endorse the totality of the ESP IV Application, including Rider RRS. The 6 Supplemental Stipulations adopted the Stipulation in its entirety, which includes the 7 statement: "each Signatory Party agrees to and will support the reasonableness of the ESP 8 IV and this Stipulation before the Commission, and to cause its counsel to do the same."38 9

10 The redistributive coalition is being used by the Companies, and their parent company, 11 FirstEnergy Corp., as a broad representation of the economy in a political process. The 12 Commission, however, is being asked to adopt a settlement that chooses winners and 13 losers among competitors. Why is this good public policy?

### Q. From your perspective is there anything illegal about creating and using a "redistributive coalition" to your benefit?

A. There is nothing illegal about forming a redistributive coalition; it is a political coalition designed to extract a favorable outcome from a regulatory or legislative proceeding for its members. It just has to be recognized for what it is, and for what it is not. It is not a bargaining body that represents all of the Companies' ratepayers or the public interest.

<sup>&</sup>lt;sup>38</sup> Stipulation at 18.

1 The Companies imply that the negotiations that took place between the members of its 2 redistributive coalition were "fair." However, there is nothing supporting this conclusion 3 in the record. Ms. Mikkelsen's Testimony supporting the Supplemental Stipulations does 4 not address the negotiations of the Signatory or Non-opposing Parities or fairness. The 5 testimony supporting the Supplemental Stipulations merely asserts that each stipulation 6 continues to meet the Commission's criteria and refers to the Supplemental Testimony 7 supporting the initial Stipulation. In the referenced Supplemental Testimony, Ms. 8 Mikkelsen references the Commission's criteria when considering the reasonableness of a 9 stipulation: "a stipulation must satisfy three criteria: (1) the stipulation must be the 10 product of serious bargaining among capable, knowledgeable parties; (2) the stipulation 11 must not violate any important regulatory principle or practice; and (3) the stipulation must, as a package, benefit ratepayers and the public interest."<sup>39</sup> Ms. Mikkelsen then 12 13 explains how she believes that the initial Stipulation meets those criteria. Ms. Mikkelsen, 14 however, fails to address the Commission's criteria in her Third and Fourth Supplemental 15 Testimony as they relate to the Supplemental Stipulations.

### 16 Q. Do you agree with Ms. Mikkelsen's conclusion?

A. No. There is no evidence in the record that the Supplemental Stipulations satisfy the
Commission's three-prong test. First, in my reading of the Supplemental Stipulations,
which adopt the Stipulation and supporting testimony, there is no evidence that the first
criterion has been met, as there is no evidence that all or most of the Signatory or Non-

<sup>&</sup>lt;sup>39</sup> See Supplemental Testimony of Eileen M. Mikkelsen at 2; see also Third Supplemental Testimony of Eileen M. Mikkelsen at 3 and Fourth Supplemental Testimony of Eileen M. Mikkelsen (referencing the above-mentioned factors).

opposing Parties were knowledgeable of all provisions of the Companies' ESP IV
 Application that they have agreed to through the Stipulations.

3 Furthermore, there is no evidence in the record that the claimed additional supporters of 4 the Companies' ESP IV Application are actual supporters of the Application and/or the 5 stipulations or that they are even knowledgeable of the contents of the Application and/or multiple stipulations.<sup>40</sup> For instance, the President and CEO of FirstEnergy Corp., Chuck 6 7 Jones, published an article in the Cleveland Plain Dealer, stating that "the supporters ... 8 include many residential, commercial, industrial and low-income customers, as well as 9 organized labor, communities and schools." Many of the cited "supporters" in the article 10 are not Signatory or Non-opposing Parties to the multiple stipulations, and it is unknown 11 what, if any, incentives or benefits that any such "supporters" may have received to voice 12 their support for the Companies' proposal. It is also unknown what the "support" is truly 13 based upon. For instance, did those "supporters" understand that the Companies' motive 14 came at an expense to the Companies' ratepayers?

Mr. Jones explained the purpose of the Companies' proposal and settlement pending before the Commission in his July 27, 2015 interview with *Plain Dealer* reporter John Funk: "Jones said FirstEnergy's future is at risk if it cannot persuade the state's Public Utilities Commission to *force ratepayers* to cover the full costs of electricity from two of

<sup>&</sup>lt;sup>40</sup> "Powering Ohio's Progress' rate plan is about preserving vital power plants for Ohio customers: Chuck Jones (Opinion)," *Cleveland Plain Dealer* (August 2, 2015), attached hereto at EWH Supplemental Attachment A at 61-63; see also list of claimed supporters in the Companies' cover letter filed with Stipulation (December 22, 2014) and Response of the Companies to OMAEG-3-INT-27; OMAEG-3-INT-28; OMAEG-3-INT-29; OMAEG-3-INT-30; OMAEG-3-INT-31; OMAEG-3-INT-32; OMAEG-3-INT-33; OMAEG-3-INT-34; OMAEG-3-INT-35; OMAEG-3-INT-36; OMAEG-4-INT-68; OMAEG-4-INT-69; OMAEG-4-INT-72; OMAEG-3-INT-25; OMAEG-4-INT-73; OMAEG-4-INT-74; and OMAEG-4-INT-75, attached hereto as EWH Supplemental Attachment A at 64-80.

its huge coal and nuclear plants, even if other sources of electricity, such as natural gas,
would be cheaper for consumers." Funk reported that in an interview with the
newspaper's editorial board Jones stated: "I am trying to save a company."<sup>41</sup>

4 Second, the parties did not represent a diverse group of customers or certain classes of 5 customers as they only represented themselves. It is my understanding that the second 6 criteria fails as the Commission has recently stated that it disfavors direct payments of funds to intervenors, even if those funds are to be refunded to ratepayers.<sup>42</sup> This appears 7 8 to be the case with many of the funds provided to organizations in the stipulations. This 9 policy position would also apply to the provisions contained in the Supplemental 10 Stipulations, as well as the Stipulation, that are only available to one or more of the 11 Signatory or Non-signatory parties at the exclusion of other customers.

Finally, it is clear that the Supplemental Stipulations do not meet the third criterion of benefiting ratepayers and the public interest. The Supplemental Stipulations do not benefit ratepayers as a whole and are not in the public interest. Providing benefits to carefully selected members of a redistributive coalition cannot be deemed to benefit all ratepayers, similarly-situated ratepayers who were not included in the bargaining process,

<sup>&</sup>lt;sup>41</sup> Funk, John, "FirstEnergy wants Ohio to end deregulation, return to state-controlled rates," *Cleveland Plain Dealer* (July 28, 2015, updated July 29, 2015) (emphasis added), attached hereto at EWH Supplemental Attachment A at 81-83.

<sup>&</sup>lt;sup>42</sup> See In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Recover Costs Associated with the Ultimate Construction and Operation of an Integrated Gasification Combined Cycle Electric Generation Facility, Case No. 05-376-EL-UNC, Order on Remand at 11-12 (February 11, 2015) ("The Commission notes that provision l.b. of the Stipulation includes direct payments to intervenors of funds to be refunded to ratepayers. \* \* \* However, the Signatory Parties to this Stipulation and parties to future stipulations should be forewarned that such provisions are strongly disfavored by this Commission and are highly likely to be stricken from any future stipulation submitted to the Commission for approval.")
1 or the public interest as a whole. The bargains struck will result in most of the 2 redistributive coalition's benefits being paid for by the vast majority of ratepayers: those 3 who were not part of the bargaining and those who will not receive the direct payments 4 and other benefits extracted by the members of the redistributive coalition. If enacted, 5 the broad pool of electricity users will pay a *de facto* tax enabled and enforced by the 6 Commission to benefit the redistributive coalition assembled by the Companies, 7 including the organizer, the Companies, which are the largest beneficiaries, as well as 8 their affiliate.

9

# **Q.** Why is such a redistributive coalition a problem for policy makers?

10 A. The problem is that those who stand to lose from policies promoted by a 11 redistributive coalition are part of a large, heterogeneous group, one that is difficult and 12 expensive to organize in opposition to the proposed redistribution.

13 Information that is missing from the cumulative settlement, including testimony 14 supporting the Supplemental Stipulations that adopt the Stipulation, include models and 15 estimates on the losses that will be incurred by companies that are not part of the 16 redistributive coalition when faced with higher prices triggered by the redistributive 17 features of the stipulations and Economic Stability Program; deterred investment by new 18 power generators; the impact of embargoing the importation of power from out-of-state 19 generators; cost-shifting that will take place from the members of the redistributive 20 coalition to those not invited to join the coalition; and the expected net benefits to be 21 enjoyed by the Companies or their parent company from the increase in revenues versus 22 the costs it will incur during the three-year period covered by the stipulations and the 15-23 year period covered by the PPA.

1 One loss will be indirect, but it will directly affect the economy of the state of Ohio. This 2 is the loss in Gross State Product and employment associated with operating and sales cost increases that are part of the elasticities associated with the cost of electricity.<sup>43</sup> The 3 4 price elasticity of demand for electricity that will be experienced by all other 5 manufacturers in the region with the increases in electric prices that will be necessary to 6 fund the provisions of the stipulations, including Rider RRS, has not been considered. 7 My concerns about the price elasticity of demand for electricity among manufacturers 8 generally were addressed in my previous testimony and will not be repeated here. 9 However, it is important to note that the additional provisions of the Supplemental 10 Stipulations exacerbate my original concerns.

# Q. Do the Supplemental Stipulations include programs for demand reduction and energy efficiency programs that could reduce electricity demand in Northern Ohio?

A. Yes, the Supplemental Stipulations include demand reduction programs, including an
interruptible program and a time-of-use rate proposal.<sup>44</sup> These are in addition to the
amounts of money promised to support the administration of energy efficiency programs,
which will benefit a small number of ratepayers, in the Stipulation.

17 The Companies were proponents of legislation in the Ohio General Assembly to revise18 and/or freeze energy efficiency and peak demand reduction programs that were part of

<sup>&</sup>lt;sup>43</sup> The elasticity associated with Gross Product is the percent change in value added in a manufacturing sector divided by the percent change in the cost of electricity. The elasticity in the number of jobs in the manufacturing sector is the percent change in the number of jobs divided by the percent change in the cost of electricity. These can also be expressed in their instantaneous forms, the ration of the natural logarithms of each variable.

<sup>&</sup>lt;sup>44</sup> Supplemental Stipulation at 1-2; Second Supplemental Stipulation at 1-2; Mikkelsen Fourth Supplemental Testimony at 2.

the energy efficiency portfolio in Ohio.<sup>45</sup> Proponents of the legislation argued that energy efficiency should compete without subsidy with other forms of generation in an open, unsubsidized market. Through the various stipulations and ESP IV Application, the Companies propose additional energy efficiency and peak demand reduction programs and argue for a generation subsidy because certain generation facilities cannot compete in the open market.

7 The Companies also argue that its affiliated subsidized generation can be complemented 8 with a modest and highly selective subsidy to promote energy efficiency and peak 9 demand reduction programs. The Companies want to replace independent public 10 administration and a broader efficiency mandate with certain administrators running a far 11 smaller funding vehicle for the efficiency plans.

12 The energy efficiency programs included in the stipulations have been carved out to 13 entice specific signatories to join the redistributive coalition and provide political support 14 for the package of rates and riders that are the true substance of Powering Ohio's 15 *Progress Plan.* The efficiencies gained through the series of *ad hoc* small initiatives will 16 not make a serious difference in the regional demand for electricity. But they will result 17 in shifting costs to the ratepayers who were not allowed to become signatory parties, if 18 the redistributive coalition persuades the Commission to adopt the stipulations and ESP 19 IV.

<sup>&</sup>lt;sup>45</sup> See testimony submitted to the Senate Public Utilities Committee regarding SB 58 (the predecessor to SB 310) by Leila L. Vespoli on behalf of FirstEnergy Corp. in support of Revisiting Ohio's Energy Efficiency Mandates (April 9, 2013), attached hereto at EWH Supplemental Attachment A at 84-90; see also "No retreat: the governor enters the energy debate and sends the right message to lawmakers," *Akron Beacon Journal* (May 3, 2014) and "Kasich should work against deeply flawed Ohio Senate Bill 310: editorial," *Cleveland Plain Dealer* (May 2, 2014), attached hereto at EWH Supplemental Attachment A at 91-93.

2 A. The submission of the stipulations has effectively confused the order of public policy 3 making in regard to the future of electric energy production and cost, and serves only to 4 distract the Commission (and the State) from answering the most important questions 5 about Ohio's energy future: 6 What is the proper energy-producing footprint? Is it energy produced within the 7 borders of the state or is it the PJM footprint? 8 What is the best and least cost way of resolving uneconomic power generating 9 assets to ensure the integrity of the power transmission and distribution systems 10 and truly guarantee reliable power? This has to go beyond the Companies' 11 service territories. 12 How can Ohio and the PJM footprint accommodate industry-scale proof of 13 concept energy experiments to comply with mandates to lower CO<sub>2</sub> and 14 particulate emissions in power generation? 15 Should low-income utility voucher programs or special interest programs • 16 provide for statewide access and equity? Should they be tax-based programs 17 voted on by the Ohio General Assembly, as opposed to programs and costs 18 embedded in utility specific rates for select geographic areas of the state and only 19 for a select group of beneficiaries? 20 The *de facto* taxation and redistribution measures that are proposed in the stipulations 21 properly belong to the Ohio General Assembly, not the Commission.

Q. What is the cumulative effect of the stipulations on energy policy?

22

1

# 1 Conclusion

# Q. Have your prior recommendations to the Commission with regard to the Companies' "Powering Ohio's Progress" strategy, set forth in its Fourth Electric Security Plan, changed in any way as a result of the Supplemental Stipulations?

5 A. No. I continue to recommend that the Commission reject the Companies' request for 6 the establishment of a rider and the utilization of a power purchase agreement to 7 subsidize portions of the aging, inefficient power plants owned by their affiliate, 8 FirstEnergy Solutions. I also continue to recommend that the Commission reject any 9 proposals that are detrimental to Ohio businesses and economic growth, and that are not 10 in the public interest, including incentives that are neither uniformly applied nor available 11 to all similarly situated customers. The redistributive features of the stipulations that shift 12 costs to companies that are not part of the redistributive coalition will cause those 13 companies to face higher operating costs and be less competitive.

# 14 Q. Does this conclude your second supplemental testimony?

15 A. Yes.

# **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a true and accurate copy of the foregoing document was served on August 10, 2015 by electronic mail upon the persons listed below.

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# FirstEnergy wants Ohio to end deregulation, return to statecontrolled rates

John Funk, The Plain Dealer By John Funk, The Plain Dealer

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on July 28, 2015 at 5:11 PM, updated July 29, 2015 at 2:27 PM

I am trying to save a company.

Sammis is FirstEnergy's last Ohio coal-fired plant and its closing could force the company to build more long-distance transmission lines -- paid for by customers -- to bring power here from Pennsylvania and other states.Associated Press file

AKRON -- FirstEnergy Corp. wants Ohio to reregulate the electric utility industry, hoping to end an era the company itself fought for just seven years ago, in which electricity rates were set by wholesale markets without interference from the state.

"I would do it in a heartbeat," said Chuck Jones, CEO since January, in an interview with The Plain Dealer's editorial board. "I think it makes sense. I am trying to save a company."

Jones said FirstEnergy's future is at risk if it cannot convince the state's Public Utilities Commission to force ratepayers to cover the full cost of electricity from two of its huge coal and nuclear plants, even if other sources of electricity, such as natural gas, would be cheaper for consumers.

At the time of the last big battle over deregulation, in 2008, the company seemed likely to prosper because its coal-fired plants were among the cheapest sources of electricity in the state.

Since then, the development of horizontally drilled and hydraulic fractured gas wells has helped push down the price of a thousand cubic feet of natural gas, from more than \$10 in the spring of 2008 to about \$2.80 today. FirstEnergy's stock price tumbled from a high of more than \$82 on June 1, 2008, to \$32.80 at the end of trading on Tuesday.

Jones said the company is not currently working with any lawmakers to write a re-regulation bill, but added that the first step toward returning to regulation is for the Public Utilities Commission to approve the company's pending rate case.

That case includes a 15-year power purchase agreement to have FirstEnergy's local distribution companies Ohio Edison, the Illuminating Co. and Toledo Edison buy all of the power generated by the Davis-Besse nuclear plant and the coal-fired H.R. Sammis plant, at whatever it cost to generate.

Those generating costs are currently higher than the wholesale price of power on the grid, where gasfired power plants are the low-cost producers. The company admits the deal would cost customers money in the first three years but argues that over the 15-year lifetime of the contracts, it would save about \$2 billion because natural gas won't remain at today's rock bottom prices.

Critics of the plan, including the Ohio Consumers Counsel and the Northeast Ohio Public Utilities Council, or NOPEC, argue the deal would cost customers an extra \$3 billion.

However long-term prices play out, the plan would ensure that the company would not lose money by operating the plants. In filings before the PUCO, the company's experts have argued that without the special power purchase contract the company may be forced to close them. Sammis is the company's last Ohio coal-fired plant, said Jones, and its closing would force the company to build more long-distance transmission lines -- paid for by customers -- to bring power here from Pennsylvania and other states.

Jones said he has talked to Gov. John Kasich about the company's current situation. "We talked very frankly about the the kind of tenuous position FirstEnergy is in and he asked me four times what can they do to help.

"My answer four times was it's not your problem. It's my problem. The only thing I will ever ask you for is a fair chance to tell our story, a fair chance to have our case heard. And if we can't do it in a convincing manner, then shame on us.

"I am not asking the state for anything," he said.

But, apart from the rate-settting case, the company did ask for something from the state just a year ago.

It convinced legislators to remove the state mandate, in place since 2009, that forced power companies to help their customers use less power annually by buying energy efficiency technologies, and a parallel rule requiring power companies to sell an increasing percentage of "green power" annually.

Senate Bill 310, which Kasich signed into law in June 2014, froze those mandates for two years while lawmakers decided what to do next.

The chairman of the special committee studying the issue recently said it does not want to permanently freeze the mandates.

Jones said the energy efficiency programs FirstEnergy was forced to put in place were paid for by customers through higher rates, but benefited only those companies and consumers who could afford to buy new energy efficient products -everything from new production line motors to new home appliances.

He said another way has to be developed to pay for energy efficiency programs, but did not offer any specific plan.

He said FirstEnergy is not opposed to renewable energy but believes that it must be "feathered in" slowly because wind and solar power production is not constant and therefore cannot be counted on.

And building solar arrays on buildings and homes is the least efficient way to add solar, he said.

"If you want solar energy the most efficient way to get solar energy is to have the utility build it for you," he said. "And build it in 200-300-400 megawatt solar farms."

A regulated power company could do that, Jones said, because it could add the costs to its rate base, just as the industry did for the first 85 years of its existence.

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Akron Beacon Journal

# FirstEnergy CEO says it's time to get conversation rolling about ending deregulation

# Chuck Jones focuses on pending rate case, avoiding consolidation of electric utility

By Betty Lin-Fisher Beacon Journal business writer

Published: July 29, 2015 - 07:41 PM | Updated: July 30, 2015 - 07:36 AM

FirstEnergy Corp.'s new chief executive officer thinks it's time to have conversations about ending deregulation of the electric utility industry in Ohio, a move that some may argue is an about-face from the company's stance in 2008. He also is making it a priority to ensure that the company doesn't become a target for consolidation in the industry.

Chuck Jones, who took over as CEO of the Akronbased electric utility in January, said it's a different time now than the last time deregulation was at the forefront. In an interview with the Beacon Journal's editorial board, Jones also said he did not feel the company was changing its tune, but that the company adjusted after the law was changed.

Jones said FirstEnergy is not working with any lawmakers or seeking re-regulation, but "I'm in favor of causing people to have the conversation.

"We are not doing anything active to push or cajole [for re-regulation]," Jones said. "I think at some point in time, regulation worked for 85 years and in time, I think it's probably a better way to do this business."

The company is first focused on getting its pending rate case approved by the Public Utilities Commission.

Its request before the PUCO would allow continued operation of the two higher-cost plants, although less expensive energy may be available today on the open market. The company says it cannot afford to keep the two plants operating without additional customer support.

Opponents say the proposal will cost customers \$3.1 billion over 15 years, while the company says it will save customers \$2.1 billion.

Jones said he believes the company's plan protects consumers and the company, but "at the end of the day, we have to respect whatever is decided."

When asked whether the company would be in financial straits or whether FirstEnergy's support of jobs and events in Akron would change if the PUCO rules against the plan, Jones said, "I'm committed to trying to maintain that support. Obviously, one decision we made is with our headquarters," referring to the decision this spring to sign a new 10-year lease to keep FirstEnergy's headquarters in downtown Akron.

"I care about this company, I care about the city of Akron. When I was a kid, I rode my bike around downtown Akron," he said.

However, Jones said the bigger risk, about which he has been transparent with employees, is with consolidation in the industry.

"At \$32 a share or \$33 a share and the balance sheet that we have and Moody's and S&P both saying, 'We're concerned about your credit rating,' there's a much bigger risk than 'Is FirstEnergy going to remain committed?' The bigger risk is 'Is FirstEnergy going to remain FirstEnergy.'"

Jones said he has set seven priorities for himself and the company, the first two being "keep it FirstEnergy" and "keep it in Akron, Ohio." The other priorities include improving the company's financials, preserving its assets, and making investments to help the company grow.

Betty Lin-Fisher can be reached at 330-996-3724 or blinfisher@thebeaconjournal.com. Follow her @blinfisherABJ on Twitter or www.facebook.com/BettyLinFisherABJ and see all her stories at www.ohio.com/betty.

## Find this article at:

http://www.ohio.com/news/local/firstenergy-ceo-saysit-s-time-to-get-conversation-rolling-about-endingderegulation-1.611947

# **Stop trying to scare Ohioans,' PUCO chief tells power companies**

Aug 19, 2015, 7:35am EDT Tom Knox ReporterColumbus Business First

Ohio power company executives have been questioning the state's deregulated energy model, expressing concerns over whether they can keep the lights on.

But the new chairman of the Public Utilities Commission of Ohio says the industry will be fine – if only those in the energy business would stop alarming the public.

Andre Porter, chosen in April by Gov. John Kasich to lead the influential state agency, agreed with comments made by Ohio's electric utility executives from Akron-based FirstEnergy Corp. (NYSE:FE) and Columbus' American Electric Power Company Inc. (NYSE:AEP) that it's important to ensure power reliability.

But Porter isn't sounding the alarm bell that has led to criticism that utilities are crying wolf.

Ohio should "stay the course," he told me when asked to describe the biggest issues facing Ohio power. "I think things are going to be fine here in the state of Ohio," he said. "I know that sometimes it seems as if there are folks who want to attempt to scare Ohioans, but that's not what we need to do. Let's stop attempting to scare Ohioans."

FirstEnergy Corp. CEO Chuck Jones recently suggested deregulation, which allows customers to buy power from various electricity suppliers at different rates rather than relying on the utility's standard offer, isn't working for the utility anymore.

Porter was blunt when asked what it's like to preside over a commission when executives invested in deregulation believe it isn't working.

"That's when I would tell you let's focus on what's most important," he said. "Stop trying to scare Ohioans. We're going to continue to have reliable power. We're going to continue to have cost-effective services. So stop trying to scare Ohioans."

Porter, previously a PUCO commissioner and most recently director of the Ohio Department of Commerce, has a lot of big issues to preside over starting this fall. I'll have more on my conversation with him shortly.

# CRAIN'S eveland Business

Originally Published: August 21, 2015 8:26 AM Modified: August 21, 2015 1:04 PM ENERGY GUEST COLUMN -- ANDREW THOMAS

# FirstEnergy's redistributive coalition strategy and the exploitation of rational ignorance



Andrew Thomas is Executive in Residence at the Energy Policy Center of the Levin College of Urban Affairs at Cleveland State University and also of counsel to the law firm Meyers, Roman, Friedberg & Lewis.

The Public Utility Commission of Ohio is finally set to hear evidence later this month on FirstEnergy Corp.'s rate case, also known as its Electric Stability Plan (ESP). The rate case, number 14-1297-EL-SSO on the PUCO docket and originally filed on Aug. 4, 2014, will cover the period from June 1, 2016 to May 31, 2019.

The matter has been delayed, among other reasons, by multiple "supplemental stipulations" filed by FirstEnergy, each of which make new arguments in support of the ESP.

This ESP has been controversial. The reason is because FirstEnergy, as part of its plan, has asked the PUCO to pass a fee through to its ratepayers to support its subsidiary's struggling coal and nuclear generation. The subsidy would be supported by all of FirstEnergy's Ohio distribution customers, regardless of whether they acquire their generation from FirstEnergy's subsidiary. The subsidy would be assessed through a rider that is based upon a power purchase agreement (PPA), pursuant to which the ratepayers would guarantee for 15 years a price for the electricity generated, regardless of market conditions.

I won't repeat here my arguments for why this is bad idea. If you are interested, you can read a blog I wrote on this topic in January.

What I want to focus on now is the tactic FirstEnergy has used to assimilate support for its ESP. In my January blog, I noted that FirstEnergy had assembled what Edward "Ned" Hill, the then-dean of Cleveland State University's Maxine Goodman Levin College of Urban Affairs, called a "redistributive coalition."

A redistributive coalition, according to Professor Hill, exists when a small group of stakeholders band together to seek mutually favorable policy treatment at the expense of the public at large. Typically, the coalition incurs little cost in coordinating its efforts. However the public, being heterogeneous and widely dispersed, incurs great cost and difficulty in organizing a response.

FirstEnergy was able to induce companies to support its ESP by including special rates or programs for the coalition members — with the costs therefore borne by the ratepayers. In his original testimony, Hill pointed that the redistributive coalition was assembled to present to the commission (and the public) the appearance of not only broad support for the ESP, but also a broad range of benefits that would flow to varying classes of customers, including those with low income. However, Hill demonstrated that the benefits would only flow to the members of the coalition — a very small group.

FirstEnergy responded to this testimony by adding new members to the coalition through a series of supplemental stipulations. But nothing changed about the fundamental nature of FirstEnergy's stipulation. It remains a carefully crafted coalition designed to fool the public into thinking it is representative of the public interest.

Hill's Aug. 10 testimony on behalf of the Ohio Manufacturer's Association Energy Group speaks to this ploy: "Here, (FirstEnergy) has assembled a coalition to promote a policy that benefits (its) affiliate, First Energy Solutions and the other coalition members . . . The large heterogeneous group that has to pay for the majority of this proposed policy . . . consists of the remaining commercial, industrial and residential ratepayers of Northern Ohio."

But what really caught my attention in Hill's testimony was his discussion of another concept that FirstEnergy cynically exploits: "rational ignorance." Rational ignorance is the term used to describe reasonable disengagement by a public unable to digest complex technical arguments set forth by more knowledgeable industry experts.

In this context, Hill noted that FirstEnergy looks to exploit the general public's inability to understand the nuance of the coalition support. On its face, the coalition seems to be asking for policy that the public should support — things such as price breaks for the poor, energy efficiency programs for small businesses, and so forth.

But under close examination, it turns out that the programs are narrowly crafted to help only those in the coalition. Why, for instance, would we only support the city of Akron and no other urban areas in northern Ohio? And why only support the members of the Council of Small Enterprise and not other small businesses?

FirstEnergy is hardly the first energy company to try to exploit rational ignorance. In fact, this is done all the time in the energy business. How is it, for instance, that we hear industry experts opine that nuclear energy is both the cheapest and most expensive power being generated today in America? It all depends on the assumptions you make in making the calculations. The general public has no idea what to make of this.

Utilities AEP and Duke also sought PPAs. Yet neither sought to assemble redistributive coalitions for PPAs to try to fool or confuse the public. But then again, they were unsuccessful in their applications.

It is likely that the PUCO will find these circumstances no different, notwithstanding the cynical strategy deployed by FirstEnergy in assembling its redistributive coalition. But one thing that FirstEnergy learned from its war on the energy efficiency mandate is that perseverance works. If FirstEnergy is denied the PPA, it will be back with another strategy.

FirstEnergy has an argument for the PPA that may have merit: without the PPA, the plants may close, and that may lead to problems with grid reliability in Ohio. I doubt the evidence will support this, but this is the case that the PUCO needs to carefully consider, not the redistributive coalition strategy. In the end, the PUCO is the public's primary defense against rational ignorance.



Accelerating the transition to a diverse, sustainable and profitable energy economy Cathy Kunkel August 19, 2015 Read More  $\rightarrow$ 

# **FirstEnergy's Scheme to Stick West Virginia Ratepayers With Speculative Risk Is Working**

The High Cost of the Company's Harrison Power Plant Purchase Comes Home to Roost



In its filing last week for a 12.5 percent rate increase in West Virginia, FirstEnergy showed itself for the desperately shrewd customer-gouging company it has become.

"Lower than forecasted energy market prices" is why FirstEnergy says it needs such an increase. On its face, that doesn't make much sense because lower energy prices should mean lower energy bills for customers, right? That's what's happening elsewhere around the mid-Atlantic.

But West Virginia customers are seeing their rates soar. How can this be?

Here's the explanation: Because of a deal engineered two years ago by FirstEnergy, its West Virginia utilities, Mon Power and Potomac Edison, now own more generating capacity than they need. Excess electricity is typically sold on the PJM wholesale market and the revenues from those sales are credited back to customers. But when wholesale market prices are low—as they are now, primarily driven by low natural gas prices—this credit goes away, and FirstEnergy raises rates.

This customer-nightmare scenario wasn't always possible. Until 2013, Mon Power and Potomac Edison owned less generating capacity than they needed to serve their customers and they were net purchasers of power from PJM. Had that arrangement been left in place, West Virginia ratepayers today would be benefiting from the low cost of wholesale electricity.

What went wrong, in a nutshell, is that two years ago, FirstEnergy sold its coal-fired Harrison Power Plant, moving ownership from a deregulated FirstEnergy subsidiary to the regulated Mon Power and Potomac Edison (a

transaction that was approved 2-1 by the West Virginia Public Service Commission). As a result of the deal, Mon Power and Potomac Edison ended up with more power than either utility will need for at least a decade. The Harrison deal also left Mon Power and Potomac Edison relying on coal for more than 90 of their electricity, which means customers haven't realized the benefit of low natural gas prices.

When FirstEnergy pitched the Harrison power plant purchase to the public service commission, its executives argued that the transaction would be a boon to West Virginia ratepayers because wholesale electricity prices were sure to rise and ratepayers would reap rewards on the sale of excess electricity at high prices. It was a purely speculative play—and a bet the company was all too willing to make with other peoples' money.

## WE WARNED THE WEST VIRGINIA PUBLIC SERVICE COMMISSION BACK WHEN THE DEAL

**WAS PROPOSED THAT FIRSTENERGY'S FORECASTS** for wholesale energy prices were wildly inflated. We said then—and we say now—that the real purpose of the transaction was to transfer the risk of low wholesale power prices from FirstEnergy shareholders to West Virginia electricity consumers.

When the Harrison plant was owned by the FirstEnergy unregulated subsidiary, the risk of it being unable to compete with less expensive power plants on the wholesale market was borne by FirstEnergy shareholders. Now, because it is owned by the regulated subsidiaries, FirstEnergy can pass Harrison's costs on to customers regardless of whether the plant is competitive.

We weren't alone in our skepticism. Ryan Palme, one of the three members of the commission members at the time, dissented strongly, and wisely, from the decision to allow the Harrison power plant sale.

Palmer summed it up as well as anybody:

"This overreliance on one fuel source, and the imposition on ratepayers of a large, long-term fixed cost for twentyfive years regardless of whether the Harrison acquisition proves cost-effective, will expose ratepayers to an unreasonable level of risk."

Time, unfortunately, has proven Palmer prescient. Through the Harrison transaction, FirstEnergy successfully transferred the risk of low wholesale prices to West Virginia electricity customers, who are now paying a very substantial price.

Cathy Kunkel is an IEEFA fellow.

From the Columbus Business First

:http://www.bizjournals.com/columbus/blog/ohio-energy-inc/2015/08/dynegy-ceo-re-regulationin-ohio-would-help-the.html

# **Dynegy CEO: Re-regulation in Ohio would help 'the weakest in the herd'**

Aug 7, 2015, 12:20pm EDT



Hopes for re-regulating Ohio's power industry are another example of utilities not wanting to compete, says one of the newest entrants to the state's power generation industry.

"They're used to getting what they want – big, fat margins so they can pay big dividends to shareholders," **Dynegy Inc.** CEO <u>Bob Flexon</u> told *Columbus Business First*.

**FirstEnergy Corp.** (NYSE:FE) CEO <u>Chuck Jones</u> says his Akron-based company, once a major booster of Ohio's de-regulated electricity market, <u>would like to go back</u> to state-controlled rates. In <u>an interview</u> with Cleveland.com, he cited measures the company is taking to combat deregulation's impact, where old coal and nuclear plants often can't compete with newer, more-efficient power production. The most notable step is a plan, set to be heard by state regulators this month, to guarantee income on its Ohio power plants.

# See Also

- Dynegy lobbying against AEP's power purchase agreement plan
- Should AEP be guaranteed profits for coal-burning plants?
- AEP leaning toward power plant sale, CEO says

Columbus peer **American Electric Power Company Inc.** (NYSE:AEP) has <u>a similar proposal</u> and top executive <u>Nick Akins</u> says the company could sell its Ohio plants. AEP executives have not said they would support full re-regulation, but critics of the income-guarantee plans say they are a step toward it. AEP and FirstEnergy counter that they're needed to keep the plants open and will provide a long-term rate benefit for customers. Jones says the plan "ensures safe, reliable, clean and affordable power for all Ohio customers, from industrial facilities to homeowners."

Utilities typically operate in areas where power is regulated by the state – what Flexon calls a "rigged game." But Houston-based Dynegy is not a typical utility. This year it entered Ohio by taking over the Midwestern power plants owned by Duke Energy Corp. (NYSE:DUK) in <u>a \$2.8</u> billion deal, and the company is clear in its opposition to utility hopes to roll back deregulation.

"Coal plants and nuclear plants in this market are losers," Flexon said. "For some reason they want to keep them. In order to keep them, they need them regulated because they can't compete."

Dynegy's own coal plants in Ohio and Illinois don't make money, but it keeps them running as long as possible to at least break even, he said. In some cases that doesn't happen – but that's how the market works.

"They're taking the weakest in the herd and putting it in the front to the benefit of the shareholders and the detriment of Ohio," Flexon said.

"(Dynegy is) absolutely outmanned, outgunned and outspent by FirstEnergy and AEP. So we're the little guy on the corner trying to tackle these two giant utilities," he said.

Flexon said he's sympathetic to the people who have to make the important decision on the plans. That's the Public Utilities Commission of Ohio. Its <u>new chairman Andre Porter</u> is respected among the state's energy players but he has not tipped his hat on his position on the plans.



# **Ohio Manufacturers' Association Update**

August 27, 2015- Columbus, OH Dean Ellis, Vice President - Regulatory Affairs Ray Culver, Managing Director - Retail



	ates with Dynegy Plant Operations	Stuart Power Station Aberdeen, OH Washington Energy Facility Beverly, OH Zimmer Power Station	Moscow, OH ISO-NE/NYISO Brayton Point Power Station Somerset, MA Casco Bay Energy Facility Ueazie, ME Dighton, MA Dighton, MA Independence Energy	Facility Oswego, NY Lake Road Energy Facility Dayville, CT Masspower Energy Facility Indian Orchard, MA Milford Energy Facility Milford, CT	Offices  Houston, TX Collinsville, IL Cincinnati, OH Page 90 of 156 DYNEGY
	Gas-Fueled St Offices St	PJM Conesville Power Station Conesville, OH Dicks Creek Energy Facility Monroe, OH Elwood Energy Facility	<ul> <li>Ewood, IL</li> <li>Fayette Energy Facility</li> <li>Masontown, PA</li> <li>Hanging Rock Energy Facility</li> <li>Ironton, OH</li> <li>Kendall Energy Facility</li> <li>Minoka, IL</li> <li>Millen Power Station</li> <li>Manchester, OH</li> <li>Kincaid, IL</li> </ul>	Lee Energy Facility Dixon, IL Eldoystone, PA Miami Fort (CT) Power Station North Bend, OH Miami Fort Power Station North Bend, OH	on Ontelaunee Energy Facility Reading, PA Richland Energy Facility Defance, OH Stryker, OH Stryker, OH
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Oynegy's Geogra and Fuel Diversity Dynegy Quick Facts Business: Dyneqy is an	<ul> <li>independent power producer, with no captive customers or ratepayers</li> <li>Footprint: Located in 8 states (California, Connecticut, Illinois, Ohio, Massachusetts, Maine, New York and Pennsylvania)</li> </ul>	<ul> <li>Generating Capacity: 26 GW, capable of supplying more than 21 million households</li> <li>Power Plants: 35</li> </ul>	<ul> <li>Retail customers: 830,000 residential customers and 23,000 commercial, industrial and municipal customers served through our Dynegy Energy Services and Homefield Energy companies</li> </ul>	<ul> <li>Annual Revenues: \$5.5 billion approx.</li> <li>Employees: 2,730 professionals, including approximately 1,380 union members</li> </ul>	<ul> <li>NYSE listed: DYN</li> </ul>



- V Dynegy owns a retail business, four natural gas-fired and two oil-fired power stations, and partial interests in five coal-fired power stations.
- All of the power stations operate in the PJM wholesale market and have a net generating capacity of approximately 5,300 MW, which is enough electricity to supply nearly 4 million homes.
- V Dynegy Energy Services provides about 7 million MWh to approximately 100,000 retail customers Ohio.
- More than 450 Ohio-based employees operate and support these stations and the retail business.



Ownership Interest	100%	100%	100%	33.0% *	39.0% *	40.0% *	46.5% *	64.0% *	100%	100%	100%		
Dispatch Type	Peaking	Intermediate	Intermediate	Baseload	Baseload	Baseload	Baseload	Baseload	Peaking	Peaking	Peaking		
Primary Fuel	Gas	Gas	Gas	Coal	Coal	Coal	Coal	Coal	Oil	Gas	Oil		
Net Capacity (MW) <sup>(1)</sup>	153	1,296	648	204	904	312	628	653	68	447	19	5,332	25,758
Location	Monroe, OH	Ironton, OH	Beverly, OH	Manchester, OH	Aberdeen, OH	Conesville, OH	Moscow, OH	North Bend, OH	North Bend, OH	Defiance, OH	Stryker, OH		ation TOTAL
Station	Dicks Creek	Hanging Rock	Washington	Killen	Stuart	Conesville 4	Zimmer	Miami Fort 7&8	Miami Fort (CT)	Richland	Stryker	Ohio Generation TOTAI	Dynegy National Gener



Miami Fort 7&8: 64.0% DYN, 36% DPL Page 91 of 156

Conesville 4: 40.0% DYN, 16.5 % DPL, 43.5% AEP

Stuart: 39.0% DYN, 35.0% DPL, 26.0% AEP

Killen: 33.0% DYN, 67.0% DPL

\*Ownership Interests

Zimmer: 46.5% DYN, 28.1% DPL, 25.4% AEP

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Market Design "Heat Map"

Favorable Needs

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Unfavorable or non-existent

	MI	ISO-NE	MISO	ERCOT	CAISO
DYN market footprint, in Mw and as % of portfolio	~11,000 MW, ~40%	~4,000 MW, ~15%	~7,000 MW, ~25%	N/A	~2,700 MW, ~10%
High Scarcity Price Caps					
Capacity Market					
Forward Capacity Market					
Sloped Demand Curve					
Stable Market Rules					
Performance Incentives					

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Both PJM and ISO-NE are leading the way with market designs that send

appropriate price signals to address system stresses



- DES serves over 122,000 customers in all service territories across Ohio with an annual load of 7.1MM MWhs.
- Municipal Aggregation. Currently serving 11 Ohio Communities:
- Colerain Township Hamilton Co
- Green Township Hamilton Co
  - North Bend Hamilton Co
- Miami Township Hamilton Co
- Miami Township Clermont Co
- Reading Hamilton Co
- Sycamore Township Hamilton Co
  - Delhi Township Hamilton Co
    - Sharonville Hamilton Co
- Deer Park Hamilton Co
- Swanton ---FE Ohio

- In Ohio, 2.1 million customers are served by competitive suppliers and greater than 80% of the commercial and industrial customers have switched.
- DES currently serves about 5% of the total
   Ohio Market and about 8% of the switched load, ranking it the third largest supplier in the state.
- Retrenchment of FE's unregulated retail arm clears the way for expansion and DES expects to be more active in bidding on muni-aggregation through out the state of Ohio.





# **Fixed Price Plan**

 This low-risk option allows you to lock in a competitive fixed rate for a term ranging from one month to three years.

# **Benefits:**

- Provides predictability for easy budgeting
- Protection from price spikes in a volatile market

# **Indexed Price Plan**

 With this plan your retail contract price moves in relationship to an established wholesale power market index.

# **Benefits/Risks**:

- Opens the door for potentially lower energy prices, but also comes with added risk should market prices increase
- Index plans can easily be converted to a fixed price plan or custom plan at any time

# **Blended Price Plans**

- An in-depth understanding of your business allows our analysts to identify opportunities to combine aspects of various plan options and leverage the advantages of each. For example, some options combine fixed pricing to cover a base portion of your energy consumption with index pricing to cover excess usage or fluctuating demands. Popular Plans include:
- Index + Fixed Adder
- Fixed Block + Index
- Index + Switch Option

# **Green/Renewables Plan**

 For businesses seeking a greener energy alternative, we offer plans that use Renewable Energy Credits (RECs) to offset pollutants associated with traditional electric generation.

# **Benefits:**

- No carbon dioxide emissions
- No pollution
- No fossil fuel use



PS Programs Should Be Periodically Assessed	Taking time to periodically assess existing RPS programs and to recalibrate them as necessary strikes us as a best practice.	Markets evolve (e.g. distributed generation "next big thing")	Technologies advance (e.g. solar panel prices drop)	Federal tax policies evaporate (e.g. Wind PTC)	New drivers (e.g. 111(d) compliance) emerge	Fundamentals change (e.g. historically low nat. gas prices)	But once such an assessment has been made and any resulting changes undertaken, give those changes some time to play out.	Certainty allows merchant generators and marketers like Dynegy to plan their compliance strategies and investments with confidence.	
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- Fly ash and other by-products from coal combustion is recycled for beneficial re-use, including as a substitute for Portland cement in concrete and as gypsum in wallboard
- In addition to safely re-using coal by-products in lieu of landfilling, the reuse reduces the amount of Portland cement and gypsum produced
- The reduction of cement and gypsum production directly offsets the amount of CO2 generated in those manufacturing processes
  - Dynegy in Ohio currently re-cycles 56% of its fly ash, 89% of its gypsum, and 26% of its bottom ash



 $\checkmark$ 

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	Utility Propositions	Reality
	PPAs are the only option for long term rate-payer stability	V Dynegy offers various products and services including long-term contracts
1	PPAs ensure reliability of the power grid	V PJM has a target reserve margin of 15%, with an actual reserve of 20% projected through the end of the decade
	PPAs maintain Ohio's energy independence	<ul> <li>Participation in an ISO/RTO leverages the multi- state grid in the most cost-effective manner to serve local needs</li> </ul>
	New generation isn't being built	<ul> <li>New plants are under various stages of development in: Carrollton, Oregon, Middletown, Rolling Hills, Lordstown, and Avon Lake (conversion)</li> </ul>
1	PJM Market Not Working	Y FE and AEP's "at risk" plants have just realized as much as \$195MM and \$102MM, respectively, from the recently-completed PJM Capacity Performance auction
	Plants will be retired prior to the end of their useful lives	$\checkmark$ Plants that are uneconomic and have already been paid for <u>are</u> at the end of their useful lives; joint-owned units can't be unilaterally shut down
	PPAs protect jobs and communities	<ul> <li>The PPAs increase rates, putting Ohio at a competitive disadvantage</li> </ul>
and the second se	ה otility proposals are a self-fulfilling prop will be built and reliab	hecy – that is, if granted, no new generation vility will be put at risk

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significant *private* capital, not rate-payer dollars, in <u>Dynegy has invested – and continues to invest -</u> Ohio

Care needs to be taken when issuing RPS and EE mandates to ensure that they don't distort the markets

market participants, without providing a competitive State policy should assure a level playing field for all advantage to some and distorting market signals

utilities, which undermines the competitive markets The monopoly utility PPA Riders subsidize the <u>and chills private investment in Ohio</u>

<u>electricity market – Ohio needs to continue down the path it has begun</u> <u>environment including pragmatic state policies and well-designed</u> Dynegy continues to invest in Ohio given its historically favorable

**"DYNECY** 

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**For Immediate Release** July 13, 2015

**Contact: Alexandra Meredith** 212-446-1887

# **Empirical Evidence Shows Consumers Better Off With Customer Choice in Electricity**

Nearly 20 years of Factual Data Demonstrate Choice Customers Benefit from Improved Price, Investment and Reliability

**WASHINGTON, D.C.** – Nearly two decades of empirical data allow for an objective review of the performance of competitive electricity choice markets versus the traditional monopoly model, and the facts show that choice consumers benefit in terms of improved price, investment and reliability, a new study sponsored by the COMPETE Coalition concludes.

"In a compelling example of what Justice Louis Brandeis termed states serving as laboratories of democracy, for nearly two decades, two retail electricity models, choice and monopoly, have operated in parallel allowing reliable comparison of the two models on key indicators," said COMPETE Counsel William Massey. "The data demonstrate that customer choice jurisdictions that steadily adapted and expanded retail choice out-perform, or at least compare favorably with, the states that have so far rejected broad-based customer market access."

The study, "Evolution of the Revolution: The Sustained Success of Retail Electricity Competition," found empirical data for key indicators demonstrate that the retail electric choice revolution has evolved successfully with consumers increasingly embracing competition and customer choice jurisdictions outperforming monopoly states in both price and generation trends. In particular:

- From 1997 through 2014, prices in customer choice jurisdictions increased 4.5% less than inflation while prices in monopoly states increased 8.4% more than inflation. Electricity in monopoly states accounted for a larger share of the consumer cost of living in 2014 than in 1997, while electricity's share of the consumer pocketbook in customer choice jurisdictions was less in 2014 than in 1997.
- From 2003-2013, accounts served by competitive suppliers increased 524% for commercial and industrial (C&I) customers and 636% for residential customers.
- From 2003-2014, electricity demand served by competitive suppliers surged even during a period of flat growth in consumption: 181% for C&I and 673% for residential.
- Generation in customer choice jurisdictions as a group outperformed that in monopoly states producing billions of dollars of new, more efficient generation with higher capacity factors than in monopoly states.

The study's authors are Philip O'Connor, president of PROactive Strategies Inc. and former chairman of the Illinois Commerce Commission, and Erin O'Connell-Diaz, president of FutureFWD Inc. and former commissioner with the Illinois Commerce Commission.

"The empirical data demolish the unsupported claims of market critics in terms of price, investment and reliability," said O'Connor. "There has been sustained growth of customer choice both in numbers of accounts and electric load served by competitive providers. There has been substantial investment in generation and favorable generation performance trends in customer choice jurisdictions. And price trends under customer choice have been more favorable to customers than in monopoly states."

"Given the sustained, demonstrable success of customer choice both in price trends and in generation investment and performance, the terms of the debate should shift to how retail customer choice provides a better platform for addressing innovation, accommodating environmental goals, allocating risk, and responsiveness to fast changing economic, financial and technology conditions," said O'Connell-Diaz.

The study is being released in conjunction with the summer meeting of the National Association of Regulatory Utility Commissioners, where the study's academic approach and factual conclusions were welcomed by key state utility regulators.

"The data on price performance in customer choice jurisdictions are among the most compelling findings of this paper," said Brien Sheahan, Chairman of the Illinois Commerce Commission. "Over the past nearly two decades, electricity prices in customer choice jurisdictions increased 4.5% less than inflation while prices in monopoly states increased 8.4% more than inflation. The numbers truly speak for themselves when you take into account the impact of electricity prices on consumer cost of living. Electricity competition has proven to be quite beneficial to consumers and economic competitiveness here in Illinois and in other states."

"It has been nearly two decades with workably competitive electricity markets in 13 states and the District of Columbia, and we can no longer ignore the facts. Customer choice works for electricity consumers and businesses, helping to drive down prices and attract billions of dollars of investment in new, more efficient generation," said Robert Powelson, Commissioner and former Chairman of the Pennsylvania Public Utility Commission. "I am encouraged by the findings of this paper, which are certainly consistent with our experience with competition here in Pennsylvania, and pleased that the facts speak for themselves. In some service territories across Pennsylvania, customers are paying less for power than they did prior to electric restructuring. Coupled with locally sourced Marcellus gas, Pennsylvania is poised to be an economic powerhouse for job creation."

The study can be accessed at <u>www.competecoalition.com</u>.

# # #

# ABOUT COMPETE

The **COMPETE** Coalition is more than 780 electricity stakeholders, including customers, suppliers, traditional and clean energy generators, transmission owners, trade associations, technology innovators, environmental organizations and economic development corporations – all of whom support well-structured competitive electricity markets for the benefit of our country. For more information, visit www.competecoalition.com.



# Evolution Of The Revolution:

The Sustained Success Of Retail Electricity Competition

Philip R. O'Connor, Ph.D and Erin M. O'Connell-Diaz

July 2015

After more than a century of a universally accepted vertical monopoly model, the idea of retail electricity competition ("Customer Choice") that emerged in the 1980s was indeed revolutionary. To succeed, a revolutionary idea must evolve to reflect changed conditions and lessons learned. Measured against objective criteria over almost two decades, Customer Choice has met that test.

At the outset, Customer Choice opponents claimed retail electricity competition would increase prices and price volatility and decrease generation investment and electric reliability. The empirical data demolish those claims, showing instead that, whenever allowed, consumers enthusiastically embrace Customer Choice:

- Customer Choice is thriving in 13 states and the District of Columbia, which have full access ("Customer Choice Jurisdictions").
- From 2003 to 2013, in the 14 Customer Choice Jurisdictions, accounts served with supply from competitive suppliers rather than with power supply from local delivery utilities, grew by 524% for Commercial and Industrial ("C&I") customers and 636% for residential, totaling 19 million customer accounts by year-end 2013.
- From 2003-2014, in the 14 Customer Choice Jurisdictions electrical load served by competitive suppliers grew dramatically even in an era of overall flat growth in electricity consumption: 181% for C&I and 673% for residential – accounting for 20 of every 100 kilowatt hours sold in the contiguous United States.
- Competition era price trends in the Customer Choice Jurisdictions have been more favorable to customers than price trends in the 35 traditional monopoly regulation jurisdictions ("Monopoly States"), with average electricity prices falling against inflation in Customer Choice Jurisdictions, but far exceeding inflation in Monopoly States.
- Customer Choice Jurisdictions, as a group, have outperformed Monopoly States in generation, attracting billions of dollars of investment in new, more efficient generation, resulting in higher capacity factors than in Monopoly States and parity in resource adequacy to meet load.

The five states of the Industrial Upper Midwest offer a compelling intra-regional example of the success of Customer Choice, with the competitive states Illinois and Ohio outperforming the Monopoly States of Indiana, Michigan and Wisconsin with lower price trends and greater generation efficiency.

The data sources for this report are DNV GL (choice accounts and volumes) and the U.S. Energy Information Administration (prices, generation and consumption volumes)<sup>1</sup>.

# **MEASURING CUSTOMER CHOICE**

For nearly two decades, two retail electricity models (choice and monopoly), have operated in parallel in the United States<sup>2</sup>, thus allowing reliable comparison of the two models on key indicators.

The data demonstrate that the 14 Customer Choice Jurisdictions, which steadily adapted and expanded retail choice, compare favorably with, or outperform, the 35 Monopoly States which have so far rejected broad-based customer market access<sup>3</sup>. There has been sustained growth of Customer Choice both in number of accounts and electric load served by competitive providers. There has been substantial investment in generation and favorable generation performance trends in Customer Choice Jurisdictions. And price trends under Customer Choice have been more favorable to customers than in Monopoly States.

As shown in Figure 1, the 14 Customer Choice Jurisdictions<sup>4</sup>, which account for 1.2 Billion MWh in total annual consumption or 33% of contiguous U.S. electrical load, is concentrated in the northeastern quadrant of the country, with the notable exception of Texas.<sup>5</sup>



# FIGURE 1: THE 14 CUSTOMER CHOICE JURISDICTIONS: 1.2 BILLION MWH = 33% OF U.S.

The 35 Monopoly States include five that in 2014 allowed only highly restricted Customer Choice, and two states that previously allowed restricted choice.<sup>6</sup> Comparative analysis of performance differences between the 14 Customer Choice Jurisdictions and the 35 Monopoly States would not be materially affected by treating these seven states separately. Moreover, as these seven states severely limit (or only briefly allowed) retail competition, their performance has been much more similar to that of the 28 Monopoly States that never allowed any retail choice than to performance of the Customer Choice Jurisdictions.<sup>7</sup>

## When Allowed, Customers Embrace Choice

## 19 Million Competitive Supplier Customer Accounts<sup>8</sup>

By 2003, most of the 14 Customer Choice Jurisdictions had established the regulatory framework for retail electricity competition. For example, they had addressed significant legacy issues such as stranded costs; promulgated unbundled traditionally regulated delivery tarrifs; developed default supply service (provider of last resort–POLR) rates; clarified switching rules; and implemented electronic data interchange standards for competitive suppliers and utilities. In these jurisdictions, retail competition continued to expand as competitive suppliers and customers rapidly gained experience, wholesale markets adapted and regional transmission organizations ("RTOs") developed. Because of the significance of 2003, it is an appropriate year from which to measure year-to-year change. At year-end 2013<sup>9</sup>, competitive suppliers served more than 19 million customer accounts in the 14 Customer Choice Jurisdictions, which include some of the most economically important states in the country as well as the seat of national government.

The number of competitive supplier customer accounts in the 14 Customer Choice Jurisdictions increased dramatically between 2003 and 2013, growing by 16.4 million, a 617% increase.<sup>10</sup> As shown in Figures 2a and 2b, competitive residential accounts grew by 14.1 million or 636%, and C&I by 2.3 million or 524%. These increases represent average annual compounded growth rates of 19.9% for residential and 18.1% for C&I. Once full-year 2014 figures are available, accounts served by competitive suppliers likely will exceed 20 million.

# FIGURE 2a: RESIDENTIAL CUSTOMER CHOICE ACCOUNTS: 14.1 MILLION, 636% INCREASE 2003-13





# FIGURE 2b: C&I CUSTOMER CHOICE ACCOUNTS: 2.3 MILLION, 524% INCREASE 2003-13

# The Customer Choice Power Surge

In 2014 in the 14 Customer Choice Jurisdictions, competitive suppliers served 737 million MWh of load, an increase of 235% from 220 million MWh in 2003.<sup>11</sup> As shown in Figure 3, load growth has not been confined to C&I, rather government, non-profit and residential customers have also opted for choice of supplier and market pricing and product diversity not available under traditional monopoly tariffs. From 2003 to 2014, residential load served by competitive suppliers in the 14 Customer Choice Jurisdictions grew 673%, from 24 million MWh to 189 million MWh, as competitive C&I volume grew by 181%, from 195 million MWh to 548 million MWh.

## FIGURE 3: CUSTOMER CHOICE LOAD SURGE: 2003-2014

RESIDENTIAL: 165 MILLION MWH, 673% INCREASE C&I: 353 MILLION MWH, 181% INCREASE



# Competitive Suppliers Serve 60% of Load in Choice Jurisdictions = 20% of National Load

In 2014, competitive suppliers directly served nearly 60% of the total load of more than 1.2 billion MWh in the 14 Customer Choice Jurisdictions. Most of the other 40% of load was served by utilities with market priced supplies obtained through competitive procurement overseen by state regulators.<sup>12</sup>

Figure 4 shows that in the 14 Customer Choice Jurisdictions customer total load served by competitive providers more than tripled, growing from just 18.5% of total load in 2003 to 59.8% in 2014. C&I load served by competitive providers grew from 25.5% to 70.8% and the residential share from 5.9% to 41.7%. For all the 48 contiguous states and the District of Columbia, these volumes translate into 20% of total load, 24% of all C&I load and 13.5% of all residential. These increasing volumes of competitive supply underscore the success of Customer Choice in becoming a substantial and sustainable feature of the American electricity landscape.

# FIGURE 4: PERCENTAGE OF LOAD IN 14 CUSTOMER CHOICE JURISDICTIONS SERVED BY COMPETITIVE SUPPLIERS



# Customer Choice Has Even Gained Market Share in a Flat Electricity Sector

One key measure of the vitality of Customer Choice is its ability to grow and increase market share even though overall electricity demand has been flat or declining. By that measure as well, Customer Choice is a stunning success.

A central feature of the electricity industry in the United States in recent years has been low average annual growth in grid-delivered supply. Since 1997, total retail load in the 48 contiguous U.S. states and the District of Columbia grew by 18.5%. However, this compounded average growth rate of less than 1% yearly over 17 years does not tell the full story. The growth in electricity consumption has been decelerating in each successive period since 1997, finally flatlining after 2008. Figure 5 shows the radically different growth trends in continental U.S. electricity consumption and in competitive load in the 14 Customer Choice Jurisdictions within that otherwise flat sector.

# FIGURE 5: 1997–2014 LOAD GROWTH IN 14 CUSTOMER CHOICE JURISDICTIONS COMPARED TO OVERALL LOAD GROWTH IN THE CONTIGUOUS UNITED STATES

% Change U.S. Total MWH	% Change	Competitive Supplier Served Load
1997–2003 (6 years)	11.1%	From Near-Zero to 220 Million MWH
1997–2014 (17 years)	18.5%	From Near-Zero to 737 Million MWH
2003–2008 (5 years)	6.9%	110.3%
2003–2014 (11 years)	6.7%	235.6%
2008–2014 (6 years)	14%	59.6%

# Measuring Price Performance

Opponents of Customer Choice attack competition by highlighting that average electricity prices for the Customer Choice Jurisdictions exceed those for the Monopoly States. This misplaced criticism ignores a basic reality. Long before retail competition commenced, the weighted average price of electricity in the 14 Customer Choice Jurisdictions was higher than in the Monopoly States. In New England and the Mid-Atlantic States in particular, urbanization, long distances from fuel sources, high wage and tax levels and more restrictive environmental rules had produced higher underlying cost structures and higher prices than in most states in other regions. In the 1970s and 1980s, large power plant construction programs in a period of historically high combined inflation and interest rates and increasing nuclear regulations further exacerbated these longstanding higher price structures, precipitating the move to competition.

The proper focus, therefore, is not a snapshot of electricity prices but rather is a comparison between price trends in the Customer Choice Jurisdictions and the Monopoly States during the competitive era. Further, the comparison of price trends between the two groups of states should be considered on a standardized basis.

First, when comparing price changes between the two groups of states, average weighted prices should be used so as to remove the distortions associated with straight averages which fail to account for the significantly different volumes of sales in large and small states that may have quite different price levels.<sup>13</sup> Second, price trends in the two groups of states ought to be analyzed on the basis of percentage changes in prices so as to remove the impact of initial prices. This allows for a better understanding of price performance in the period after the variable in question – ie. the form of regulation – has been differentiated between the two groups.

Third, adjusting for inflation removes the distorting impact of increased nominal gaps that may actually constitute smaller gaps on a percentage basis.

Under these proper and valid measures, the Customer Choice Jurisdictions have significantly outperformed the Monopoly States when compared as groups. When comparing a few individual states within a single region, however, such as the five similar states in the Industrial Upper Midwest, nominal prices are a more appropriate measure.

# Prices in Customer Choice Jurisdictions Have Risen at Lower Percentage Rates Than in Monopoly States

Percentage increases in average weighted prices in the 14 Customer Choice Jurisdictions have been far lower than in the 35 Monopoly States as shown in Figures 6 through 9. Favorable price performance under choice has benefitted all customer classes, contrary to opponents' claims that competition would benefit C&I customers to the detriment of residential customers.

Between 1997 and 2014, all-sector nominal weighted average prices in Customer Choice Jurisdictions rose by 41%, but rose by 60% in the Monopoly States (Figure 6).

When nominal prices are adjusted for inflation, average prices in the Customer Choice Jurisdictions fell against inflation, whereas prices in the Monopoly States rose at a rate higher than inflation<sup>14</sup> (Figure 7).

Between 2003 and 2014, all-sector nominal weighted average prices in the Customer Choice Jurisdictions rose 34% compared to 44% in the Monopoly States (Figure 8).

While all-sector average prices in both groups rose more quickly than general inflation, prices in Monopoly States rose at a premium to inflation three times greater than did prices in the Customer Choice group (Figure 9).

Overall, electricity in the Monopoly States accounts for a larger share of consumer cost of living in 2014 than in 1997, whereas in the Consumer Choice Jurisdictions electricity's share of the consumer pocketbook was less in 2014 than in 1997.

# FIGURE 6: % CHANGE 1997–2014 AVERAGE WEIGHTED PRICES: CHOICE vs MONOPOLY



# FIGURE 9: INFLATION ADJUSTED % PRICE CHANGE 2003–2014: CHOICE vs MONOPOLY



# FIGURE 7: INFLATION ADJUSTED % PRICE CHANGE 1997–2014: CHOICE vs MONOPOLY



# FIGURE 8: 2003–2014 % CHANGE AVERAGE WEIGHTED PRICES: CHOICE vs MONOPOLY



# Customer Choice Jurisdictions Cluster in the Lower Half of Price Increases From 1997-2014

Notably, the lower percentage price increases in the Customer Choice Jurisdictions are not the result of large aberrational price reductions in just a few competitive states or of disproportionate price increases in a few large Monopoly States. Nor is the difference in price trends a function of using weighted average prices rather than straight average prices.<sup>15</sup>

Figure 10 shows the 48 contiguous U.S. states and DC ranked by percentage increase in all-sector nominal average price between 1997 and 2014. Ten of the 14 Customer Choice Jurisdictions are in the lower half of the distribution and nine are in the lower third. Most significantly, five Customer Choice Jurisdictions comprise the lowest six. Three of the four Customer Choice Jurisdictions in the upper half of the distribution (Maryland (10th), District of Columbia (17th) and Delaware (21st)) are in a shared footprint with longstanding transmission constraints which inhibit the flow of lower-priced resources from the west.<sup>16</sup>
### FIGURE 10 : RANKING OF % INCREASE IN NOMINAL ALL-SECTOR AVERAGE PRICE 1997–2014



### Price Signals: Competitive Retail Prices Respond to Market Conditions

In addition to moderating disadvantageous upward price trends, another price goal of electricity competition was to remedy traditional regulation's inability to set generation prices that reflected supply and demand realities.<sup>17</sup> The price data confirm that competition has met this second goal as well.

Monopoly advocates often argue that competitive prices that reflect economic conditions disadvantage consumers and that electricity prices should instead be set administratively. Competitive electricity markets provide price signals through multi-year forward pricing and in real-time or other short-term prices. In marked contrast, traditional monopoly regulation administratively sets essentially backward looking prices based primarily on sunk costs and intra-class uniform pricing. Economics and market realities drive competitive pricing; regulatory accounting and pricing principles established in far different conditions many decades ago drive monopoly regulation.

Competition opponents also assert that market-responsive price signals in the Customer Choice Jurisdictions would yield more volatile monthly retail prices compared to prices under traditional monopoly regulation. Actual experience also shows this assertion to be unfounded.<sup>18</sup>

The central problem with the traditional model of monopoly electricity pricing in a future characterized by low growth is that it inevitably results in higher per unit prices on shrinking sales volumes in order to cover fixed generation costs. This is the conundrum at the heart of the much-discussed "utility death spiral." During the early period of customer choice implementation, 1997-2003, transition rules provided stranded cost compensation for utilities and froze rates for several years for many residential and small business customers, and natural gas prices were low.

During much of the middle period, 2004-2009, the economy was booming and natural gas prices peaked in 2008 at an average city-gate price of \$9.18 per mmBtu, well more than double the \$4.12 price in 2002.<sup>19</sup>

In the later period, 2010-2014, electricity prices fell after the market collapse in late 2008 as expired electricity contracts were replaced during the recession and continuing economic weakness. Average city-gate gas prices in 2012, for example, were about half the 2008 peak period price.

Notably, average weighted retail electricity prices in the Customer Choice Jurisdictions in 2014 were actually lower than they had been in the 2008-2010 period, reflecting the market-responsive pricing behavior of the choice model.

Figure 11 shows 1997-2014 year-over-year cumulative percentage changes in weighted average prices for the Customer Choice Jurisdictions and Monopoly States. Under this price trend measure, Customer Choice Jurisdictions again outperformed Monopoly States: in Monopoly States such prices increased almost 60%, but only about 40% in Customer Choice Jurisdictions.

### FIGURE 11: 1997-2014 YEAR-OVER-YEAR CUMULATIVE AVERAGE WEIGHTED PRICE CHANGE



CHOICE vs MONOPOLY

Although, this report does not purport to fully explain the favorable price performance of the Customer Choice Jurisdictions, it is worth highlighting some key factors:

- the development of capacity markets, including demand response as a resource, which send price signals about supply and demand and the economic value of capacity;
- prompt pass-through of natural gas prices and improved nuclear power plant performance;
- the unbundling of generation and delivery service pricing, thus providing valuable information for customers to enhance energy efficiency and alter usage patterns; and
- the ability of customers and retail providers in competitive markets to negotiate contract terms that tailor energy supply and pricing to load patterns and time of use.

### MEASURING GENERATION INVESTMENT AND PERFORMANCE

### Competition Attracts Generation Investment

Nearly two decades of empirical data not only debunk opponents' claims that competition would produce greater price increases and volatility, but also their claims that competition would undermine generation investment and harm reliability. On the contrary, competitive markets have attracted billions of dollars for tens of thousands of new megawatts of generating capacity that is, based on objective criteria, outperforming generation in the Monopoly States.

### Competitive and Monopoly States Added Generation at Similar Paces from 1997-2013

Figure 12 shows that between 1997 and 2013, under both regulatory models there was substantial investment in new generation.<sup>20</sup> The 14 Customer Choice Jurisdictions added 73,900 MW of net summer capacity, a 28% increase, and the 35 Monopoly States added 206,800 MW of net summer capacity, a 40.5% increase. Figure 12 also shows the increases in generation output and in electricity consumption in the two groups of states.

### FIGURE 12: 1997–2013 CHANGE IN CAPACITY, CONSUMPTION AND OUTPUT

### CHOICE vs MONOPOLY



### Efficiency: Generation in Customer Choice Jurisdictions Has Better Capacity Factors

Figure 13 shows that Customer Choice Jurisdictions have moved ahead of Monopoly States in capacity factor, a standard electric industry measure of generation efficiency, i.e. the ratio of output to total potential production of a power plant.<sup>21</sup> In 1997, generation in the Choice Jurisdictions had an average capacity factor of 49.4%, whereas the Monopoly States' average factor was higher at 52.2%. By 2013, however, average capacity factors in the Customer Choice Jurisdictions exceeded those in the Monopoly States, 45.8% versus 42.9%. In the context of a decline in capacity factors across the 48 contiguous states and D.C. from an average of 51.2% in 1997 to 43.8% in 2013, the Customer Choice Jurisdictions improved their efficiency relative to the Monopoly States. As a result, the Customer Choice Jurisdictions switched positions with the Monopoly States relative to the national average, with the Choice Jurisdictions now having an average capacity factor above, rather than below, the national average.

### FIGURE 13: 1997–2013 % CHANGE IN CAPACITY FACTOR

### CHOICE v MONOPOLY



### Generation Effectiveness & Potency: Choice Jurisdictions Beat Monopoly States

In order to enhance comparisons of the electricity competition and monopoly models and to further test opponents' claims that competition cannot attract sufficient investment to maintain reliability, two additional generation performance measures were developed for this report: Effectiveness and Potency.

The first is "Effectiveness," that is the extent to which generating capacity additions have kept pace with growth in consumption, as measured by the ratio of the percentage growth in generating capacity to the percentage growth in consumption. The Effectiveness ratio assumes a positive figure for consumption growth in a group of states since 1997. Only Maine, Ohio and Oregon have has seen load decline since 1997.

The second is "Potency," as measured by the ratio of the percentage change in generation production to the percentage change in consumption. This criterion focuses not simply on generation capacity, but also on how well the generating assets meet consumers' electricity needs.

Figure 14 shows that electricity consumption increased at different rates in Customer Choice Jurisdictions and the Monopoly States, but that they both added capacity at similar Effectiveness ratios of just under two times the rate of increase in MWh consumption: 1.88 in the Customer Choice Jurisdictions and 1.99 in the Monopoly States.

Figure 14 also shows, however, that under the Potency measure, generation in the Customer Choice Jurisdictions has substantially outperformed that in Monopoly States: the Potency ratio under choice was 1.25 compared to only 0.76 under monopoly regulation. Generation production in the Customer Choice Jurisdictions outpaced consumption growth, while in the Monopoly States consumption growth outpaced generation production.

### FIGURE 14: 1997–2013 GENERATION EFFECTIVENESS AND POTENCY RATIOS:



### CHOICE vs MONOPOLY

### Resource Adequacy

A useful measure of Resource Adequacy in an electricity market or collection of markets is whether total annual generation production is equal to about 109% of total annual consumption. The 9% of production above consumption accounts for line losses and the like.<sup>22</sup> As shown in Figure 15, in 1997 the 14 Customer Choice Jurisdictions, as a group, were net importers, generating 106% of total consumption. In contrast, the 35 Monopoly States, as a group, were net exporters, generating 114% of total consumption. In 2013, however, both the Customer Choice Jurisdictions and Monopoly States, as groups, were at parity, each generating 109% of consumption. FIGURE 15: 1997–2013 RESOURCE ADEQUACY:

CHOICE vs MONOPOLY

### RATIO OF CAPACITY INCREASE TO CONSUMPTION INCREASE



In stark contrast to monopoly advocates' claim that Customer Choice discourages investment in capacity and therefore undermines supply adequacy and reliability, as the empirical data and objective criteria detailed above demonstrate, on both price and generation trends, competitive retail markets have performed as well as, or better than, monopoly retail markets.

The superior performance of the generation fleet in Customer Choice Jurisdictions is part of a broader transition of wholesale power transactions in the United States toward a framework that relies almost exclusively on market pricing under Federal Energy Regulatory Commission (FERC) supervision. FERC's fostering of Regional Transmission Organizations (RTOs) has facilitated the movement to non-discriminatory transmission of electricity, following in the steps of open access natural gas transmission. Adding to the competitive dynamic has been the substantial growth since 1997 in the non-utility share of national generating capacity and the corollary decline in the share of generation controlled by vertically integrated monopoly utilities. In 1997 34% (260,206MW) of all generating capacity in the United States was owned by non-utility generators whereas in 2013 that figure had risen to 42% (448,149MW), closing the gap between utility and non-utility shares of generating capacity from a 32-point spread to just 16 points, on average about 1-point for each year during the competitive era.

### THE COMPELLING EXAMPLE OF THE FIVE-STATE INDUSTRIAL UPPER MIDWEST

The East North Central region ("Industrial Upper Midwest")<sup>23</sup> offers an excellent opportunity for intraregional comparison of the competitive and monopoly models. No other region has a comparable degree of regulatory diversity. Illinois and Ohio are competitive states; Indiana and Wisconsin have strictly adhered to traditional rate-of-return, monopoly regulation; and Michigan allows only 10% of utility load to shop, holding the remaining 90% of load captive to traditional monopoly.

The electricity supply market in Illinois has been largely competitive for over a decade, with open-access delivery rates set under regulated cost-of-service protocols.<sup>24</sup> In this respect, Illinois can be deemed the region's acid test of competition's relative performance. Applying empirical price/generation performance measurements used previously in the report, Illinois has outperformed the region's Monopoly States on most measures.

### Comparing Prices Among the Five States

Figures 16a and 16b show the trend lines for nominal and percentage price change trends in each of the five states. Most significantly, Illinois moved from being the highestpriced state in 1997 to being the lowest-priced in 2014. Further, the two competitive states, Illinois and Ohio, had the lowest percentage price increases, with Illinois considerably lower than the other four states.

### FIGURE 16a: 1997-2014 YEAR-TO-YEAR NOMINAL PRICE CHANGE

### FIVE INDUSTRIAL UPPER MIDWEST STATES



### FIGURE 16b: 1997-2014 YEAR-TO-YEAR % PRICE CHANGE



As shown previously in Figure 10, Illinois had the nation's lowest percentage price increase since 1997 (15.2%) while its monopoly neighbor, Wisconsin, had the highest (105.5%). Indiana, another next-door neighbor, had the 13th highest percentage price increase (69.7%), while Michigan's was somewhat higher than the median (57.7%), and Ohio's somewhat lower (54.6%).

Of particular interest is the most recent period (2008-2014) of economic stress and fairly flat load growth in the five-state Industrial Upper Midwest region.<sup>25</sup> The price trends in Illinois and Ohio, the two Customer Choice Jurisdictions in the region, highlight the central difference between competitive retail markets and monopoly regulation. Monopoly regulation drove electricity prices substantially higher in Indiana, Michigan and Wisconsin, while prices in Illinois actually declined, and those in Ohio rose only modestly. As highlighted earlier in this report, monopoly regulation is driven by the imperative of setting tariffs to recover fixed costs and rising expenses even if doing so means increasing per unit prices because of a declining or static base, – ie. the "death spiral" syndrome. In contrast, competitive markets respond to actual economic conditions.

### Both Competitive and Monopoly States in the Region Attracted Substantial Generation Investment

Figure 17 shows that all five states in the Industrial Upper Midwest Region have attracted billions of dollars in generation investment since 1997, creating a net increase in summer capacity of more than 32,000 MW. In no state has there been less than a 20% net increase. Notably, Illinois, the largest state in the region, and also the most competitively structured, accounted for nearly one-third of the capacity increase.

### FIGURE 17: 1997–2013 INCREASE IN SUMMER MW CAPACITY

FIVE STATES INDUSTRIAL UPPER MIDWEST



All five states increased summer generating capacity at a rate greater than the rate at which consumption increased. The Effectiveness Ratios were Illinois 2.60, Indiana 1.60, Michigan 3.66 and Wisconsin 2.52. Calculating an Effectiveness ratio for Ohio is not appropriate since Ohio added 20.5% to its summer capacity at the same time that consumption decreased by 5.2%. However, as the Effectiveness ratio requires, if a modest increase of just 1% in consumption is assumed, Ohio would have an Effectiveness ratio of 20.5.

### Competitive States' Generation Is More Efficient

Figure 18 shows that, consistent with the overall national trend, capacity factors in the region generally declined. Illinois actually defied this national trend, increasing its average capacity factor from 44.7% to 51.6%, going from lowest to highest. Notably as well, the other Customer Choice Jurisdiction, Ohio, had the second-highest capacity factor in the region.

### FIGURE 18: 1997–2013 CAPACITY FACTORS FIVE STATES INDUSTRIAL UPPER MIDWEST



### Illinois: The Region's Powerhouse

Figure 19 shows that Illinois moved from producing at only 106% of total consumption in 1997 to producing at 143% of total consumption in 2013, becoming by far the primary generation source in the five-state region. In contrast, the Monopoly State Indiana moved from net exporter to net importer. Similarly, Michigan, a marginal net exporter in 1997, had become a net importer in 2013.

### FIGURE 19: 1997–2013 RESOURCE ADEQUACY

### RATIO OF MWH PRODUCTION TO MWH CONSUMPTION:





Figure 20 shows that Illinois' enhanced capacity factors were a key factor in its dramatic increase in generation market share in the region, moving it from only one-fourth of regional generation output in 1997 to nearly a third in 2013.

### FIGURE 20: 1997-2013 REGIONAL GENERATION MARKET SHARES:



### FIVE STATES INDUSTRIAL UPPER MIDWEST

### Midwest Potency Gap

Figures 21 and 22 show that under competition, Illinois increased electricity production by 50% between 1997 and 2013 against an increase in consumption of 11.7%. The marked percentage production increase in Illinois was more than four times greater than the percentage increase in consumption, thus achieving a Potency ratio far exceeding the other states' performance. Ohio's positive ratio resulted from a 5.2% consumption decline which exceeded its 3.9% drop in generation production. Wisconsin's production increase of 28.3% was just short of two times the consumption increase of 15%. Indiana and Michigan, however, had negative Potency ratios. In Indiana, consumption increased 18.3%, but generation production fell 3.8%. In Michigan, consumption increased by 5.8%, but generation production decreased by 1.5%.

### FIGURE 21: 1997–2013 % CHANGE IN GENERATION PRODUCTION:



### FIVE STATES INDUSTRIAL UPPER MIDWEST

### FIGURE 22: 1997–2013 POTENCY RATIO OF % INCREASE IN MWH PRODUCTION TO MWH CONSUMPTION



### FIVE STATES INDUSTRIAL UPPER MIDWEST

### FIGURE 23: 1997–2104 YEAR-BY-YEAR DOLLAR DISCREPANCY IF MICHIGAN & WISCONSIN CUSTOMERS HAD PAID ILLINOIS COMPETITIVE PRICES



### The Dollar Discrepancy

In the region, especially with respect to Illinois, Michigan and Wisconsin, the competitive and monopoly models have been associated with dramatically different price trends for consumers. As noted earlier in this report, the appropriate focus is not a snapshot of prices, but the relative price trends in the states since the commencement of competition. At the start of the competitive era, Illinois electricity prices far exceeded those in Wisconsin, whereas Illinois and Michigan prices were quite similar. In the ensuing years, however, prices in Wisconsin and Michigan rose to levels well above those in Illinois.

Figure 23 shows the year-by-year dollar value of the divergent price trends. In the initial period, 1999-2003, Michigan and Illinois remained closely aligned on price while Wisconsin exhibited an eroding price advantage. In the middle period 2004-2008, prices in Wisconsin and Michigan began to exceed those in Illinois, with customers in each of those Monopoly States paying price premiums of more than \$1 billion above what they would have paid if Illinois' competitive prices had been available. During 2009-2014 the above-market premiums consumers paid in the Monopoly States exploded, with Michigan customers paying a total premium of \$10.6 billion and those in Wisconsin paying a \$5.6 billion premium. A detailed chart of the dollar discrepancy calculations appears in the Appendix to this report.

### Illinois' \$41 Billion Improved Price Position

The competition/monopoly comparison in this region would be incomplete without including a calculation using the same method as made in a recent report.<sup>26</sup> During 1990-1998, i.e. the years immediately preceding implementation of choice in Illinois, the state's average electricity price consistently exceeded the national average weighted price by an average of nearly 12%. Following the implementation of choice, Illinois' relative price position changed dramatically, averaging from 1999-2014 a 9% discount to the national average weighted price, yielding an advantageous 21 percentage point average spread between the pre-choice price premium and the post-choice price discount.

Figure 24 shows the 1990-1998 pre-competition trend lines for actual Illinois average electricity prices and national average prices, and the trend lines for those actual average prices during the competitive period 1999-2014, alongside a 1999-2014 proxy price for Illinois. The proxy price reflects the average price premium if Illinois had maintained the same relative price position as in the pre-competition period. Through 2014, the value of the difference between the actual average Illinois competitive price, which has been consistently below the national level, and the proxy price, is \$41.3 billion.

### FIGURE 24: ILLINOIS IMPROVED ITS PRICE POSITION BY \$41.3 BILLION: 1999–2014 vs 1990–1998



### PLATFORMS FOR THE FUTURE: RETAIL COMPETITION OR MONOPOLY REGULATION?

Empirical data for key indicators demonstrate that the retail electric choice revolution has evolved successfully: consumers increasingly embrace competition and Customer Choice Jurisdictions have outperformed Monopoly States in both price and generation trends. In particular:

- From 2003-2013, accounts served competitively increased 524% for C&I and 636% for residential.
- Similarly, from 2003-2014 electrical load served competitively surged even during a period of flat growth in consumption: 181% for C&I and 673% for residential.

- As a group, Customer Choice Jurisdictions outperformed Monopoly States on price, with average prices increasing less than inflation in competitive markets and far exceeding inflation under monopoly regulation.
- Generation in Customer Choice Jurisdictions as a group outperformed that in Monopoly States, producing billions of dollars of new, more efficient generation with higher capacity factors than in Monopoly States.

Given the sustained, demonstrable success of Customer Choice both in price trends and in generation investment and performance, the debate should shift focus to the question of whether retail customer choice or monopoly regulation provides a better platform for addressing other current significant issues, such as:

- Stimulating and accommodating innovation in technologies and services such as smart meters to empower consumers.
- Reconciling environmental policies with the energy needs of consumers and allocating risks among market participants as coal plants retire and replacement generation is installed.
- Modernizing and streamlining regulation in order to direct limited regulatory resources to the most important public policy concerns and enhance responsiveness to fast changing economic, financial and technology conditions.

### APPENDIX

### 1999-2014 YEAR-TO-YEAR CUMULATIVE DOLLAR DISCREPANCY IF MICHIGAN AND WISCONSIN CUSTOMERS HAD PAID COMPETITIVE ILLINOIS AVERAGE ALL-SECTOR PRICES

Year	IL W.A Price (¢/KWh)	MI W.A Price (¢/KWh)	MI Difference (¢/KWh)	MI Annual MWh	Premium (\$M)	WI W.A Price (¢/KWh)	WI Difference (¢/KWh)	WI Annual MWh	Premium (\$M)
1999	6.97	7.13	0.16	103,981,004	163.2	5.53	-1.44	63,547,451	-914.4
2000	6.94	7.11	0.17	104,772,214	179.7	5.71	-1.23	65,146,487	-802.3
2001	6.90	6.97	0.07	102,409,346	69.3	6.08	-0.83	65,218,293	-539.9
2002	6.94	7.09	0.15	104,713,520	158.5	6.28	-0.66	66,999,297	-439.7
2003	6.86	6.85	-0.01	108,877,192	-13.5	6.64	-0.22	67,241,496	-148.0
Subtotal					557.2				-2,844.3
2004	6.80	6.94	0.15	106,606,041	154.8	6.88	0.08	67,975,710	56.3
2005	6.95	7.23	0.28	110,444,564	313.9	7.48	0.54	70,335,684	376.8
2006	7.07	8.14	1.07	108,017,697	1,154.1	8.13	1.06	69,820,749	739.6
2007	8.46	8.53	0.06	109,296,748	68.1	8.48	0.02	71,301,301	10.9
2008	9.23	8.93	-0.30	105,781,272	-314.4	9.00	-0.23	70,121,827	-157.9
Subtotal					1,376.5				1,025.7
2009	9.15	9.40	0.26	98,121,014	250.6	9.38	0.23	66,286,439	150.6
2010	9.13	9.88	0.76	103,649,219	784.8	9.78	0.65	68,752,418	447.9
2011	8.97	10.40	1.43	105,053,559	1,499.6	10.21	1.23	68,611,620	846.3
2012	8.40	10.98	2.58	104,818,192	2,708.8	10.28	1.89	68,820,090	1,299.2
2013	8.26	11.21	2.95	103,038,305	3,043.9	10.51	2.25	69,124,043	1,558.2
2014	8.86	11.10	2.23	102,700,106	2,294.2	10.73	1.86	69,056,106	1,287.1
Subtotal					10,582.0				5,589.3
TOTAL					12,515.7				3,770.7

### **ENDNOTES**

- <sup>1</sup> DNV GL provides authoritative information on competitive electricity markets (www.dnvgl.com/energy) and the U.S. Energy Information Administration (EIA) is the premier source for federally collected energy data (eia.gov).
- <sup>2</sup> Customer choice and monopoly models also operate in parallel in other parts of the world. For a slightly dated crossnational comparative discussion see "Electricity in Europe and North America, the Grand Experiment: Has Restructuring Succeeded on Either Continent?", *Public Utilities Fortnightly*, February 2007, Terrence L. Barnich and Philip R. O'Connor.
- <sup>3</sup> Alaska and Hawaii are not included in the analyses conducted for this report because they are not connected to the major North American electrical grid networks and therefore are electrically isolated.
- <sup>4</sup> The fourteen Customer Choice Jurisdictions are: Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and Texas. Each provides nearly universal eligibility for customers of all types to exercise choice. Supply provided by local utilities is priced mainly as a function of competitive wholesale procurement at market prices.
- <sup>5</sup> Texas is unique in two respects. First, the Electric Reliability Council of Texas (ERCOT), accounting for about 90% of all load in the state, is regulated exclusively by the state rather than by the Federal Energy Regulatory Commission (FERC) in contrast to other regional transmission organizations (RTOs). Customer Choice is unavailable to the 10% of load in Texas outside ERCOT. As is the case in other states, customers of municipal utilities and rural cooperatives also do not have market access. Second, Texas is an exception in that investor-owned utilities in the ERCOT market are entirely out of the supply business. Utility affiliates generally serve as default providers for residential and small business customers.
- <sup>6</sup> Nevada and Virginia terminated restricted access programs prior to 2014. Arizona, California, Michigan, Montana and Oregon permitted small slices of load to be served competitively in 2014. Choice load in these states is almost exclusively C&I, totaling only about 50,000 accounts. In 2014, the share of total load competitively served in these five states was: Arizona 1.5%; California 9.6%; Michigan 8.1%; Montana 14.1% and Oregon 3.8%. As restrictions increased, competitive load in all limited choice states, as a group, declined from a total of 78.6 million MWh, or 26% of national choice load in 2003, to 38 million MWh or just 5%.
- <sup>7</sup> For example, the change in the weighted average price between 1997 and 2014 in the seven restricted access states (AZ, CA, MI, MT, NV, OR, VA) was 60.3% as a straight average, nearly identical to the 60% for the 28 states that have never implemented choice. Further, the weighted nominal increase in average prices for the restricted access states was 57.5% compared to 61.7% in the strictly 28 Monopoly States. As the seven restricted access states and the 28 strictly Monopoly States are essentially indistinguishable from one another they can be combined for comparisons with the Customer Choice Jurisdictions.
- <sup>8</sup> Competitively served accounts include residential and small business customers in several states under municipal aggregation programs that procure supply through competitive procurement processes and generally permit customers to opt-out in order to take service from alternative suppliers or default service from local utilities.
- <sup>9</sup> Year-end 2014 DNV GL figures for customer accounts are for 2013 and thus lag behind competitive load figures by a year. Given the growth in load, the customer account figures for 2014 will certainly be higher than for 2013.
- <sup>10</sup> In the five restricted access states, virtually all eligible customers, mainly C&I, are enrolled in choice programs. There is considerable pressure for open access from non-residential customers who are being denied choice in Arizona, California and Oregon as well as in Nevada where limited choice was terminated. Michigan, which since 2008 has capped choice at 10% of load in any utility service area, provides a compelling example of customers' unmet demand for choice. More than 11,000 customers, with annual consumption of over 12 million MWh, have enrolled in the "queue" hoping for market access if room under the 10% load cap becomes available. See the Michigan Public Service Commission for current information on the queue at http://www.dleg.state.mi.us/mpsc/electric/restruct/faq/cap\_data.html .

- <sup>11</sup> Arizona, California, Michigan, Montana and Oregon permitted small slices of load to be served competitively in 2014. Choice load in these states is almost exclusively C&I, with only about 50,000 accounts served by competitive suppliers. Nevada and Virginia terminated restricted access programs prior to 2014. The shares of total load competitively served in 2014 in the five restricted access states were Arizona 1.5%, California 9.6%, Michigan 8.1%, Montana 14.1% and Oregon 3.8%. Competitive load in all restricted choice states, as a group, declined from a total of 78.6 million MWh, or 26% of national choice load in 2003, to 38 million MWh or just 5% as restrictions were increasingly applied.
- <sup>12</sup> In most of the Customer Choice Jurisdictions some load is served by municipal utilities and rural cooperatives that have generally been permitted to maintain their traditional monopolies and to set their rates without state utility commission approval.
- <sup>13</sup> The analysis in this report uses weighted average prices to compare the two groups of states, competitive and monopoly. To standardize the basis for prices, weighted average prices take account of sales volumes in each state in the two groups by combining all revenue and dividing by all consumption in order. One of the customary flaws in analyses of the two groups of states by critics of Customer Choice is their use of the straight average which, for example, gives the same weight to Idaho as to Florida within the monopoly group or to Delaware and Texas within the competitive group. The annual reports of the American Public Power Association (APPA) on price differences between traditionally regulated and choice groups of states are prime examples of this analytical flaw. The APPA reports rely on straight averages when calculating an average price for the two groups of states, which distorts the actual average price being paid by all customers in the two groups. Further, in reporting on the spread between average prices in the two groups of states, the APPA reports ignore inflation, thereby claiming erroneously that the price gap has grown even though the percentage gaps have narrowed and the rate of increase in prices has been higher in the Monopoly States even when using straight averages rather than weighted prices. The APPA reports also make the mistake of relying exclusively on inter-temporal comparisons of nominal prices, thus failing to adjust for inflation. http://www.publicpower.org/Programs/interiordetail2col. cfm?ltemNumber=38695&navItemNumber=38586
- <sup>14</sup> Inflation is based on the U.S. Bureau of Labor Statistics monthly estimates of the Consumer Price Index for all urban areas (CPI-U). http://www.bls.gov/data/inflation\_calculator.htm
- <sup>15</sup> While the straight average price technique's lack of standardization makes it methodologically unsuitable for comparing price trends between the two groups of states, it must be noted that there are, nonetheless, similar results with respect to percentage changes in weighted average price for the two groups. The 1997-2014 percentage all-sector straight average price increase for the 14 Customer Choice Jurisdictions was 44.6% compared to 60% for the Monopoly States, similar to the weighted average price increase of 40.8% and 59.9%, respectively.
- <sup>16</sup> See *Transmission Constraints in the Western and Eastern Interconnections 2009-2012*, U.S. Department of Energy, January 2014, 30.
- <sup>17</sup> The problem of price distortion and therefore price signals in traditional vertical monopoly regulation was identified as a central issue by advocates of electric industry competitive restructuring as far back as the mid-1980s. See "Competition, Financial Innovation and Diversification in the Electric Industry," Philip R. O'Connor, Robert G. Bussa and Wayne P. Olson, *Public Utilities Fortnightly*, February 20, 1986.
- <sup>18</sup> The data also debunk monopoly advocates' contention that competitive retail prices are naturally more volatile. First, claims of competitive market price volatility confuse prices in the real-time wholesale energy market with prices actually paid by retail customers of alternative suppliers. While some customers do avail themselves of real-time prices, most contract for various levels of certainty, including full-requirements fixed prices and mixes of fixed and variable pricing, depending on risk tolerance and budgeting goals. Second, competitive retail customers can select differing lengths of contract terms, thus locking in price certainty unavailable in Monopoly States in which utilities and regulators control the timing, magnitude and design of price changes. Customers in Monopoly States also cannot fix the point in time at which their prices will change or change that point in time during the midst of a contract period if they want to further hedge prices. The most recent research on the topic shows that there is no material difference between monthly price volatility in competitive states and traditionally regulated states. See "The Electricity Choice Debate: Conjectures and Refutations," *The Electricity Journal*, Aug/Sept, Vol. 27, Issue 7, Jonathan A. Lesser and Philip R. O'Connor.

- <sup>19</sup> Energy Information Administration (EIA) at http://www.eia.gov/dnav/ng/ng\_pri\_sum\_a\_epg0\_pg1\_dmcf\_m.htm
- <sup>20</sup> The most recent EIA data on installed generating capacity and production are for 2013. Calculations for 2013 therefore also use 2013 consumption data.
- <sup>21</sup> Capacity factor is a standard measure in the electric industry for generator performance, represented as the percentage of total output in a period if the unit were operating at full capacity. On an annual basis that would be the number of total net megawatt hours produced as a percent of the total number of megawatts of capacity multiplied by 8,760, the number of hours in a 365-day year.
- <sup>22</sup> A state or group of states generating 109% or more of retail sales can reasonably be regarded as in resource balance. In the years 2008-2014 that national figure hit a high of 110.32% in 2008 and a low of 109.15% in 2013. Net imports vary somewhat year-to-year but generally constitute a net amount equal to about 1% of domestic generation. On this basis, 109% can be considered for this purpose minimum domestic resource adequacy.
- <sup>23</sup> Illinois, Indiana, Michigan, Ohio, and Wisconsin are customarily treated as the East North Central region for data gathering and presentation by such federal bodies as the EIA, the U.S. Census Bureau and the U.S. Bureau of Labor Statistics.
- <sup>24</sup> Legislation enacted in Illinois in 2011 (Energy Infrastructure Modernization Act ("EIMA"), 220 ILCS 5/16-108.5) authorized cost recovery mechanisms for ongoing investment in the electricity delivery network by the state's major distribution utility companies. The legislation streamlined the regulatory process, including return on equity formulations tied to Treasury debt rates and a reliance on annual FERC Form 1 data, so as to strengthen and modernize the grid by facilitating deployment of advanced meter infrastructure (AMI) and other digital Smart Grid technologies. The law also prescribed various utility performance metrics, consumer protections and oversight by regulators and the legislature.
- <sup>25</sup> As a group, the five Industrial Upper Midwest states have experienced substantially lower growth than the other contiguous states as a group. Electricity sales volumes in the five states in 2014 grew just 6.1% from 1997, while growth in the other states was 21.1%. Notably, in five out of the past seven years, the Midwest states saw year-to-year declines in consumption.
- <sup>26</sup> A version of the chart showing the improved price position of Illinois since the commencement of Customer Choice implementation appeared in *Electricity & Natural Gas Customer Choice in Illinois: A Model of Effective Public Policy Solutions,* A Joint Report of the Illinois Chamber of Commerce, Illinois Manufacturers' Association, Illinois Retail Merchants Association and Illinois Business Roundtable, February 2014. The report can be found at http://irma.org/ wp-content/uploads/2014/03/Illinois-Energy-Reform-Feb-2014.pdf

### **NOTE ON AUTHORS**

**Philip R. O'Connor** is President of PROactive Strategies, Inc. and a former utility regulator, having served as Chairman of the Illinois Commerce Commission when, in 1984, the ICC issued the first white paper by a utility commission calling for a transition to competitive electricity markets. In addition to his lengthy private sector career, O'Connor has been appointed by six consecutive Illinois governors to various cabinet, board and transition committee positions, including as Director of Insurance and as a member of the State Board of Elections. He earned his doctorate in political science from Northwestern University and in 2007-8 served in the U.S. Embassy in Baghdad, Iraq as an advisor to the Iraqi Ministry of Electricity.

**Erin M. O'Connell-Diaz** is President of FutureFWD, Inc. and a veteran utility regulator having served two terms as a Commissioner at the Illinois Commerce Commission as well as its Deputy Chief Administrative Law Judge and as an Assistant Attorney General. Erin is the most experienced regulator in America in the transition to and implementation of electricity retail competition. She chaired the Electricity Committee of the National Assoc. of Utility Regulatory Commissioners, served on its Board of Directors, numerous committees and was lead regulator for USAID/DOE programs to Brazil and Kosovo. She is a Senior Fellow for Governing Institute and serves on the New Mexico State University Public Utilities Advisory Council. Erin is a cum laude graduate of St. Mary's of Notre Dame and received her J.D. from Loyola University School of Law.

### Clean Power Plan: State at a Glance

### Ohio

In the final Clean Power Plan (CPP), EPA is establishing interim and final carbon dioxide emission performance rates for the two types of <u>electric generating units</u> - steam electric and natural gas fired power plants - under Section 111(d) of the Clean Air Act. The CPP also establishes <u>state-specific</u> interim and final goals for each state, based on these limits and each state's mix of power plants. The goals are expressed in two ways—<u>rate-based and mass-based</u>— either of which can be used by the state in its plan. States that choose a mass-based goal must assure that carbon pollution reductions from existing units achieved under the Clean Power Plan do not lead to increases in emissions from new sources. EPA is offering an option to simplify this requirement for states developing plans to achieve mass-based goals. If a state chooses this route, its state planning requirements are streamlined, avoiding the need to meet additional plan requirements and include additional elements.

EPA has a "goal visualizer" tool on the web at www.epa.gov/cleanpowerplantoolbox that walks through the exact calculations for Ohio.

### Ohio's Interim (2022-2029) and Final Goals (2030)

	OHIC	0	
	CO <sub>2</sub> Bate (lbs/Net MWb)	CO <sub>2</sub> Emissions (short tons)	
2012 Historic <sup>1</sup>	1,900	102,239,220	
2020 Projections (without CPP)	1,742	103,946,835	
		Mass-based Goal (annual	
		average CO <sub>2</sub> emissions in	Mass Goal (Existing) & New
	Rate-based Goal	short tons)	Source Complement
Interim Period 2022-2029	1,383	82,526,513	83,476,510
Interim Step 1 Period 2022-2024 <sup>2</sup>	1,501	88,512,313	88,902,150
Interim Step 2 Period 2025-2027 <sup>3</sup>	1,353	80,704,944	82,020,069
Interim Step 3 Period 2028-2029 4	1,252	76,280,168	77,522,714
Final Goal 2030 and Beyond	1,190	73,769,806	74,607,975

1. EPA made some targeted baseline adjustments at the state level to address commenter concerns about the representativeness of baseline-year data. These are highlighted in the CO<sub>2</sub> Emission Performance Rate and Goal Computation TSD.

2, 3, 4. Note that states may elect to set their own milestones for Interim Step Periods 1, 2, and 3 as long as they meet the interim and final goals articulated in the emission guidelines. In its state plan, the state must define its interim step milestones and demonstrate how it will achieve these milestones, as well as the interim goal and final goal. See section VIII.B of the final rule preamble for more information.

The final Clean Power Plan goals for Ohio look different from the proposed goals – the 2030 goal looks more stringent, and the interim goal looks more stringent.

### States' goals fall in a narrower band, reflecting a more consistent approach among sources and states.

At final, all state goals fall in a range between 771 pounds per megawatt-hour (states that have only natural gas plants) to 1,305 pounds per megawatt-hour (states that only have coal/oil plants). A state's goal is based on how many of each of the two types of plants are in the state.

The goals are much closer together than at proposal. Compared to proposal, the highest (least stringent) goals got tighter, and the lowest (most stringent) goals got looser.

- o Ohio's 2030 goal is 1,190 pounds per megawatt-hour. That's in the middle of this range, meaning Ohio has one of the moderate state goals, compared to other state goals in the final Clean Power Plan.
- o Ohio's step 1 interim goal of 1,501 pounds per megawatt-hour reflects changes EPA made to provide a smoother glide path and less of a "cliff" at the beginning of the program.

The 2012 baseline for Ohio was adjusted to be more representative, based on information that came in during the comment period.

**Pathway to 2030:** While EPA's projections show Ohio and its power plants will need to continue to work to reduce  $CO_2$  emissions and take additional action to reach its goal in 2030, these rates – and that state goal – are reasonable and achievable because no plant and no state has to meet them alone or all at once. They are designed to be met as part of the grid and over time. In fact, the rates themselves, and Ohio's goal, reflect the inherent flexibility in the way the power system operates and the variety of ways in which the electricity system can deliver a broad range of opportunities for compliance for power plants and states. EPA made improvements in the final rule specifically for the purpose of ensuring that states and power plants could rely on the electricity system's inherent flexibility and the changes already under way in the power sector to find affordable pathways to compliance.

- Flexibility in state plans and easier access to trading programs. States can use EPA's model trading rules or write their own plan that includes trading with other "trading-ready" states, whether they are using a mass- or rate-based plan.
- o Clean Energy Incentive Program available for early investments. This program supports renewable energy projects and energy efficiency in low-income communities in 2020 and 2021.
- o The period for mandatory reductions begins in 2022, and there is a smoother glide path to 2030. The glide path gradually "steps" down the amount of carbon pollution. Note that states may elect to set their own milestones for interim step periods 1, 2 and 3 as long as they meet the interim goal overall or "on average" over the course of the interim period, and meet the final goals, established in the emission guidelines. To accomplish this, in its state plan, the state must define its interim step milestones and demonstrate how it will achieve these milestones, as well as the overall interim, and final, goals.
- o **Energy efficiency available for compliance.** Demand-side EE is an important, proven strategy that states and utilities are already widely using, and that can substantially and cost-effectively lower CO<sub>2</sub> emissions from the power sector. EPA anticipates that, thanks to their low costs and large potential in every state and region, demand-side EE programs will be a significant component of state compliance plans under the Clean Power Plan. The CPP's flexible compliance options allow states to fully deploy EE to help meet their state goals.





**Regional Point of Contact for Questions:** 

Alexis Cain / EPA Region 5 312-886-7018 cain.alexis@epa.gov

Updated 8/3/2015 5:15 PM

### About the Clean and Safe Energy Coalition

The Clean and Safe Energy (CASEnergy) Coalition is a national grassroots coalition of more than 3,900 members that unites unlikely allies across the business, environmental, academic, industry, consumer, minority and labor communities in support of nuclear expansion.

The industry-funded organization supports the increased use of nuclear energy to ensure an affordable, reliable, environmentally clean and safe supply of electricity. Nuclear power enhances America's energy security and economic growth. It helps attain cleaner air, and improves the quality of life, health and economic well-being for all Americans.



CASEnergy Coalition



### CleanSafeEnergy.org Clean Energy Buzz blog.casenergy.org Clean Energy Buzz blog.casenergy.org @CASEnergy @CASEnergy CASEnergy Coalition CASEnergy Coalition

### Nuclear Energy...

provides an affordable, cost-efficient and reliable source of energy. Nuclear power has the lowest production cost of the major sources of electricity and is one of the most efficient energy sources on the grid, operating at 86 percent efficiency.

boosts economic growth and supports high-paying jobs. The U.S. nuclear energy industry supports more than 100,000 quality, high-paying American jobs. Salaries in the industry are typically 36 percent higher than average salaries in the local area.

produces an environmentally clean and carbon-free source of electricity. Nuclear energy emits virtually no controlled air pollutants, such as sulfur dioxide, nitrogen oxides and particulates, and does not produce greenhouse gases, which promotes healthier air quality.

is a safe source of electricity. Strict government regulations, continuous training by the industry, and consistently enhanced and updated security measures are in place in order to ensure safety inside and outside America's nuclear energy facilities.

ensures safe on-site storage of used fuel. Used fuel is stored safely and securely at nuclear energy facility sites. They are either stored in enclosed, steel-lined concrete pools filled with water, or in steel or reinforced concrete containers with steel inner canisters. Diligent monitoring and maintenance of safety systems ensure public health and safety are protected.

.....

enhances our nation's energy security. Nuclear energy is a domestically produced and sustainable energy source. It does not depend on unstable foreign suppliers.

The CASEnergy Coalition promotes the expansion of nuclear energy as part of a balanced electricity portfolio. As nuclear energy provides approximately 64 percent of the country's carbon-free power, it is likely to be counted on even more in the future as Washington strives to rein in harmful emissions. No other energy source can currently meet the nation's future clean energy needs on the same scale.





The Coalition is led by Governor **Christine Todd Whitman**, former U.S. Environmental Protection Agency Administrator and New Jersey Governor, and Ambassador **Ron Kirk**, former U.S. Trade Representative and Mayor of Dallas. You can join the CASEnergy Coalition and show your support for nuclear expansion at **CleanSafeEnergy.org**.

### The Role of Nuclear Energy in President Obama's Climate Action Plan

President Obama's climate change mitigation strategy has set a goal of reducing greenhouse gas emissions by 80 percent by 2050.



 \* Nuclear energy is a vital energy source in our fight against climate change

 in fact, it plays a critical role in President Obama's climate mitigation strategy."





### NUCLEAR ENERGY PLAYS A CRITICAL ROLE IN THE PRESIDENT'S CLIMATE PLAN

Environmental Protection Agency (EPA) Administrator Gina McCarthy has said that we need nuclear energy to "continu[e] to supply zero carbon baseload power" in order to meet the president's carbon reduction goals. To reduce carbon emissions by 80 percent by 2050, McCarthy said that "there is no denying that [nuclear is] carbon free" and "will be part of the energy mix." President Obama has cited the new nuclear energy facilities in Georgia and South Carolina as examples of progress in the industry, but more needs be done.

### NUCLEAR ENERGY IS VITAL TO CARBON REDUCTION GOALS

- Nuclear energy produces more than 60 percent of electricity that doesn't emit greenhouse gases or air pollutants — more than all other sources of carbon-free electricity combined.
- America's 99 reactors prevent almost 590 million metric tons of carbon dioxide per year, the same amount of carbon emitted by all passenger cars on the road nationwide.
- One nuclear energy facility produces the same amount of electricity as 20 square miles of solar panels or 1,200 windmills.
- Nuclear energy accounts for 62 percent of "green jobs," according to the Bureau of Labor Statistics.

### WHAT THE CLIMATE ACTION PLAN MEANS FOR NUCLEAR ENERGY

CASEnergy Coalition

- Removes obstacles that would impede a renewed commitment to nuclear energy.
- Recognizes the role that nuclear energy plays in providing emissions-free electricity.
- Supports increased funding for next-generation nuclear energy technologies such as small modular reactors.
- Works with international partners to develop best practices for safety and non-proliferation.

### THE EPA SHOULD:

- Promote nuclear energy as a clean energy option for states working to meet carbon reduction goals.
- Acknowledge that we must maintain current nuclear power plants to meet carbon reduction targets under the EPA's Clean Power Plan, which the agency created as part of the president's plan.
- Give credit to reactors currently under construction as new zero emissions sources of energy.

Experts agree that nuclear energy is an essential part of any climate change policy. The higher the carbon reduction target, the more nuclear energy you need.

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McKinsey&Company

F NATIONAL ACADEMY OF SCIENCES



### **Energy Mandates Study Committee**

### **About The Committee**

Created by <u>Senate Bill 310</u> of the 130th General Assembly, the Energy Mandates Study Committee will hold hearings to study Ohio's renewable energy, energy efficiency, and peak demand reduction mandates. Senate Bill 310 instructs the committee to produce a report with recommendations on legislative action due September 30, 2015.

### **Meet The Members**

Senate Bill 310 states that the committee shall be made up of 13 members. 6 of these are members of the Ohio House of Representatives, and 6 are members of the Ohio Senate. The 13th member of the Committee is the Chairman of the Public Utilities Commission of Ohio.

Committee Members	
Kristina Roegner - Co-Chair Ohio House of Representatives	
Ron Amstutz Ohio House of Representatives	
Louis W. Blessing, III Ohio House of Representatives	
Jack Cera Ohio House of Representatives	
Christina Hagan Ohio House of Representatives	
Mike Stinziano Ohio House of Representatives	
Troy Balderson - Co-Chair Ohio Senate	

Capri Cafaro Ohio Senate Cliff Hite

Ohio Senate

Bob Peterson Ohio Senate

Bill Seitz Ohio Senate

Sandra R. Williams Ohio Senate

Andre T. Porter Public Utilities Commission of Ohio

### WITNESS TESTIMONY

11.24.14 Chairman Johnson Chairman, Ohio Public Utilities Commission 12.8.14 Chairman Johnson Chairman, Ohio Public Utilities Commission 2.5.15 Commissioner Haque Commissioner, Ohio Public Utilities Commission 2.5.15 Director Butler Director, Ohio Environmental Protection Agency 3.18.15 Andrew Ott Executive Vice President, Markets for PJM 4.16.15 Combined Heat and Power Patrick Smith, Vice President, IGS Generation Greg Collins, President, Energy Systems Group Bala Naidu, Technology and Strategy Leader, General Electric Steve Giles, Hull and Associates 4.16.15 Stephen Bennett Ohio Vice-Chair of the Retail Energy Supply Association (RESA) Independent Market Monitor for PJM 4.16.15 Joseph Bowring 4.16.15 Sean Gallagher Vice President of State Affairs Solar Energy Industries Association (SEIA) 5.7.15 Charles Goldman Division Director and Staff Scientist Electricity Markets and Policy Group: Lawrence Berkeley National Laboratory 5.7.15 Gary Swanson Energy Management Solutions, Inc. 6.1.15 Tom Vinson American Wind Energy Association 6.1.15 Glen Thomas President, PJM Power Providers Group 6.1.15 Bruce Weston Ohio Consumers' Counsel 6.1.15 Joe Kerecman Director of Government and Regulatory Affairs for Calpine Corporation 6.1.15 Dean Ellis Vice President - Regulatory Affairs, Dynegy 7.20.15 Dr. Ryan Yonk Utah State University 7.20.15 Greg Lawson Statehouse Liaison, The Buckeye Institute for Public Policy Solutions





# Electricity Market Update

## August 2015

**AEP Hub Wholesale Forwards** 



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## **Changing Generation Fleet**



	2013		2013	2013
	FOB Plant	2013	MWh	Capacity
Fuel Type	(\$ per ton)	\$/MMBtu	Produced	Factor
land Land	85.62	3 17	ND8 CCC C	17 6.7%
COO	00.00	14.0	2,222,004	0/ 70.11
coal	76.92	3.29	61,274	6.99%
coal	78.26	3.29	453,562	17.26%
coal	69.50	3.10	941,712	17.06%

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Plant/Unit	Capacity
Plants slated for retiremen	ıt
Muskingum River 1-5	1,440
Picway 5	100
Sporn 2-4	300
Kammer 1-3	630
	2,470

AEP



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## Record Gas Burn



As expected, we have seen a significant uptick in gas demand for power generation ("gas burn") this year due to hotter weather, price-induced fuel switching, and a rash of coal unit retirements.

Year-to-date, gas burns are 18% higher than a year ago, and in July 2015 are 22% higher than July 2014.

Gas burns hit an all-time high of 38.4 Bcf/d on July 29th, exceeding the previous record set in July 2011 by 1.5%.

prices this summer and have recently led to a reduction in storage builds.

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- High gas burns are supporting gas





## Shale Production Growth

## since January 2012, billion cubic feet per day (Bcf/d) Natural gas production in selected regions (Jan 2012 - June 2015)



## IRR - Blended Marcellus Development Areas **Marcellus Economics**



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Realized Price

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### cumulative change

	PRI0 \$2.5	\$3.0 \$3.5 \$4.0						
400%	350% -	300%	250% -	200% -	150%	100%	20%	%0

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## Capacity Performance will be transitioned over time FERC accepted the CPP in early June 2015

Percent of Auction Targeted as Capacity Performance	0%0	60%	20%	80%	80%	100%	
Delivery Year	Jun 15 - May16	Jun 16 - May17	Jun 17 - May18	Jun 18 - May19	Jun 19 - May20	Jun 2020+	

<b>Results Posted</b>	Aug 31	Sept 9	Aug 21	
	(Transition Auction)	(Transition Auction)	(Base Auction)	

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OLD BRA	\$59.37 (RTO) \$90.54 (ATSI)	\$119.81	n/a	
Performance Capacity BRA	Aug 31	Sept 9	\$164.77	

	Original		<b>Blended New</b>	Capacity Rate	Original	Annual Cost	<b>Possible Pass</b>
Planning	<b>Capacity Rate</b>	<b>Possible Auction</b>	<b>Capacity Rate</b>	Increase	Annual	Increase per	Through
Year	(\$/MW-day)	Rate (\$/MW-day)	(\$/MW-day)	(\$/MW-day)	<b>Capacity Cost</b>	<b>MW PLC</b>	(¢/kWh)
2016-2017	\$ 59.00	\$ 164.00	\$ 122.00	\$ 63.00	\$ 23,689	\$ 25,295	\$ 0.005775
2017-2018	\$ 119.00	\$ 164.00	\$ 150.50	\$ 31.50	\$ 47,779	\$ 12,647	\$ 0.002888

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### Planning Year 2017/2018 2018/2019 2016/2017

### Example:

- 1 MW PLC 4,380,000 kwh
- 50% Load Factor •





## **AEP Ohio Transmission**

Annual Costs = NITS Obligations (1 CP) \* Annual rate (\$44,200/MW) This cost was typically unitized by suppliers per kwh

Monthly Cost = Monthly kW peak \* Tariff Rate (there is a small kwh component also) the same making monthly load factor a huge influence on cost Issue: Cost constructs are not

PJM: 2.38 MW NITS Obligation = \$105,435 per year ctor = \$120,553 per year

PJM: 1.54 MW NITS Obligation = \$68,068 per year ctor = \$99,224 per year AEP Ohio: 62% Load Fa 45% Increase 10

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### **PJM Rules**

## **AEP Ohio Tariff Structure**

Examples:

### AEP Ohio: 68% Load Fa 14% Increase



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### Natural Gas Update OMA Energy Committee

### Richard Ricks NiSource August 27, 2015

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### Agenda

### • Weather

- National
- 2015/2016 Winter

## National Storage

### Gas Pricing

- NYMEX Prompt Month History
  - NYMEX Gas Futures
- NYMEX Strip and Select Hub Pricing
- Domestic Gas Production
  - Drilling Rig Counts



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ter Repeat?	% Colder	12%	12%	۲.		
14/15 Wint	Normal	4670	4670	4670	ction area g gas market	
of 13/14 and '	Ohio Degree Days	5249	5218	۲.	eing in a prolific produ eing in a domestic long	
Chances	<u> Winter</u>	13/14	14/15	15/16	The benefit of be	



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# National Storage – Does it really matter anymore?

Working gas in storage was 3,030 BCF as of Friday, August 14, 2015, according to EIA estimates. This represents a net increase of 53 Region were 123 BCF above the 5-year average of 975 BCF after a net withdrawal of 1 BCF. Stocks in the West Region were 17 BCF BCF from the previous week. Stocks were 488 BCF higher than last year at this time and 80 BCF above the 5-year average of 2,950 BCF. In the East Region, stocks were 59 BCF below the 5-year average following net injections of 50 BCF. Stocks in the Producing above the 5-year average after a net addition of 4 BCF. At 3,030 BCF, total working gas is within the 5-year historical range.



## Working gas in underground storage compared with the 5-year maximum and minimum

eia Source: U.S. Energy Information Administration





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NYMEX Prompt Month Settlement History

### Henry Hub Natural Gas Spot Price





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PRICE	\$2.72	\$2.86	\$2.89	\$2.97
TERM	3 Month	6 Month	12 Month	18 Month



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Select Hub Pricing on 8-24-2015

HUB LOCATION	PRICE
lenry Hub	\$2.70
CO Pool	\$2.68
<b>Houston Ship Channel</b>	\$2.63
<b>Dominion South Point</b>	\$1.22
ETCO M-3	\$1.31
-GP Zone 4	\$0-60

Dominion, TETCO, & TGP pricing is Marcellus Area



**NORTHEAST PIPELINE ACTIVITY: 2014 - 2018** 

<b>Capacity Addition Type</b>	New	<b>Bi-Directional</b>	<b>Bi-Directional</b>	<b>Bi-Directional</b>	New	Expansion	Expansion	Expansion	Expansion	Expansion	New	Expansion	Expansion	Expansion	New	New	New	Expansion	Expansion	Expansion	Expansion	New	<b>Bi-Directional</b>	Expansion	Expansion	Expansion	Expansion	<b>Bi-Directional</b>	New	New	Expansion	<b>Bi-Directional</b>	<b>Bi-Directional</b>	New	New	Expansion	Expansion	
<u>Market</u>	Midwest; Gulf Coast	Gulf Coast	Gulf Coast	Gulf Coast	Midwest; Gulf Coast	Southeast	Gulf Coast	Midwest; Gulf Coast	Mid Atlantic	Upstream	Southeast	Midwest; Gulf Coast	Mid Atlantic	Northeast	Midwest; Canada	Mid Atlantic	Upstream	Gulf Coast	Northeast	Canada	Gulf Coast	Northeast	Gulf Coast	Northeast	Gulf Coast	Gulf Coast	Northeast	Gulf Coast	Midwest; Canada	Upstream	Gulf Coast	Midwest	Midwest	Mid Atlantic; Southeast	Northeast	Northeast; Mid Atlantic	Mid Atlantic; Southeast	
<u>In Service</u>	2017	2015	2017	2016	2017	2018	2017	2014	2015	2016	2018	2016	2017	2016	2017	2018	2016	2017	2016	2015	2016	2018	2014	2016	2017	2017	2018	2017	2017	2015	2014	2017	2015	2018	2016	2015	2017	
Capacity (Bcf/d)	2	2	0.28	0.63	1.5	2.44	-1	0.54	0.31	0.2	1.5	0.24	0.155	0.112	3.25	2	1	0.78	0.072	0.158	0.73	1.2-2.2	0.49	.342	0.31	0.2	-1	0.63	2	0.55	0.29	2.4	1.8	2	.65	0.525	<u>1.7</u>	37 - 38
Company	ANR	ANR	Boardwalk	Boardwalk	CPG	CPG	CPG	CPG	CPG	CPG	Dominion	Dominion	Dominion	Dominion	Energy Transfer	EQT	EQT	Kinder Morgan	Kinder Morgan	Kinder Morgan	Kinder Morgan	Kinder Morgan	Kinder Morgan	Spectra	Spectra	Spectra	Spectra	Spectra	Spectra	Spectra	Spectra	Tallgrass Energy	Tallgrass Energy	Williams	Williams	Williams	Williams	
Pipeline Name	ANR East Pipeline	Southeast Mainline Expansions	Northern Supply Access Project	Ohio to Louisiana Access Project	Leach XPress	Mountaineer Xpress	Rayne Express	Westside Expansion	Eastside Expansion	Utica Access	Atlantic Coast	Clarington Project	Leidy South	New Market Project	Rover	Mountain Valley	Ohio Valley Connector	Broad Run Project	Connecutt Expansion Project	Niagara Expansion	Gulf Coast Mainline Expansion	Northeast Energy Direct	Tennessee Gas Pipeline Utica Backhaul	AIM Project	Access South Project	Adair Southwest Project	Appalachia to Market Project	Gulf Markets Expansion	NEXUS	OPEN	TEAM South Expansion Project	Clarington West Project	REX East to West Project/Seneca Lateral	Appalachian Connector	Constitution	Leidy Southeast	Atlantic Sunrise	TOTAL

A NiSource Company Columbia Gas<sup>®</sup> of Ohio

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r Day	III				2014			Page 149 of 156
oduction pe	lls)				2012	illion Cubic Feet per Day)		
al Gas Pr	ross withdrawa				2010	<u>Gross Withdrawals (M</u>	stration	
US Natur	s production (g				2008	- U.S. Natural Gas (	ergy Information Admini	
Total	U.S. natural ga: million cubic feet pe	75,000	50,000	25,000	0_2006		eia Source: U.S. En	Columbia Gas <sup>®</sup> of Ohio A NiSource Company

The Growing Contribution of Shale Gas

U.S. dry shale gas production



Sources: EIA derived from state administrative data collected by DrillingInfo Inc. Data are through July 2015 and represent EIA's official shale gas estimates, but are not survey data. State abbreviations indicate primary state(s).



# Slight Shale Gas Production Decline



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## Slight Shale Oil Production Decline





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(479) 293-4081

Information Administration (DOE),

WTRG Economics







Crude Oil Spot Price \$ / Barrel

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### U.S. Crude Oil and Natural Gas Rotary Rigs in Operation





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US Oil & Gas Rig Count History



613 Source: U.S. Energy Information Administration



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**2015 World Wide Rig Count** 

### **BAKER HUGHES INCORPORATED**

#### WORLDWIDE RIG COUNT

Total World	3309	2986	2557	2268	2127	2136	2167						2507
U.S.	1683	1348	1110	976	889	861	866						1105
Canada	368	363	196	<u> 06</u>	80	129	183						201
Total Intl.	1258	1275	1251	1202	1158	1146	1118						1201
Asia Pacific	232	240	233	228	217	215	212						225
Middle East	415	415	407	410	398	401	391						405
Africa	132	132	125	120	100	103	94						115
Europe	128	133	135	119	116	113	108						122
Latin America	351	355	351	325	327	314	313						334
2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg.

