Energy Committee

February 25, 2015

Table of Contents

2015 Energy Committee Calendar
Meetings will begin at 10:00am

Wednesday, February 25, 2015
Thursday, May 21, 2015
Thursday, August 27, 2015
Thursday, November 19, 2015

OMA Energy Committee Meeting Sponsor:

ROVER PIPELINE
An ENERGY TRANSFER Company

OMA Energy Committee Agenda
February 25, 2015

Welcome and Introductions	Brad Belden of Belden Brick, Chair
Member Spotlight	Rob Threlkeld, Environmental Compliance & Sustainability, General Motors Corp.
Public Policy Report	Ryan Augsburger, OMA Staff
Counsel's Report • Utility power purchase agreements (PPAs)	Kim Bojko, Carpenter Lipps & Leland Rebecca Hussey, Carpenter Lipps & Leland
Customer-Sited Resources Report • Rebates • Peer Working Group (Technical) • SB 310 Energy Mandates Study Committee	John Seryak, PE, RunnerStone, LLC
Presentations	
• **Rover Pipeline**	Gretchen Krueger, Energy Transfer Phil Craig for Energy Transfer
• **OMA Testimony on Utility Power Purchase Agreements**	Andrew Thomas, Cleveland State University Iryna Lendel, Cleveland State University
• **OMA Commissioned Research on Energy Use and Sustainability**	Teresa Myers, PhD, George Mason University
• **Electricity Market Trends**	Susanne Buckley, Scioto Energy
• **Natural Gas Market Trends**	Richard Ricks, NiSource, Columbia Gas of Ohio
Lunch	

Meeting sponsored by:

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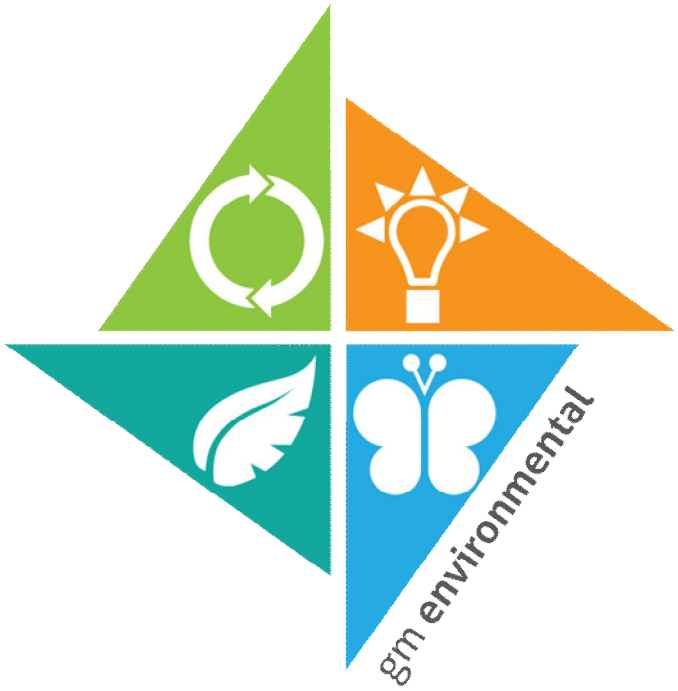
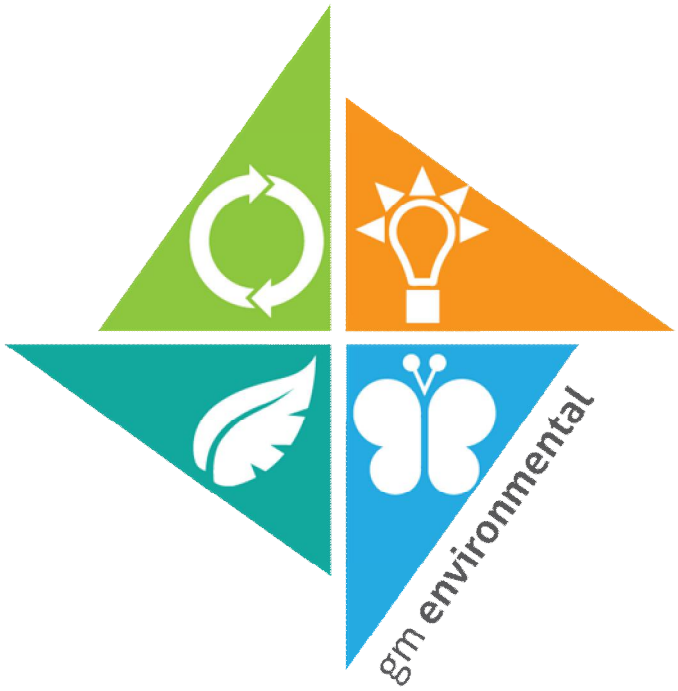
GENERAL MOTORS



ENVIRONMENTAL

GENERAL MOTORS

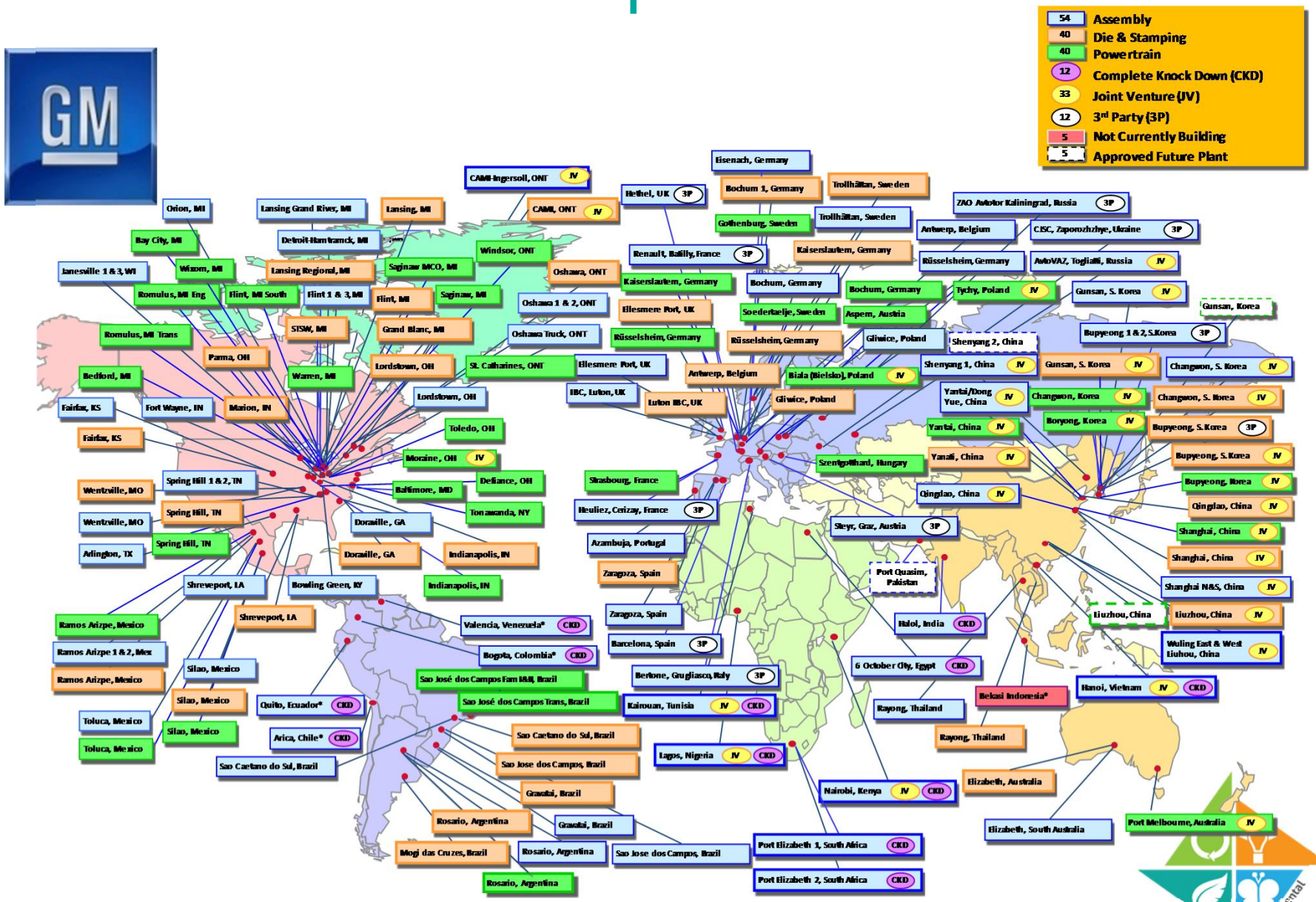


Rob Threlkeld

Global Manager – Renewable Energy

February 25, 2015

GM Global Plant Map



GM Ohio Locations

Toledo

Parma

Defiance

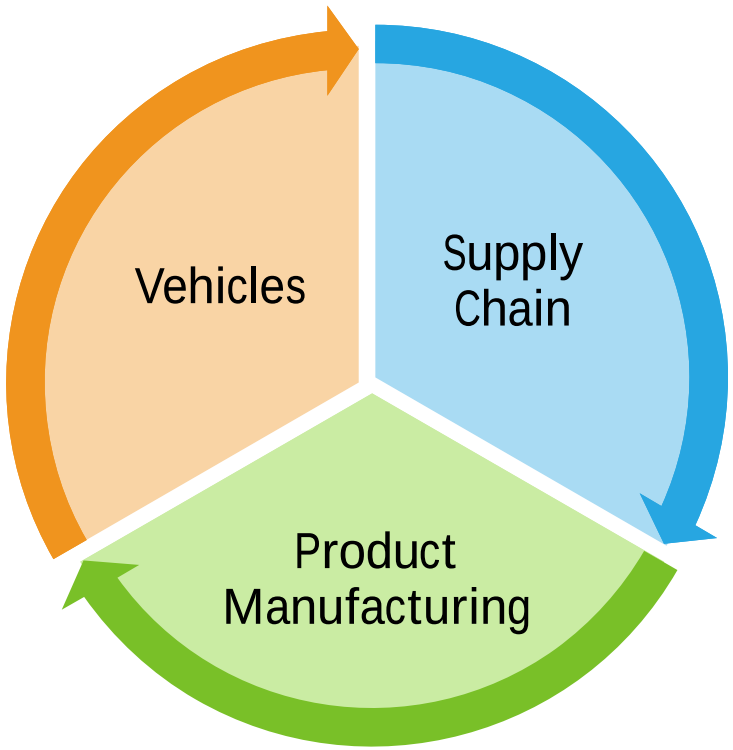
Lordstown

Cincinnati (CCA)

Environmental Commitment

We're continually assessing our environmental impact and taking steps to reduce it

GM has a commitment to the environment and sustainability that applies to every part of our business – from our supply chain, to product manufacturing, to the vehicles we put on the road.



Environment: Our Commitment

We're committed to continuous improvement as we reduce the environmental impact of our vehicles and facilities. Our culture of environmental responsibility makes us think creatively, consistently innovate, and be leaner and more efficient.

Waste Reduction

We strive to be the automotive industry's waste reduction leader.

Energy Efficiency

We strive to reduce emissions & petroleum dependence by being more energy efficient.

Resource Preservation

We help preserve natural resources and enhance habitats surrounding our facilities.

Greener Vehicles

We're building fuel-efficient vehicles that fit our customers' needs and lifestyles.

GM Environmental Principles

- We are committed to actions to restore and preserve the environment.
- We are committed to reducing waste and pollutants, conserving resources, and recycling materials at every stage of the product lifecycle.
- We will continue to participate actively in educating the public regarding environmental conservation.
- We will continue to pursue vigorously the development and implementation of technologies for minimizing pollutant emissions.
- We will continue to work with all governmental entities for the development of technically sound and financially responsible environmental laws and regulations.
- We will continually assess the impact of our plants and products on the environment and the communities in which we live and operate with a goal of continuous improvement.

We strive to be the automotive industry's waste reduction leader.

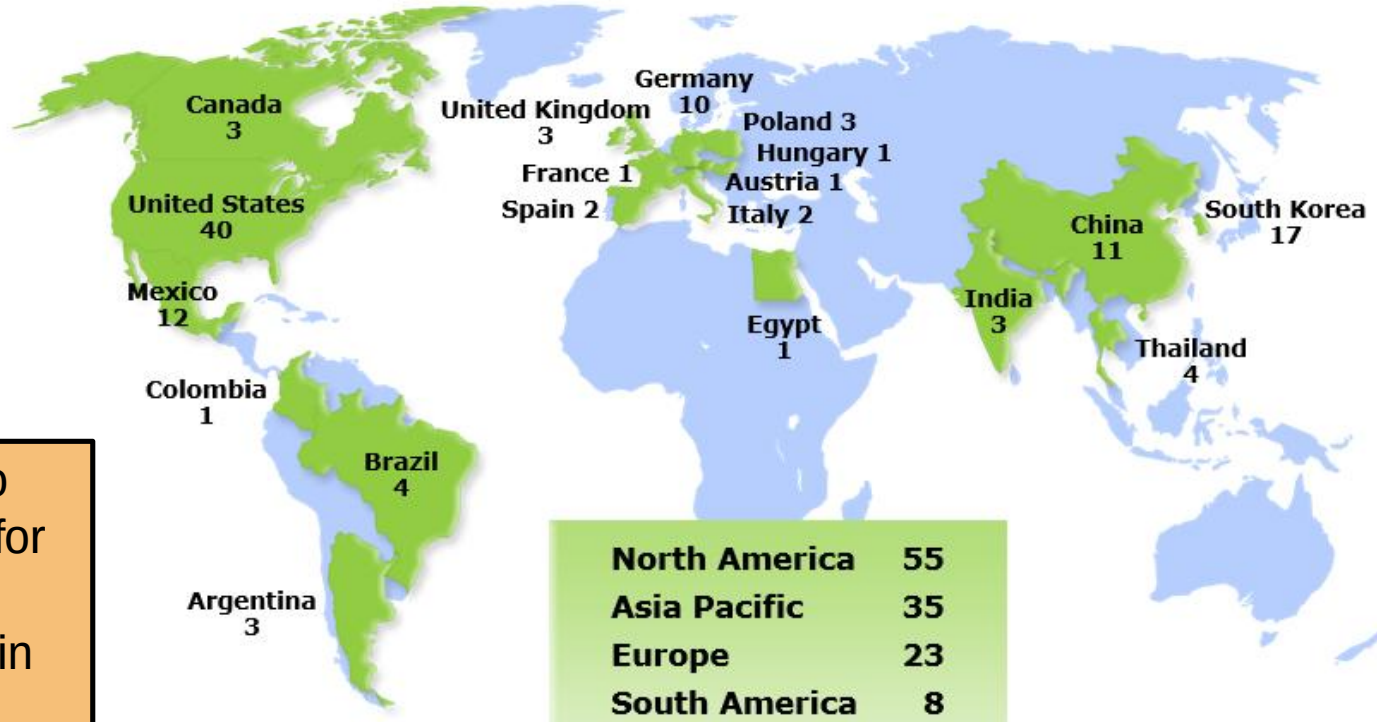
Reduce

Reuse

Recycle

122 Landfill-Free Facilities

No other manufacturer has as many facilities contributing zero waste to landfill



North America	55
Asia Pacific	35
Europe	23
South America	8
Africa	1

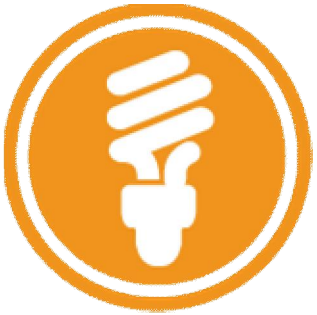
GM Toledo Recognized for Pollution Prevention in 2014

89 MANUFACTURING OPERATIONS

33 NON-MANUFACTURING OPERATIONS

waste reduction

We strive to reduce emissions and petroleum dependence by being more energy efficient.



Reduce Use

Renewable Energy

Reduce Emissions

Energy Use Reduction at Global Facilities

28%

FROM 2005 – 2010

3.34 M

METRIC TONS
GREENHOUSE GAS
EMISSIONS AVOIDED

10%

FROM 2010 – 2013

2013 and 2014 EPA ENERGY STAR®
Partner of the Year-Sustained Excellence

ENERGY STAR AWARD 2013
PARTNER OF THE YEAR
Sustained Excellence

EPA's highest level of recognition for corporate energy management

70 Plants Met EPA Challenge for Industry

- More than any other company
- Avoided $162 million in energy costs

Equal to emissions from 244,000 homes

energy efficiency

LEED Gold Certification

First auto manufacturing facility in world to achieve LEED gold certification

Enterprise Data Center – 2013

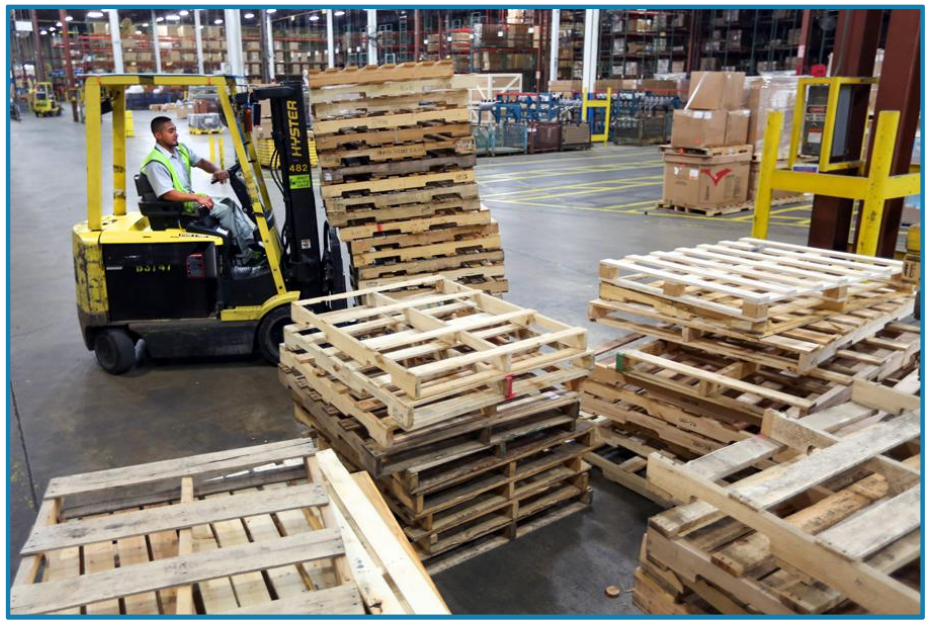
GM China Headquarters – 2010

Lansing Delta Township – 2006

6 total LEED certified facilities

EPA ENERGY STAR – Lansing Customer Care Center

New energy-efficient roof reflects sun's rays to reduce air conditioning consumption



35%

less energy use and greenhouse gas emissions than similar U.S. buildings

LIGHTING UPGRADES

5,200 fluorescent tubes

50% energy reduction

RENEWABLE ENERGY

We believe in harnessing the power of renewable and alternative energy and we're one of the leading users in the manufacturing sector.

Solar

Biomass

Landfill Gas

Landfill Gas

- One of the largest industrial users of landfill gas in U.S.
- Three plants use landfill gas
  - Ft Wayne Assembly 22%
  - Orion Assembly 21%
  - Toledo Transmission 16%

Solar Power – United States

Named “Solar Champion” for promoting renewable energy.

- More U.S. solar installations than any other automaker.
- Ranked top 25 of all commercial solar energy users in U.S.

Solar Power – Zaragoza, Spain

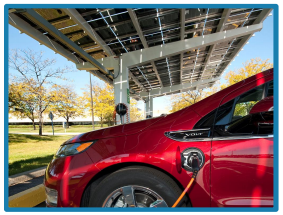
Our Zaragoza assembly plant was the world's largest industrial rooftop solar installation until 2012.

Solar Power – Installations

Global solar footprint equivalent to the size of 104 football fields

Opel Rüsselsheim facility in Germany, 8MW rooftop array

9 facilities with solar charging canopies



GM Lordstown Facility Overview

Facility Information

Location:	2300 Hallock-Young Rd, Warren, OH 44481
Year Opened:	Vehicle Assembly – 1966
Facility Size:	6 million square feet/905 acres
Ownership:	General Motors
Employees:	4,500
Product(s):	Chevrolet Cruze
Production:	281,820 CY 2011

- One of the highest volume single line vehicle assembly facilities
- 3 Shift operations
- Produced over 14.5 million vehicles since 1966

Recent Investments

- 2014: $50 million for Next Generation Cruze
- 2014: $4.4 million for 2.2MW solar array
- 2010: $500+ million for Chevrolet Cruze readiness
- 2002: $500+ million for new paint shop

Ground Assessment

- Total ground area available: ~200 acres

Solar Project – Highlights

- Developer: Solscient Energy – Toledo, OH
- Racking System: Solar Flex Rack, Youngstown, OH
- Project Start Date: 11/5/2014
- Project Completion: 12/30/2014

Project Key Assumptions

Price /Watt:	Est. $2.00 / watt
System Size:	2.2 MW
Total System Price:	$4.4 M
ITC Credit:	1603 Eligible
Depreciation Schedule:	Bonus Acceleration
Annual Production:	3,000,000 kwh
Cost/Impression:	$0.033**
Annual Production Loss:	0.5%

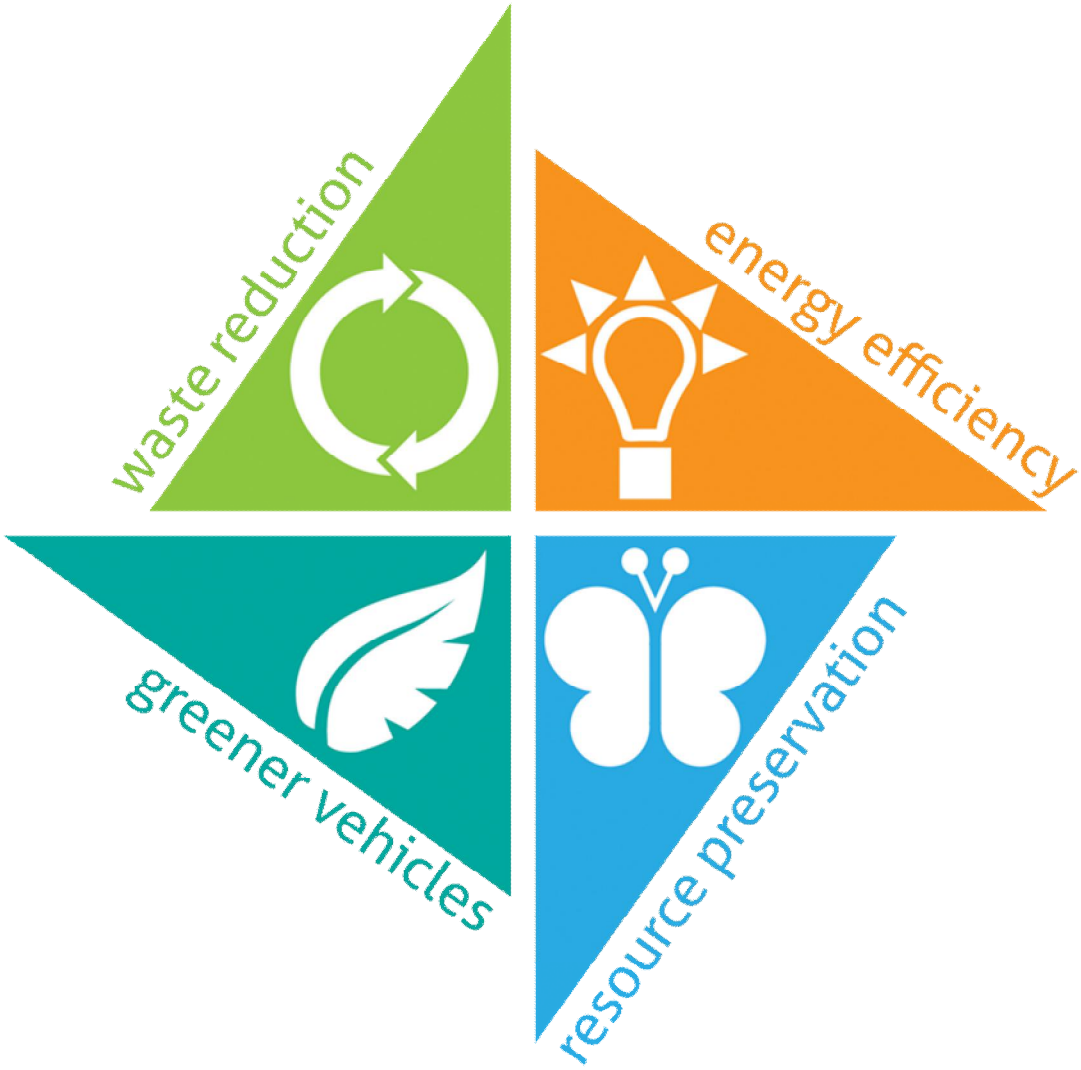
Lordstown Solar Array

28%
FROM 2005 – 2010

7%
FROM 2010 – 2013

60% SINCE 1990

GENERAL MOTORS



CARPENTER LIPPS & LELAND LLP

ATTORNEYS AT LAW
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COLUMBUS, OHIO 43215

MEMORANDUM

To: OMA Energy Committee
From: Kim Bojko, OMA Energy Counsel
Re: Energy Committee Report
Date: February 25, 2015

Administrative Actions in which OMA Energy Group is Actively Involved:

American Electric Power (AEP Ohio):

- ESP Application (Case No. 13-2385-EL-SSO, et al.)
  - Over course of electric security plan (ESP), customers could be exposed to $82-$116 million through approval of proposed Rider PPA, which represents costs associated with AEP's interest in the Ohio Valley Electric Corporation (OVEC) generating units
  - Customers also at risk to incur $246 million in additional distribution costs without the necessity of approval of such costs in a base rate case
  - Opinion and Order eagerly awaited

- PPA Rider Expansion Case (Case No. 14-1693-EL-RDR, et al.)
  - AEP has proposed to expand Rider PPA to include costs associated with a number of other generation plants owned by its affiliate, exposing distribution customers to those costs as well
  - Discovery has been informally paused pending a Commission decision in AEP's ESP proceeding

- Retail Stability Rider Case (Case No. 14-1186-EL-RDR)
  - AEP has requested authority to recover from customers an additional $463 million, representing a deferred capacity regulatory asset, through Rider RSR
  - Comments and reply comments have been filed; Commission must determine whether to set the matter for hearing

- Fuel Adjustment Clause Case (Case No. 11-5906-EL-FAC, et al.)
  - These cases involve a review of AEP Ohio's fuel and alternative energy costs for the 2012, 2013, and 2014 audit periods
  - In the course of the proceedings, the Commission is entertaining arguments on AEP Ohio's alleged double recovery of certain capacity-related costs

- CHP Incentive Cases (Case Nos. 14-2296-EL-EEC and 14-2304-EL-EEC)
  - These cases involve the joint applications AEP Ohio and two manufacturers for approval of special arrangement agreements to commit the savings from the manufacturers' planned combined heat and power (CHP) systems to AEP Ohio for use in achieving its energy efficiency benchmarks in exchange for an incentive payment of $0.005/kWh saved
  - Concerns at issue surround the appropriate incentive level for commitment of savings from CHP systems to an electric distribution utility, as well as AEP Ohio's request to exclude twenty percent of the shared savings it stands to collect as a result of these projects from the annual $20 million caps on shared savings agreed to by the parties to the stipulation in its last approved portfolio program case
  - The Commission very recently suspended the automatic approval of the joint applications for consideration of the comments submitted by OMA Energy Group and others

- IGCC Costs Case (Case No. 05-376-EL-UNC)
  - Commission recently issued an Order on Remand approving the Stipulation filed by AEP Ohio, OMA Energy Group, Industrial Energy Users-Ohio, Ohio Energy Group, the Office of the Ohio Consumers' Counsel, Ohio Partners for Affordable Energy, and the Staff of the Commission
  - Per the Stipulation, AEP Ohio will be refunding $13 million to customers which it previously collected in connection with the evaluation of siting an IGCC generating facility in Meigs County

Duke Energy Ohio:

- ESP Application (Case No. 14-841-EL-SSO, et al.)
  - Customers exposed to $22 million in costs associated with Duke's entitlement to generation from the OVEC facilities over the course of the proposed ESP under Rider PSR
  - Customers also exposed to unlimited costs associated with a distribution capital investment rider, which has been projected by Duke to cost customers roughly $211 million over the term of the ESP

- Shared Savings Mechanism Extension Case (14-1580-EL-RDR)
  - Duke has requests extension of its shared savings mechanism for 2016, which would result in further unlimited incentives for the utility, even for minimal compliance with energy efficiency and peak demand reduction benchmarks
  - Comments and reply comments have been filed by intervenors

FirstEnergy:

- ESP IV Application (Case No. 14-1297-EL-SSO)
  - Under the proposal submitted in FirstEnergy's Application, customers may be exposed to millions in costs associated with a 15-year power purchase agreement between FirstEnergy and FirstEnergy Solutions (FES) regarding generation from FES' Sammis coal generation facility and its Davis Besse nuclear generation facility, as well as FirstEnergy's entitlement to generation from the OVEC facilities pursuant to Rider RRS
  - In December 2014, FirstEnergy, Ohio Energy Group, AEP Ohio, the City of Akron, the Council of Smaller Enterprises, the Cleveland Housing Network, the Consumer Protection Association, the Council for Economic Opportunities in Greater Cleveland, the Citizens Coalition, Nucor Steel Marion, Material Sciences Corporation, the Association of Independent Colleges and Universities of Ohio, and the International Brotherhood of Electrical Workers Local 245 filed a joint stipulation in the proceeding which would expose ratepayers to millions in additional costs under various riders, including Rider EDR and Rider DSE

- Portfolio Plan Amendment Case (Case No. 12-2190-EL-POR, et al.)
  - Under the amended plan, customers are exposed to extremely limited offerings from the utility, but are still at risk for shared savings incentives
  - Commission presently reviewing issues on rehearing, including whether FirstEnergy's budget for Rider DSE should be decreased to reflect the limited program offerings for which it has sought Commission approval under its amended plan

Statewide:

- S.B. 310 Rules Proceeding (Case No. 14-1411-EL-ORD)
  - Commission recently issued Finding and Order determining, among other things, that the costs of shared savings, when included in the EE/PDR rider, are actual costs being paid by customers that are directly related to EDUs' compliance with the EE and PDR requirements, and that it is reasonable to count such shared savings expenses as part of the cost of compliance in the year they are incurred
  - Commission is presently reviewing applications for rehearing on the issues of including shared savings in the cost of compliance on customer bills, whether it is appropriate to report on customer bills only those costs incurred by the utility, and others

- Commission's Investigation—CRES Marketing Practices (Case No. 14-568-EL-COI)

- Challenges to the FirstEnergy Solutions RTO Expense Surcharge
  - Customers at risk for millions in ancillary service charges sought to be passed through by FES
    - Carbo Forge, et al. v. FES (Case No. 14-1610-EL-CSS), etc.

Judicial Actions—Pertinent 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 Approval of a Mechanism to Recover Deferred Fuel Costs Ordered Under Section 4928.144, Ohio Revised Code*, Case No. 2012-2008 (Appeal of Case No. 11-4920-EL-RDR, et al.)
  - **Case Status:** Notice of appeal filed on November 30, 2012; fully briefed on July 1, 2013; oral argument took place on February 3, 2015
  - **Brief Synopsis:** Ohio Power contests the Commission's decision to calculate deferred fuel carrying costs using long-term debt rate instead of weighted average carrying costs (WACC); Industrial Energy Users-Ohio contests the Commission's decision not to account for accumulated deferred income tax (ADIT) in calculating the deferral; OCC contests the Commission's decision not to reduce recovery of the fuel charges to refund customers for POLR charges.

- *In the Matter of the Commission Review of the Capacity Charges of Ohio Power Company and Columbus Southern Power Company*, Case Nos. 2012-2098 and 2013-228 (Appeal of Case No. 10-2929-EL-UNC)
  - **Case Status:** Notice of appeal filed on February 11, 2013; fully briefed on October 23, 2013; oral argument has not been scheduled.
  - **Brief Synopsis:** Appellants contest a Commission decision that set the capacity price which AEP Ohio charges competitive retail electric service providers.

- *In the Matter of the Application of Columbus Southern Power Company for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 2013-521 (Appeal of Case No. 11-346-EL-SSO, et al.)
  - **Case Status:** Notice of appeal filed on April 1, 2013; fully briefed on December 30, 2013; oral argument scheduled to take place May 19, 2015.
  - **Brief Synopsis:** Kroger, OCC, Industrial Energy Users-Ohio, and Ohio Energy Group appealed the Commission's order establishing AEP Ohio's second electric security plan.

- *In the Matter of the Application of Ohio Power Company for Approval of an Amendment to its Corporate Separation Plan*, Case No. 2013-1014 (Appeal of Case No. 12-1126-EL-UNC)
  - **Case Status:** Notice of appeal filed on June 24, 2013; fully briefed on December 23, 2013; oral argument not yet scheduled.
  - **Brief Synopsis:** Industrial Energy Users-Ohio challenges the order approving AEP Ohio's corporate separation plan.

Dayton Power and Light:

- *In the Matter of the Dayton Power and Light Company to Establish a Standard Service Offer in the Form of an Electric Security Plan*, Case No. 2014-1505 (Appeal of Case No. 12-426-EL-SSO)
    - **Case Status:** On October 14, 2014, OCC and IEU-Ohio filed a joint motion for stay of implementation of Rider SSR during the pendency of the appeal; DP&L filed a memorandum contra the joint motion on October 24, 2014. OCC and IEU-Ohio additionally filed a motion to dismiss certain assignments of error raised by DP&L in its cross-appeal on October 31, 2014; DP&L filed a memorandum contra the motion to dismiss on November 10, 2014. First and second briefs filed; third brief(s) forthcoming.
    - **Brief Synopsis:** DP&L, IEU-Ohio, and OCC appeal various components of the Commission's decision regarding DP&L's ESP.

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:** On August 13, 2014, OMA, OCC, Kroger, and Ohio Partners for Affordable Energy filed a joint brief addressing the appropriate amount of bond necessary to continue the stay. The brief argues that the bond amount should be zero or a *de minimis* amount. Duke also filed a brief addressing the amount of bond. Duke requested that bond be set at a minimum of $11,405,825. On November 5, 2014, the Supreme Court of Ohio ordered appellants, including OMA, to post bond in the amount of $2,506,295 within ten days in order to continue the stay; bond was not posted. On November 20, 2014, OMA, OCC, Kroger, and OPAE filed a motion to expedite the ruling on appeal; that motion was denied by the Supreme Court of Ohio on January 28, 2015.
    - **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.

FirstEnergy:

- *In the Matter 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 Section 4928.143, Revised Code, in the Form of an Electric Security Plan*, Case No. 2013-513 (Appeal of Case No. 12-1230-EL-SSO)
    - **Case Status:** Notice of appeal filed on March 29, 2013; fully briefed on September 27, 2013; oral argument has not been scheduled. Motion of Northeast Ohio Public Energy Council (NOPEC) to expedite oral argument was denied on October 8, 2014.

- **Brief Synopsis:** NOPEC and Environmental Law and Policy Center challenge the Commission's order establishing FirstEnergy's third electric security plan.

- *In the Matter of the Review of the Alternative Energy Rider Contained in the Tariffs of Ohio Edison Company, Toledo Edison Company, and The Cleveland Electric Illuminating Company*, Case No. 2013-2026 (Appeal of Case No. 11-5201-EL-RDR)
  - **Case Status:** Notice of appeal filed on December 24, 2013; briefing schedule stayed on March 21, 2014 to consider FirstEnergy's motion to seal confidential information; Court denied FirstEnergy's motion to seal on September 3, 2014. Briefing schedule resumed on September 3, 2014; parties filed second merit briefs on October 23, 2014, third merit briefs on December 4, 2014, and fourth merit briefs on December 24, 2014.
  - **Brief Synopsis:** FirstEnergy and OCC appeal a Commission order that disallowed recovery of FirstEnergy's costs of purchasing renewable energy credits; OCC and Environmental Law and Policy Center challenge the Commission's decision to treat certain information as confidential.

Statewide:

- *In the Matter of the Adoption of Rules for Alternative and Renewable Energy Technology, Resources, and Climate Regulations, and Review of Chapters 4901:5-1, 4901:5-3, 4901:5-5, and 4901:5-7 of the Ohio Administrative Code, Pursuant to Chapter 4928.66, Revised Code, as Amended by Substitute Senate Bill No. 221*, Case No. 2013-1472 (Appeal of Case No. 08-888-EL-ORD)
  - **Case Status:** Notice of appeal filed on September 16, 2013; fully briefed on February 21, 2014; oral argument has not been scheduled.
  - **Brief Synopsis:** FirstEnergy challenges the Commission's adoption of various rules regarding how electric distribution utilities meet Ohio's statutory renewable energy and energy efficiency benchmarks.

- *In the Matter of the Commission's Review of Chapter 4901:1-10, Ohio Administrative Code, Regarding Electric Companies*, Case No. 2014-1633 (Appeal of Case No. 12-2050-EL-ORD)
  - **Case Status:** FirstEnergy filed a notice of appeal on September 22, 2014; journal has been transmitted. Parties filed joint motion to stay the briefing schedule, which was subsequently granted on November 21, 2014 and extended again on January 29, 2015.
  - **Brief Synopsis:** FirstEnergy challenges the Commission's adoption of various rules governing net metering and compensation for the same.

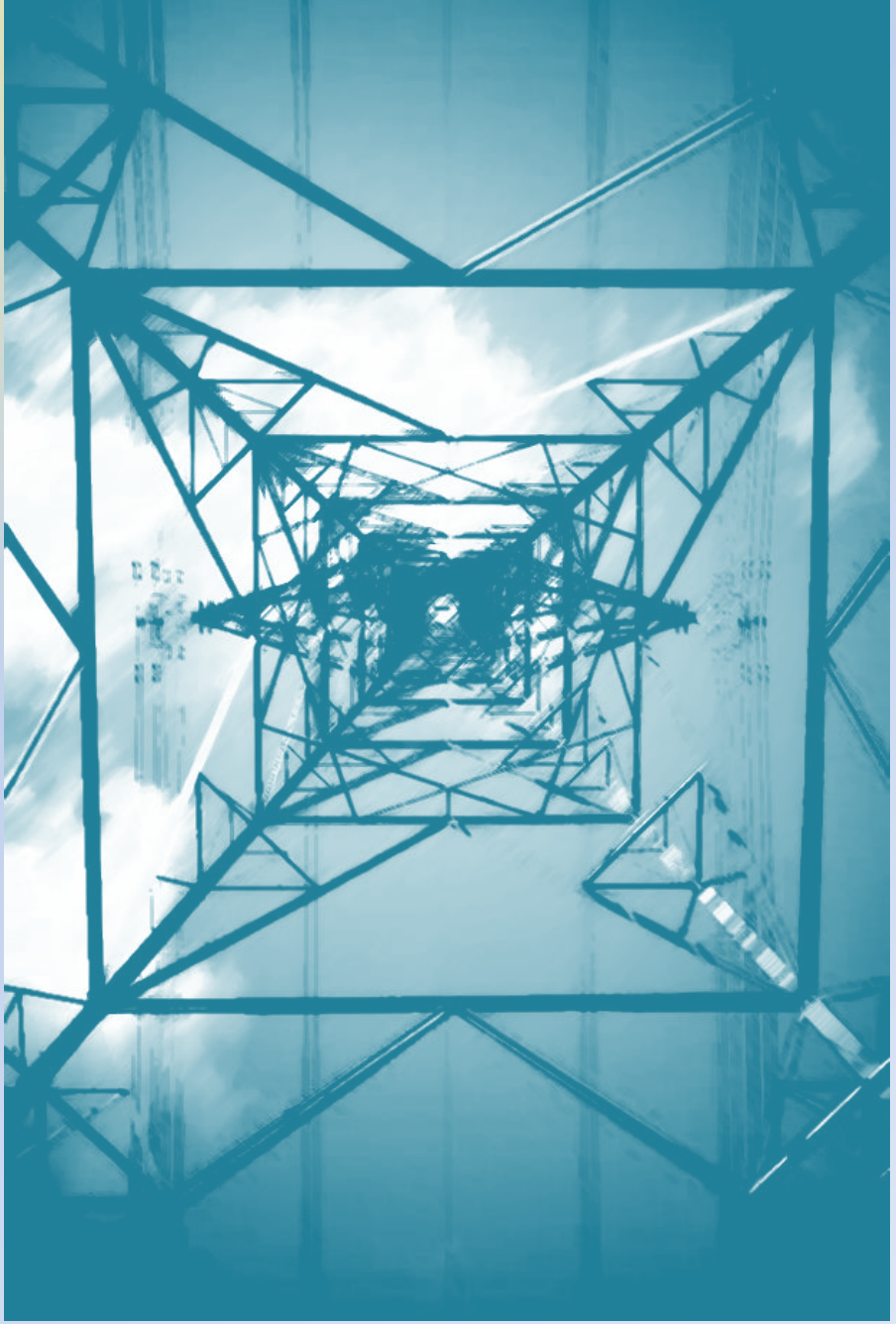
Maxine Goodman Levin College of Urban Affairs

Testimony of Edward W. "Ned" Hill

Before the Public Utility Commission of Ohio

First Energy Electric Security Plan

December 2014 and February 2015



Prepared by:

The Urban Center, Levin College,
Cleveland State University

Prepared for:

The Ohio Manufacturers' Association

February 2015

Key Points to Testimony

- Recent work in economic theory supports the strategy of deregulated generation markets coupled with a regulated distribution network as the optimal model for electricity.
- First Energy's electric security plan undermines the wholesale market for power by re-regulating underperforming assets and placing them into the deregulated market.
- Ohio's manufacturing base – especially those in energy intensive industries – will suffer disproportionately as a result of having to subsidize First Energy's underperforming assets.
- The PUCO is the wrong venue for FirstEnergy to pursue a government bailout of this nature and this magnitude.

On FirstEnergy's Electric Security Plan:

- "Such a Program, if implemented, would fundamentally distort the electricity wholesale energy markets. It would shift the risk of market failure from FirstEnergy's generation affiliate to FirstEnergy's distribution consumers…."
- "Ohio's energy-intensive industries are prominent parts of the state's economic base….FirstEnergy's Program would have significant negative effects on the manufacturing productivity of firms throughout these sectors."

On FirstEnergy's Stipulation and Recommendation:

- "FirstEnergy has constructed what economist Mancur Olson termed a 'redistributive coalition'….A redistributive coalition is a relatively small group that promotes policies for their mutual financial benefit. "
- "The large heterogeneous group that has to pay for this proposed policy is the commercial, industrial and residential ratepayers of Northern Ohio who are not members of the coalition. This is a very difficult and expensive group to organize for purposes of advocating its interests."

CSU Energy Policy Center

Thank you!

a.r.thomas99@csuohio.edu

To: OMA Energy Committee
From: Ryan Augsburger
Re: Energy Public Policy Report
Date: February 25, 2015

131st General Assembly Convenes
The two-year session of the General Assembly began in early January 2015. New faces will have impact on energy laws as Representative Tim Schaffer (R-Lancaster) becomes chair of the House Public Utilities Committee. Several other new faces join this committee (see attachment). There are fewer changes to report in the Ohio Senate Public Utilities Committee which will continue to be chaired by Senator Bill Seitz (R-Cincinnati). So far legislative activity has been eclipsed by the state budget which will be the focus until later in June.

Governor Kasich Appoints Porter
Following inaugural activities in early January, Governor John Kasich last week appointed Andre Porter to a seat on the Public Utilities Commission. Porter had been Director of the state department of commerce, a cabinet agency, fueling speculation that he may be elevated to Chair the PUCO at some time. Porter a former PUCO commissioner and utility law lawyer, takes the place of Steven Lesser.

Electricity Rates and Regulation
Significant utility rate cases are pending at PUCO. Distribution utilities have filed cases proposing power purchase agreements. The case is highly controversial and has been reported in the press. See OMA white paper. See counsel's report. See OMA Energy Group testimony filed by Dr. Edward Hill of Cleveland State University.

Federal Greenhouse Gas Regulations GHG and 111(d)
Comment period closed December 1 on proposed USEPA regulations of GHG emissions under the existing Clean Air Act. 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.

Natural Gas Infrastructure
The OMA has expressed support for Keystone XL nationally and more locally for the development of the Rover Pipeline. See attached OMA testimony delivered by Energy Committee Chair Brad Belden.

Capacity Prices
Capacity prices, a portion of an electricity bill, are set by three-year looking forward auctions at PJM, will increase beginning in summer of 2015, dramatically so in FirstEnergy service territory where the capacity charge will be significantly increased. Ask staff for an overview document.

As a result of the "polar vortex" of January 2014, PJM proposed revisions to their processes. This issue was discussed throughout 2014 within the OMA energy committee and the OMA filed comment with PJM early autumn, 2014.

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 met twice already in 2015 and had some substitutions. The committee is co-chaired by Senator Troy Balderson and Representative Kristina Roegner. Co-Chair Balderson indicated the committee would rely on testimony from utilities and regulators.

Manufactured Gas Plant Remediation Costs
For nearly two years, a few influential lawmakers have advanced a legislative proposal to revise a standard in utility law that would require customers to pay cost-recovery to utilities for remediation of obsolete manufactured gas plants.

OMA members were on guard against the proposal throughout 2014. It did not surface during the lame duck session but could be brought up at any time. Aside from a possible law change, a request for cost-recovery by Duke has been approved by the PUCO, even though the request seems to violate a state standard.

The OMA Energy Group 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 2015. Some customers were only recently notified even though the event occurred over one year ago. 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. Contact staff to learn more.

New Gas Rider Could Pay for Line Extensions (HB 319)
Late last year, House Bill 319 (Cheryl Grossman, R-Grove City) was enacted and would permit a natural gas company to establish a rider to fund gas infrastructure development. The OMA worked to maintain a balance between funding meaningful economic development and protecting customers from new costs.

Rep. Tim Schaffer To Chair House Public Utilities Committee

January 13, 2015

COLUMBUS -

Speaker of the Ohio House of Representatives Clifford A. Rosenberger (R-Clarksville) appointed Rep. Tim Schaffer (R-Lancaster) to serve as Chairman of the House Public Utilities Committee.

"I am humbled that Speaker Rosenberger has approached me to serve in this capacity," Schaffer said. "This is an exciting new opportunity to serve my constituents by working on public utilities issues, which is a subject area that greatly impacts all Ohioans. I look forward to working with Vice-Chair Kristina Daley Roegner, Ranking Member Mike Ashford, and the rest of our committee to craft strong public utility policy in order to make Ohio a better place to live, build a business, and raise a family."

Schaffer was sworn in to the Ohio House last week, after serving in the Ohio Senate for eight years, where he most recently served as the Chairman of the Senate Committee on Ways and Means. He previously served in the Ohio House from 2001 to 2006.

Schaffer represents the 77th District in Fairfield County, including Pickerington, Lancaster, Baltimore, Millersport, Pleasantville, Thurston, Rushville and West Rushville.

OHIO HOUSE OF REPRESENTATIVES

PUBLIC UTILITIES COMMITTEE

MEMBERS

 Tim Schaffer (R) Chair	 Kristina Roegner (R) Vice Chair	 Mike Ashford (D) Ranking Member
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 Kathleen Clyde (D)	 Margaret Conditt (R)	 Robert R. Cupp (R)
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David Hall (R)


Brian Hill (R)


Nathan H. Manning (R)


Sean O'Brien (D)


John M. Rogers (D)


Mark J. Romanchuk (R)


Scott Ryan (R)


Michael Sheehy (D)


Stephen Slesnick (D)


Kent Smith (D)

HB8 **OIL-GAS LAW** (HAGAN C, GINTER T) 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, and to specify that the discounted cash flow formula used to value certain producing oil and gas reserves for property tax purposes is the only method for valuing all oil and gas reserves.

Current Status: 2/25/2015 - House Energy and Natural Resources, (Second Hearing)

State Bill Page: https://www.legislature.ohio.gov/legislation/legislation-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 from remote sellers for income tax reductions, and to require the Director of Budget and Management to recommend whether or not income tax rates should be permanently reduced after the Director certifies a temporary rate reduction resulting from the accrual of money in the Income Tax Reduction Fund.

Current Status: 2/17/2015 - House Ways and Means, (Second Hearing)

State Bill Page: https://www.legislature.ohio.gov/legislation/legislation-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: 2/26/2015 - House Finance Subcommittee on Primary and Secondary Education, (Third Hearing)

State Bill Page: https://www.legislature.ohio.gov/legislation/legislation-summary?id=GA131-HB-64

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: 2/18/2015 - Introduced

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

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: https://www.legislature.ohio.gov/legislation/legislation-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: https://www.legislature.ohio.gov/legislation/legislation-

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: 2/18/2015 - Introduced

State Bill Page: https://www.legislature.ohio.gov/legislation/legislation-summary?id=GA131-SB-58

Energy

Energy Standards Study Continues

The Energy Mandates Study Committee, a legislative body created by SB 310 last session, last week heard testimony from Ohio EPA and the PUCO, primarily about state analyses of federal proposals to regulate power plant emissions.

The committee is charged with making recommendations by September 30. *2/12/2015*

A Perspective on Ohio's Energy Future

Michael Zimmer, Executive in Residence with the Voinovich School for Leadership and Public Affairs at Ohio University, shared perspectives on energy with the Governing Board of the Ohio Consumers' Counsel recently. Zimmer described how policy changes are stunting Ohio's transition to a competitive electricity marketplace and slowing technological advancement. *2/12/2015*

FirstEnergy Rate Case Delayed

At the request of staff of the Public Utilities Commission of Ohio (PUCO), a hearing officer extended the time for analysis and review of the pending FirstEnergy rate case by 37 days. Staff had asked for 45 days; FirstEnergy objected, and asked for no more than 30 days; the hearing officer split the difference.

Hearings on the case are to begin April 13. In the case FirstEnergy asks the PUCO to require customers to take on the financial risk of operation of two generating units that are, according to the company, "uneconomical" in the market. *2/5/2015*

A Shale-Based Manufacturing Renaissance

The American Shale & Manufacturing Partnership (ASMP), an informal group of organizations, held workshops across the country in 2013 and 2014 to examine the impact of abundant natural gas and oil due to shale development on U.S. manufacturing and to explore how to enhance the nation's global competitiveness.

The ASMP supports the premise of an "American manufacturing renaissance through responsible shale development." The resulting report, "Ideas to Empower America's Emerging Shale-Based Manufacturing Renaissance," suggests steps toward achieving the goal of a manufacturing renaissance. *2/5/2015*

AEP Announces Efficiency Program Changes, New Offerings

AEP is making several changes to its energy-efficiency programs that are of interest to manufacturers.

First, AEP is expanding its successful Continuous Energy Improvement (CEI) program for small and medium manufacturers. The CEI program pays incentives to manufacturers to reduce energy use through low-to-no cost improvements, at a rate of 2 cents/kWh saved per year for three years.

Second, AEP is capping custom and prescriptive rebates at $25,000 per project. Manufacturers with projects larger than this can continue to apply for a larger rebate, but must do so through the auction-based Bid4Efficiency program. Many manufacturing efficiency projects receive greater than a $25,000 rebate. To avoid the project rebate cap for your project, make sure to apply through the Bid4Efficiency program.

Lastly, AEP has partnered with Key Bank to offer financing for energy-efficiency projects. If you are interested in the CEI program, Bid4Efficiency, project financing, or just need advice on how to get started with your efficiency projects, contact OMA energy consultant John Seryak. *1/29/2015*

Energy Mandates Study Committee to Meet, Gets New Co-Chair

The Energy Mandates Study Committee created by S.B. 310 last session will meet on February 5. An updated committee membership list reflects the addition of Rep. Kristina Roegner (R-Hudson), whom Speaker Rosenberger has appointed as co-chair. *1/29/2015*

FirstEnergy Energy-Efficiency Program Update

FirstEnergy has suspended its energy-efficiency programs for 2015 and 2016 as provided for in S.B. 310. As a result, rebates for energy-efficiency projects are no longer available to FirstEnergy customers. However, customers will still be charged for the program via a rider unless they earn a rider exemption through the "Self-Direct" option (or exercise an opt-out option which is available only to very large "above-Primary voltage" electric service customers).

OMA urges manufacturers served by FirstEnergy to evaluate the Self-Direct out-out option to see if they qualify for a rider exemption.

Additionally, manufacturers can still receive incentives from PJM (the regional electric grid operator) for contributing their qualifying energy-efficiency projects to the capacity market through certain third party providers.

Contact OMA energy consultant John Seryak to see if your company can qualify for the FirstEnergy Self-Direct option, and to determine your eligibility for PJM capacity incentives. Self-Direct applications are available on FirstEnergy's website (see Mercantile Customer Program). Please use OMA administrator code 50941 when applying for the Self-Direct exemption. *1/21/2015*

Study Committee on Ohio's Energy Standards Prepares to Convene

This week the returning co-chair of the Energy Mandates Study Committee created by SB 310, Sen.Troy Balderson (R – Zanesville), in an interview with Gongwer News Service announced plans for upcoming hearings of the legislative panel.

The sponsor of SB 310, Balderson said he intends to dive into 111(d) - the U.S. EPA proposal under the Clean Air Act to regulate greenhouse gas emissions from power plants and other stationary sources - by inviting presentations from Ohio EPA and the Public Utilities Commission of Ohio. The agencies made public comment to the U.S. EPA in opposition to the proposal on behalf of the state of Ohio.

A formal committee announcement has not yet been issued nor has Speaker Rosenberger appointed a House co-chair of the study committee. *1/22/2015*

PUCO Submits Commissioner Candidates to Governor

The Public Utilities Commission of Ohio (PUCO) Nominating Council met this week to interview applicants for the position of commissioner of the PUCO to fill a five-year term commencing on April 11, 2015.

As a result, the Nominating Council submitted these four finalists to Gov. John Kasich for his consideration: John W. Honabarger, Lancaster; Steven D. Lesser, Bexley; Andre T. Porter, Gahanna: and Tom Waniewski, Toledo.

Gov. Kasich has 30 days to select a nominee or request a new list of names from the Nominating Council. The governor's appointment is subject to confirmation by the Ohio Senate.

The PUCO Nominating Council is a broad-based 12-member panel charged with screening candidates for the position of commissioner. *1/22/2015*

AARP Opposes Power Purchase Agreements

The PUCO is expected to rule soon on the first of several pending applications filed by distribution utility companies to gain approval to pass new costs to customers via 'power purchase agreement' (PPA) riders regardless of a customer's electric supplier.

Late last week the AARP announced its opposition to the proposals which they estimate will cost customers an addition $3 billion over the next 15 years. The AARP announcement condemns the proposal as, "contrary to the Ohio law that opened markets to competition 15 years ago." *1/15/2015*

Porter Pursuing PUCO Position

Andre Porter, Director of the Ohio Department of Commerce, recently applied for appointment to the 5-member Public Utilities Commission of Ohio (PUCO). Porter served as a PUCO commissioner prior to his appointment to the governor's cabinet.

He applies for the seat presently occupied by Steven Lesser who has applied for reappointment. Governor Kasich, who appoints commissioners, is expected to make his decision prior to the April 10 term expiration.

The Cleveland Plain Dealer details the sixteen candidates who have applied for the post. *1/15/2015*

Economist Hill Testifies for OMA in FirstEnergy Case

Dr. Edward W. Hill, Dean of the Maxine Goodman Levin College of Urban Affairs at Cleveland State University and Professor of Economic Development, testified on behalf of the OMA Energy Group in opposition to the FirstEnergy proposal to mandate purchases of power from its generation affiliate, FirstEnergy Solutions.

Hill stated: "FirstEnergy's Program and strategy to utilize a power purchase agreement seek a massive subsidy from state ratepayers to fund FirstEnergy's non-regulated subsidiary's aging and inefficient electric generating units. Such a Program, if implemented, would fundamentally distort the electricity wholesale energy markets. It would shift the risk of market failure from FirstEnergy's generation affiliate to FirstEnergy's distribution consumers – undermining the intent of the Ohio General Assembly when it restructured Ohio's electricity markets in 1999."

"FirstEnergy's Program strategy essentially provides FirstEnergy, and its affiliate, with a guaranteed return on its generating assets. The strategy directly undermines the competitive nature of the retail market for electricity in Ohio. It does this by introducing subsidized generation into both the energy and the capacity markets, thereby distorting those markets, and potentially driving lower cost generation out of the market," Hill said.

Hill noted the proposal would produce particularly harmful effects on energy-intensive manufacturers, upon which the Ohio economy relies. *1/7/2015*

AEP Ohio Considers Sale of Unregulated Power Plants

Following an industry trend in deregulated states, AEP Ohio this week announced it has hired Goldman Sachs to consider the sale of its unregulated generation fleet.

"AEP is among the publicly traded electric utilities that have raised concerns about the difficulty of owning power plants in Ohio's deregulated market. Unlike in many other states, power plants compete on an open market," according to a Columbus Dispatch story which also noted Duke Energy's recent sale of its unregulated plants.

Trade publication Utility Dive describes the moves as "abandoning the volatility of unregulated electricity markets and returning to their core business as rate-regulated utilities."

The potential affect on manufacturers as well as updates on all current energy issues affecting manufacturing will be on the agenda of the OMA Energy Committee on February 25. Register today. *1/7/2015*

PUCO Hears Oral Argument in AEP Power Purchase Agreement Case

This week, the Public Utilities Commission of Ohio (PUCO) held oral argument "for the limited purpose of enabling the Commission to clarify the legal and policy implications related to the AEP's proposed Power Purchase Agreement (PPA) rider."

Under this proposed PPA rider, AEP customers, rather than AEP shareholders, would assume the economic risk of operating several large generating units of the company for many years. Here is an executive summary of the case and an analysis of potential costs to manufacturers.

OMA energy counsel, Carpenter Lipps & Leland LLP offered opposing argument on behalf of the OMA Energy Group and drafted this summary of the proceeding.

Additional intervenors who presented arguments opposing Rider PPA included the Ohio Consumers' Counsel, Industrial Energy Users-Ohio, The Kroger Company, Ohio Partners for Affordable Energy/Appalachian Peace and Justice Network, the Retail Energy Supply Association, Exelon/Constellation New Energy, and the Environmental Law and Policy Center/Ohio Environmental Council. *12/18/2014*

PJM Announces Final Proposed Changes to Capacity Market

PJM this week announced final changes to it's Capacity Performance proposal, which would significantly overhaul electric capacity markets. It is PJM's second major revision of it's proposal in as many months. PJM's Capacity Performance initiative is rooted in generator performance issues during the 2014 polar vortex, during which 20% of PJM's electric generators failed.

Capacity prices, established by PJM markets, can range from 4% to 40% of a manufacturer's electric bill.

Capacity Performance will be transitioned in over a number of years, to be fully implemented for the 2020/21 delivery year.

Reversing a previous decision, PJM will continue to pay for Demand Response (DR) and Energy Efficiency (EE) resources in the near term. Inclusion of DR and EE in capacity markets lowers the price of capacity for all ratepayers, and produces revenue for participating manufacturers. Additional impacts are summarized in this memo from OMA energy consultant, RunnerStone.

The OMA Energy Group had submitted comments to PJM on its Capacity Performance proposal. A detailed report of PJM's proposal and the cost and reliability implications for manufacturers will be provided at the OMA Energy Committee meeting on February 25, 2015. Register here. *12/4/2014*

FERC Hearings on Rover Pipeline Continue

Federal regulators continued "scoping" meetings in Ohio this week to consider the planned Rover pipeline to be developed by Energy Transfer.

OMA Energy Committee Chairman Brad Belden delivered testimony in support of the new pipeline that will traverse Ohio to transport natural and gas liquids from the Utica and Marcellus shale plays.

Supportive companies are urged to file a letter of support. Contact OMA's Ryan Augsburger for information or assistance on how to participate in the comment process. *12/4/2014*

PUCO Sets Oral Argument in AEP Power Purchase Agreement Case

This week, the Public Utilities Commission of Ohio (PUCO) granted AEP's pending motion for oral argument "for the limited purpose of enabling the Commission to clarify the legal and policy implications related to the AEP's proposed Power Purchase Agreement (PPA) rider." Oral argument will take place following the PUCO meeting on December 17, 2014.

The PUCO's decision to grant AEP's oral argument request may signal that the commission has questions, is ensuring that due process has occurred for appellate purposes, or has not yet made a determination on AEP's request to establish a PPA rider to be paid for by customers.

Under this proposed PPA rider, AEP customers, rather than AEP shareholders, would assume the economic risk of operating several large generating units of the company for many years. *12/4/2014*

Michigan Energy Efficiency Standards Produce $4 Savings for $1 Invested

The Michigan Public Service Commission released a study that shows the state's energy efficiency standard (branded "Energy Optimization" there) produced almost $4 in savings for every dollar spent.

The report summarized its analysis: "Energy Optimization (EO) funding can be viewed as expenditures with a significant positive net-present-value (NPV) due to substantial reductions in the future utility cost-of-service resulting from energy savings. Aggregate Michigan EO program expenditures of $253 million by all natural gas and electric utilities in 2013, are expected to result in lifecycle savings to customers of approximately $948 million on a NPV basis. This means that for every dollar spent on EO programs in 2013, customers should expect to realize utility cost-of-service benefits of $3.75."

In a similar finding to studies in other jurisdictions (such as Indiana recently), the report indicates: "(T)he EO program benefits will potentially reduce future costs of service to all utility customers, whether or not those customers made energy efficiency improvements through a utility efficiency program." *12/1/2014*

RUNNERSTONE
INFORMATION IS POWER

CUSTOMER-SITED RESOURCES REPORT

ENERGY COMMITTEE – FEB, 2015

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:

Energy Efficiency

Combined Heat & Power / Waste Energy Recovery

Demand Response

Distributed Renewables & Storage

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

CUSTOMER-SITED RESOURCES

RUNNERSTONE
INFORMATION IS POWER

Utility	Efficiency Programs in 2015- 16	Opt-Out Available	Updates
AEP	Yes	No	Recruiting 70+ manufacturers for Continuous Energy Improvement
DP&L	Yes	No	CHP Pilot developing
Duke	Yes	No	Self-direct exemption should be evaluated in lieu of rebate
FirstEnergy	None	Yes	Rider persists, we recommend – Opt-out for above-primary customers - Self-direct exemption for secondary, primary
Municipals	Varied	No	27 communities in Efficiency Smart http://www.efficiencysmart.org/communities + Westerville, Cuyahoga Falls city run programs
Cooperatives	Minimal	No	

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

RUNNERSTONE
INFORMATION IS POWER

- **Rebate cap** - All rebates are capped at $25,000 per project
  - Must enter project into Bid4Efficiency program to receive greater than $25k /project. Bid4Efficiency auctions incentive levels.

- **Low-cost/No-cost** - New round of Continuous Energy Improvement program open
  - Receive $0.02 /kWh saved each year for 3 years; receive coaching and energy saving measurement models

- **Financing** - Available for projects with implementation costs over $10,000

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

RUNNERSTONE
INFORMATION IS POWER

- All efficiency programs suspended for '15 – '16
- Collection still continuing
- Recommendation
  - Subtran, Transmission - Consider opting-out; lasts for 3 years
  - Secondary, Primary - Utilize self-direct mercantile exemption
    - Required to show 1% savings/year

		July-Dec 2014	Jan - June 2015	Percent of Previous
Utility	Tariff	$/kWh	$/kWh	Rider
Ohio Edison	General Secondary	$ 0.002170	$0.002142	99%
	General Primary	$ 0.001491	$0.003599	241%
	GSU	$ 0.002519	$0.001979	79%
	Transmission	$ 0.001966	$0.002389	122%
Toledo Edison	General Secondary	$ 0.002734	$0.001649	60%
	General Primary	$ 0.002713	$0.002160	80%
	GSU	$(0.002589)	$0.000585	-23%
	Transmission	$ 0.002151	$0.001632	76%
Cleveland Electric Illuminating	General Secondary	$ 0.002319	$0.002055	89%
	General Primary	$ 0.001258	$0.003901	310%
	GSU	$ 0.001517	$0.001563	103%
	Transmission	$ 0.000396	$0.002883	728%

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- **Payments available** - PJM payments for energy-efficiency capacity available to all manufacturers; money on the table if you complete an efficiency project
- **Lowers electricity price** - Suppresses price of capacity
- **Tires kicked** - 3rd party companies have taken positions in PJM market, have capacity to pay out on; not difficult if working with knowledgeable parties
- **All can participate** - Especially important for manufacturers with no access to utility-operated energy-efficiency programs

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

ENERGY EFFICIENCY - PJM

- Please consider attending the March meeting of OMA's Energy-Efficiency Peer Network
  - http://www.ohiomfg.com/omas-chpweree-work-group/

- **Next meeting - March 25th webinar, 10 am – 11 am**
  - Topic is Demand Response

- Energy Efficiency Peer Network
  - Plant tours
  - Peer learning
  - DIY tools
  - Technical assistance (10 companies received assistance last year)
  - Webinars

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

RUNNERSTONE
INFORMATION IS POWER

- DP&L is planning a combined heat & power (CHP) pilot program
  - A workshop for manufacturers and other consumers is being developed
  - Taking input on incentive design

- Four new CHP projects in Ohio, learn about implications at the Energy Group
  - Jay Industries
  - Solvay
  - Kraton Polymers
  - Dublin Rec. Center

Questions?
jseryak@gosustainableenergy.com
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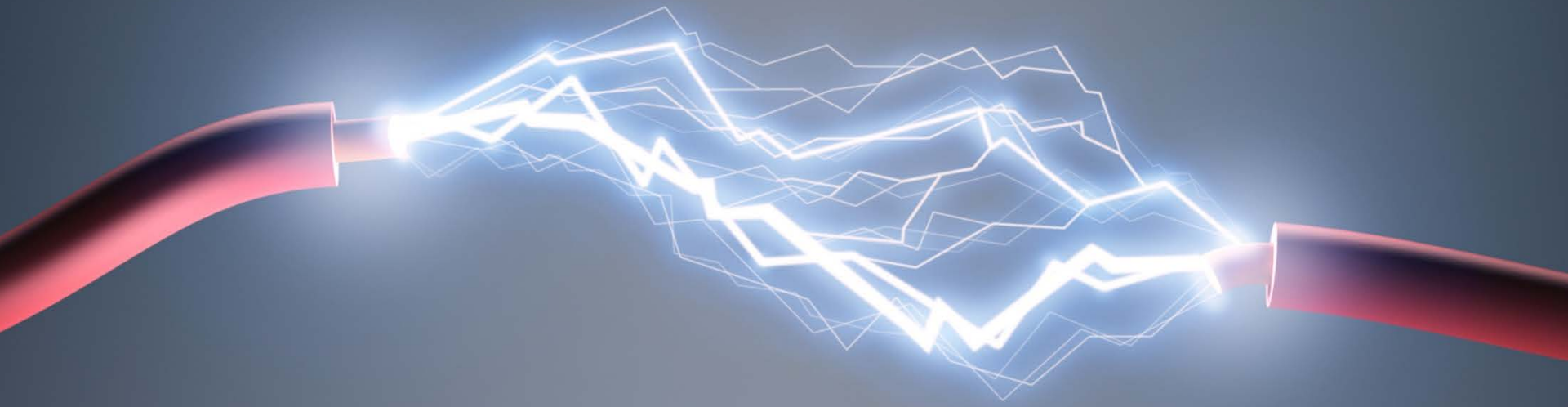
COMBINED HEAT & POWER

Key Findings from a Survey of The Ohio Manufacturers' Association



Teresa Myers, PhD

Center for Climate Change Communication

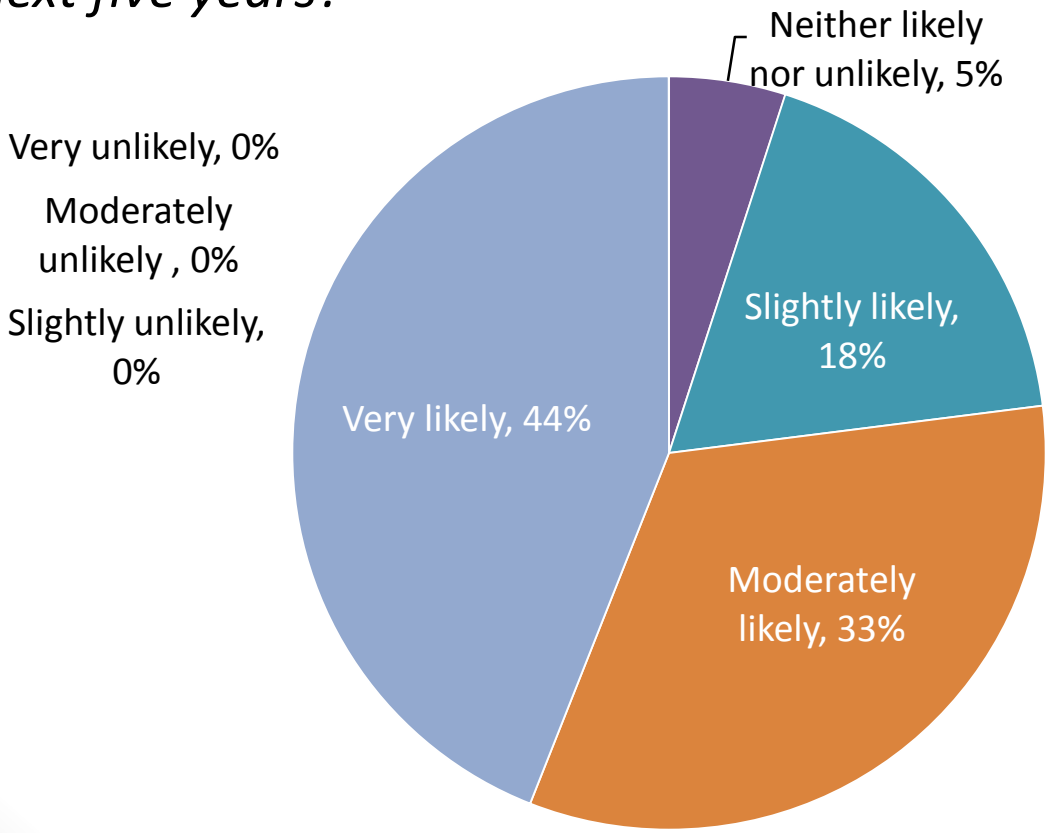
George Mason University

Overview of Study

- Survey was conducted online, and e-mailed to 805 members of The Ohio Manufacturers' Association
- Conducted from September 22nd to October 17th, 2014
- 120 individuals, from 100 companies participated
- Consisted of approximately 50 questions and took about 20 minutes to complete

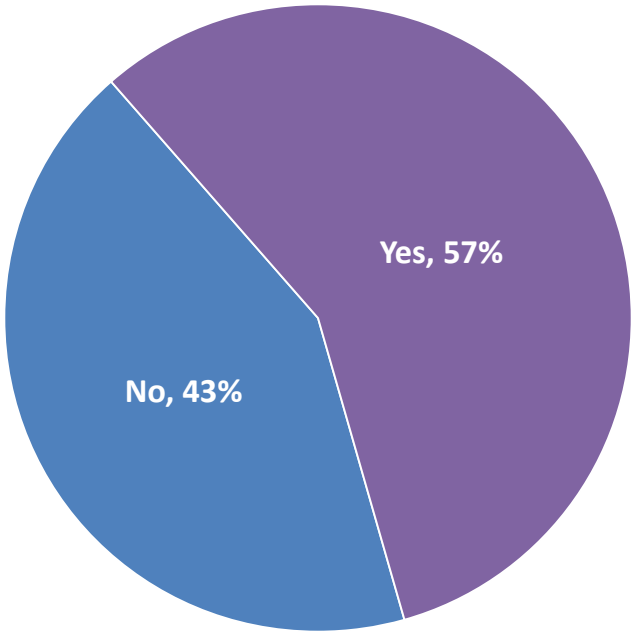
Virtually all of the manufacturing companies in Ohio (>95%) are striving to become more efficient in their use of energy

- *What is the likelihood that your company will improve the energy efficiency of your Ohio facilities or processes within the next five years?*

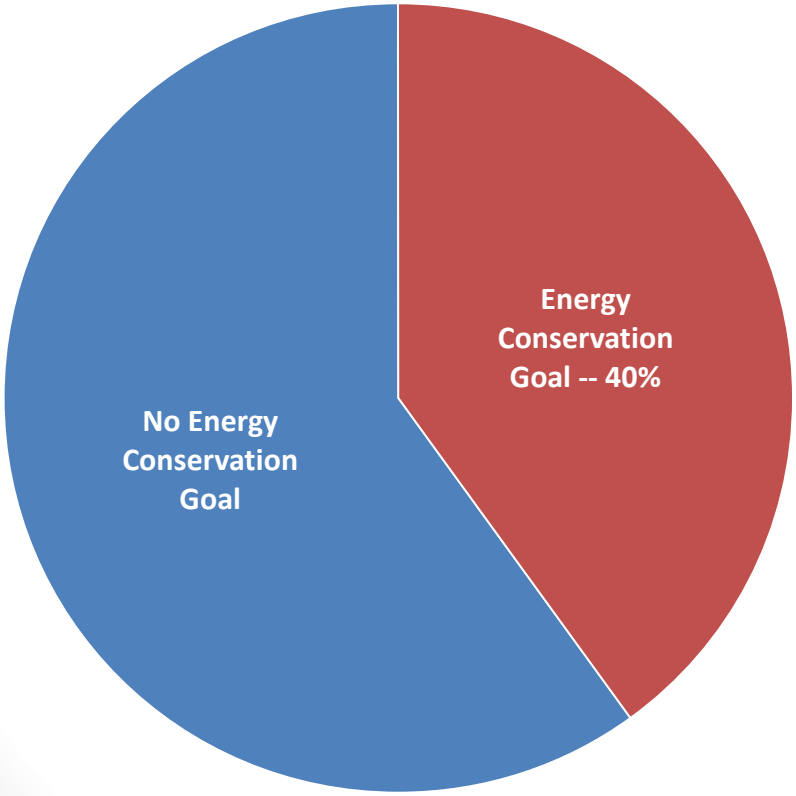


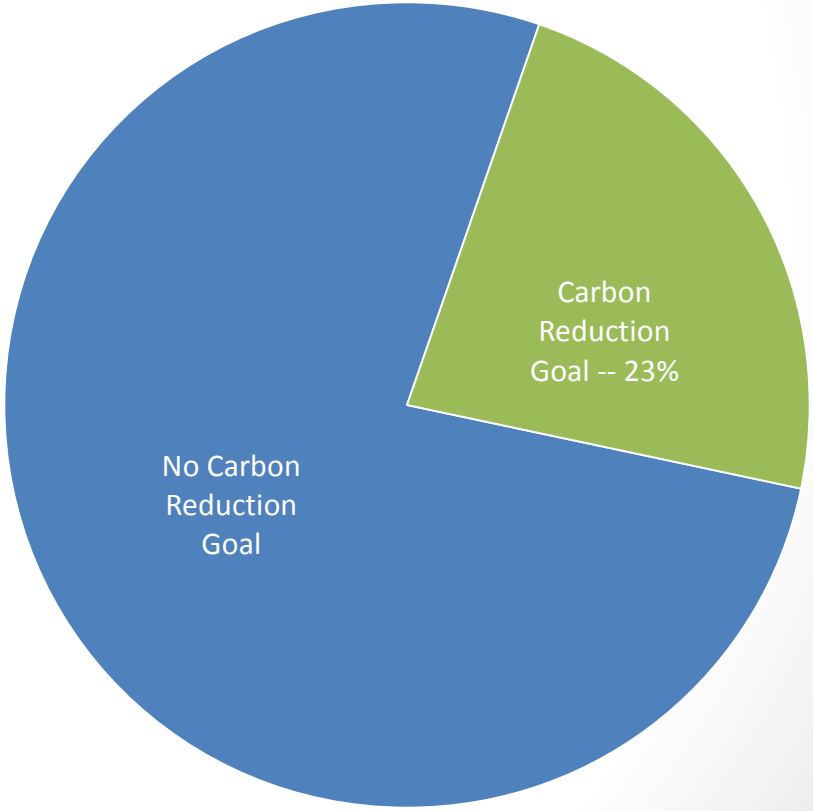
Nearly 6 in 10 have made gains in energy efficiency over the past five years …

- *Over the past 5 years, has your company made energy efficiency improvements to reduce the risks associated with its energy supply and/or uncertainty about energy costs in Ohio?*

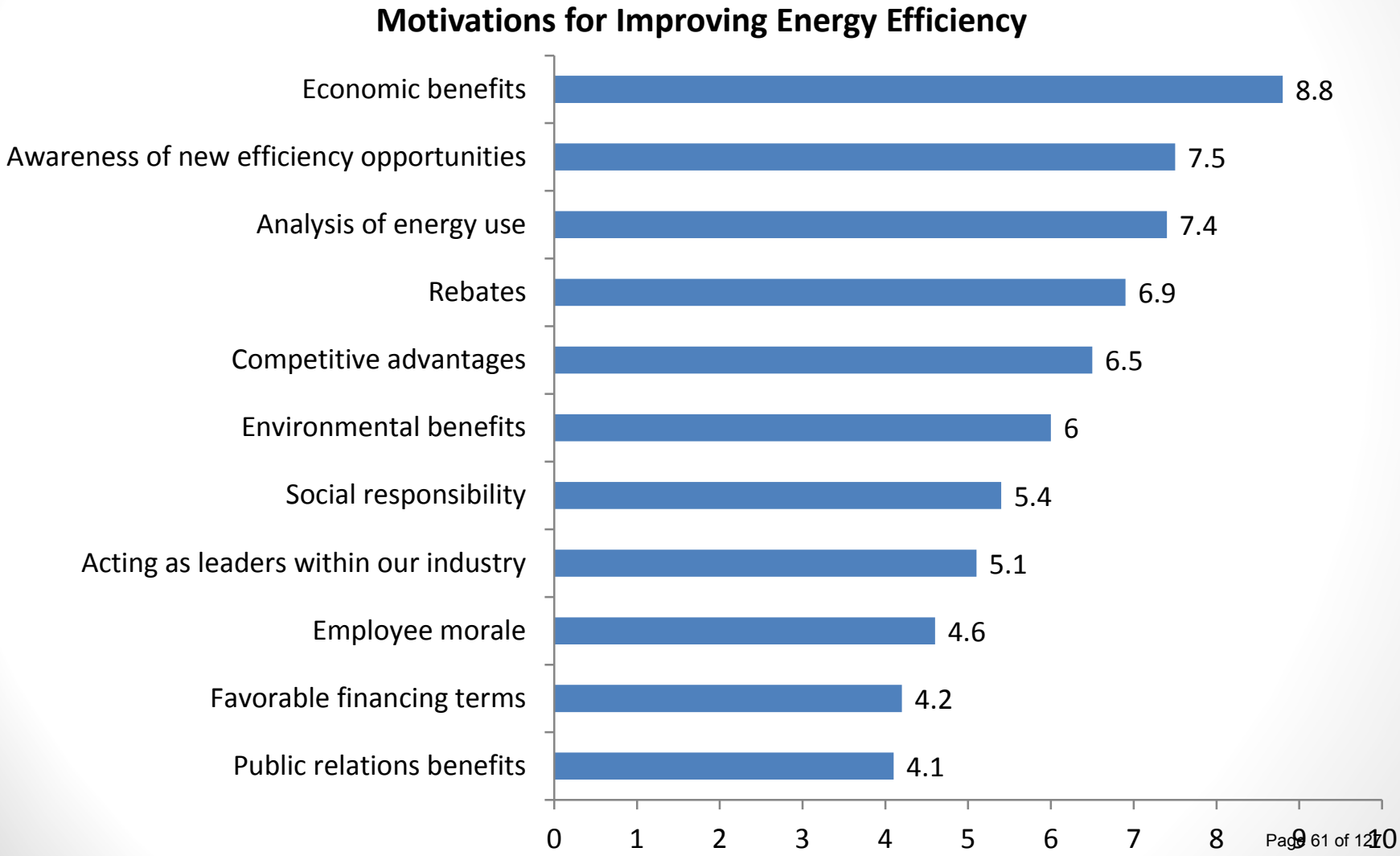


…including substantial numbers of companies with energy and carbon reduction goals



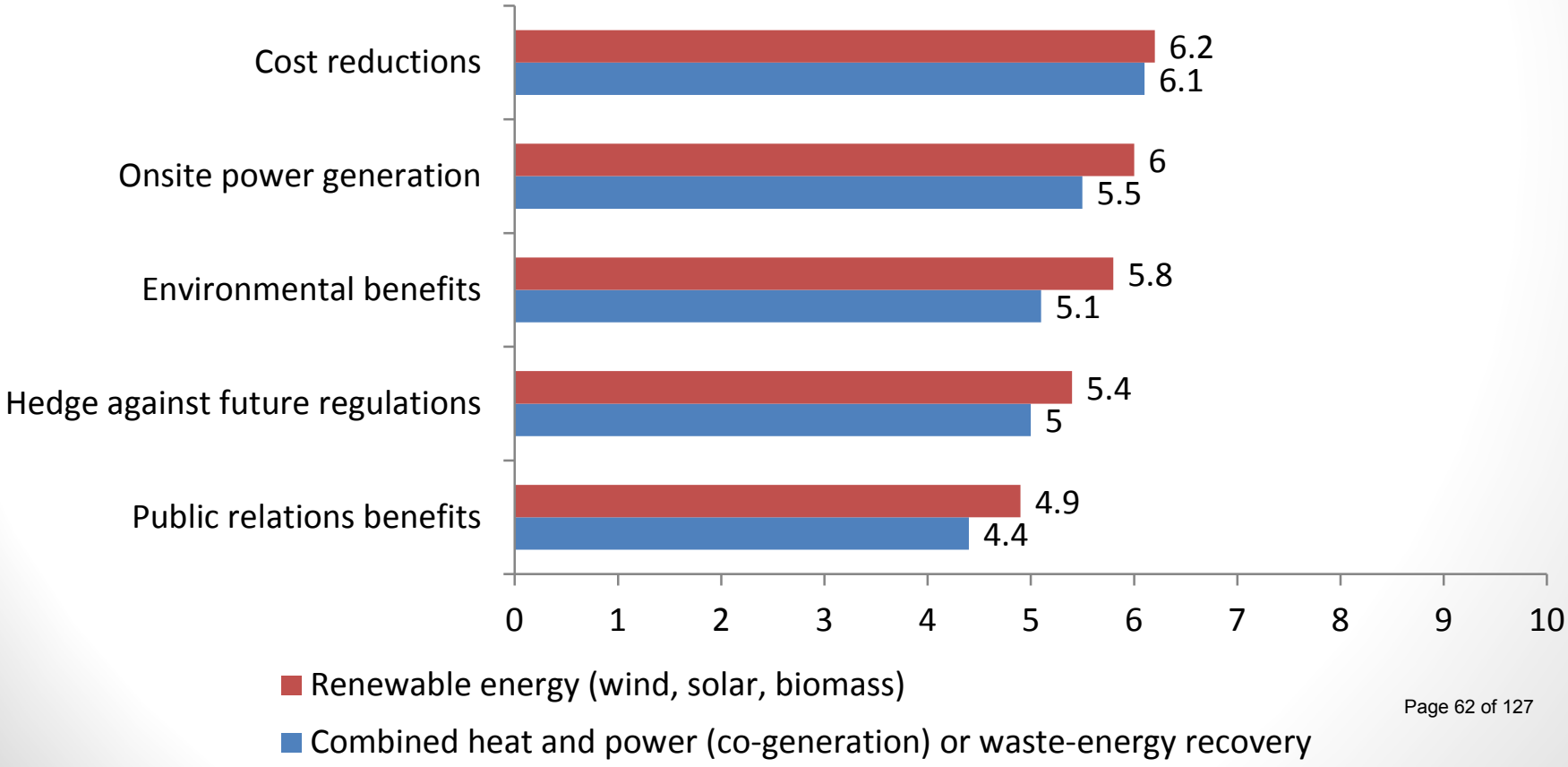


Ohio's manufacturers seek to reduce their energy use for many reasons



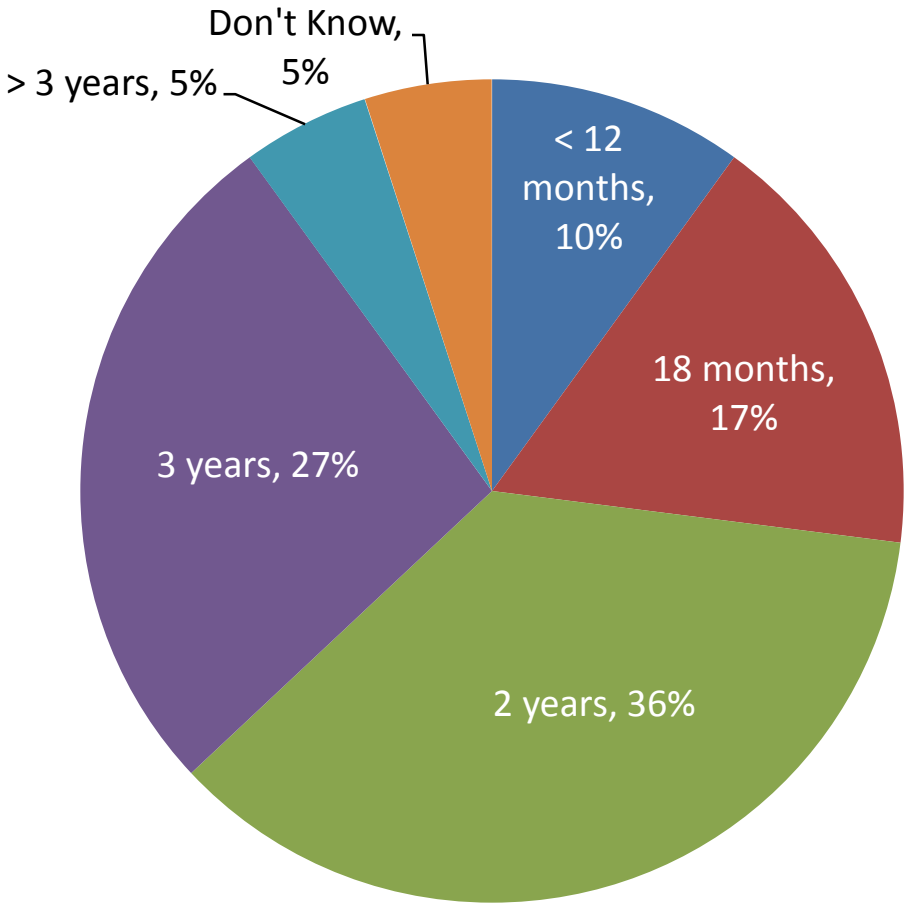
Many companies are potentially interested in producing renewable energy onsite…

- *To what extent are each of the following a benefit of adopting [combined heat & power (co-generation) or waste-energy recovery; renewable energy (wind, solar, biomass)] in your company?*



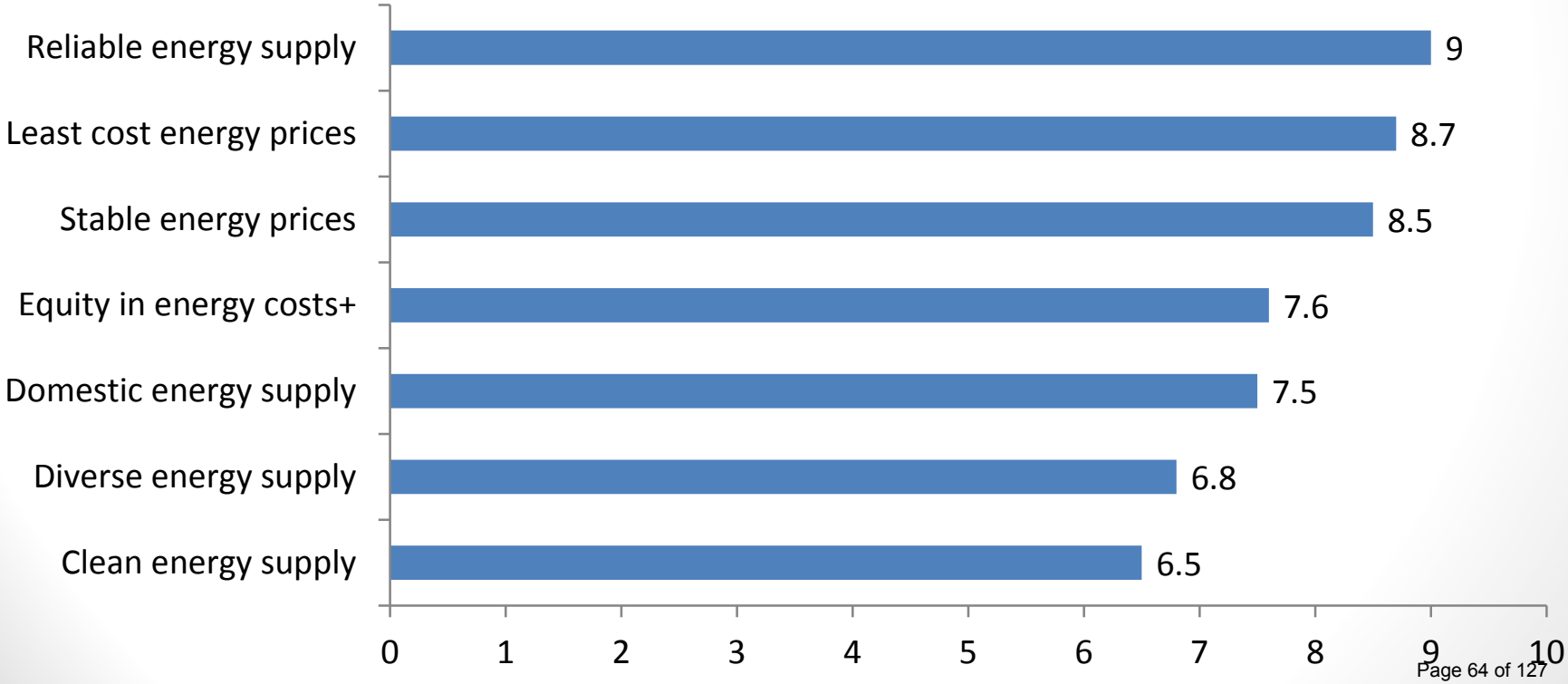
…but the upfront costs associated with doing so pose a major barrier

- *How quickly must energy investments have a positive return before the company would be willing to make the investment?*



Ohio manufacturer's top priority is for policies that will lead to reliable supplies and low, stable prices….

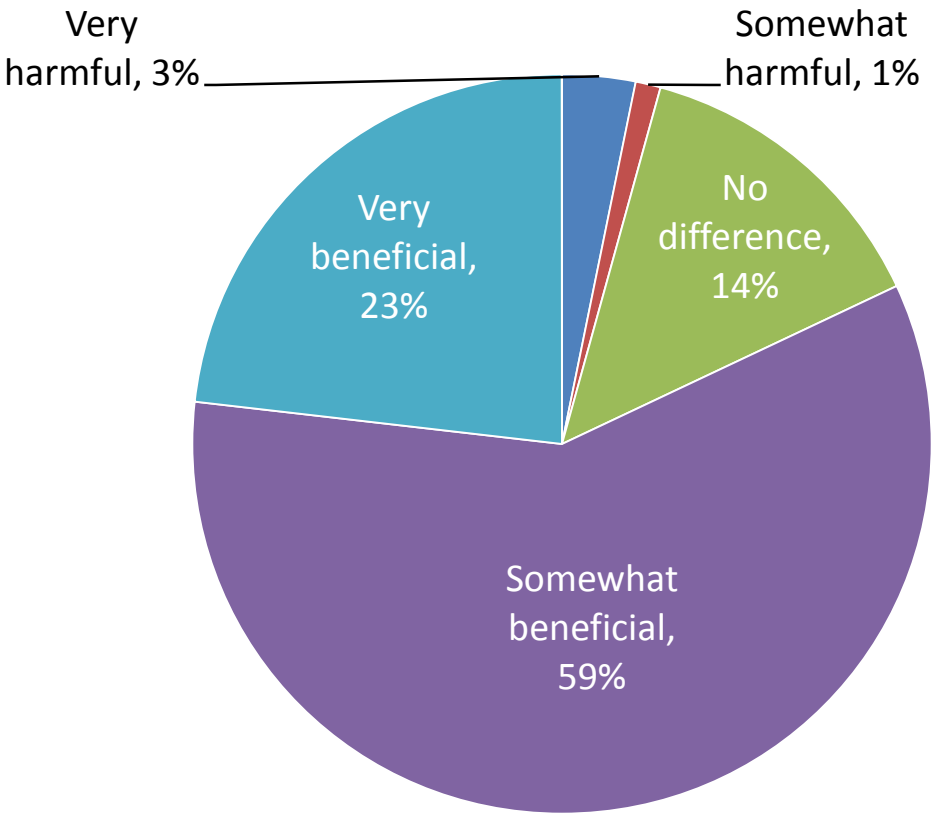
- *Please indicate how important you believe each of the following organizing priorities are for Ohio manufacturers in regard to energy policy.*



+Equity in energy costs (ex., fair pricing between consumer and rate classes)

…and nearly all manufacturers also support tax credits for companies that install energy-efficient equipment.

- *How beneficial or harmful do you think providing tax credits for the installation of high efficiency equipment by companies would be for your company?*



Key Findings

- Virtually all of the manufacturing companies (>95%) in Ohio are striving to become more efficient in their use of energy.
- Nearly 6 in 10 have made gains in energy efficiency over the past five years - including substantial numbers of companies with energy and carbon reduction goals.
- Ohio's manufacturers seek to reduce their energy use for many reasons.
- Many companies are potentially interested in producing renewable energy onsite, but the upfront costs associated with doing so pose a major barrier. If the investments don't pay for themselves within 2 to 3 years, few companies feel they can justify them.
- Regarding government policies, Ohio manufacturer's top priority is for policies that will lead to reliable supplies and low, stable prices. Nearly all manufacturers also support tax credits for companies that install energy-efficient equipment.

Questions or Comments?

ENERGY AND OHIO'S MANUFACTURERS: RISKS, OPPORTUNITIES & POLICY PREFERENCES

A SURVEY OF MEMBERS OF THE OHIO MANUFACTURERS' ASSOCIATION

CONDUCTED BY
THE CENTER FOR CLIMATE CHANGE COMMUNICATION
GEORGE MASON UNIVERSITY

FOR
THE ENERGY FOUNDATION
&
THE OHIO MANUFACTURERS' ASSOCIATION

Table of Contents

OVERVIEW

In September and October of 2014, 805 members of the Ohio Manufacturers' Association were surveyed to assess their views on their energy needs, renewable energy, and their preferences for energy policies at the state and national level. A total of 120 people responded to the survey, from 100 companies, representing a 15% response rate. The key findings are reported below.

Principal Investigators:

Teresa Myers, PhD, Assistant Research Professor

Connie Roser-Renouf, PhD, Associate Research Professor

Edward Maibach, MPH, PhD, Director and University Professor

Center for Climate Change Communication

Department of Communication

George Mason University

Cite as: Myers, T., Roser-Renouf, C., & Maibach, E. (2015). *Energy and Ohio's manufacturers: Risks, opportunities & policy preferences.* George Mason University. Fairfax, VA: Center for Climate Change Communication.

KEY FINDINGS

Risk Management

- A large majority of respondents say that uncertainty about energy costs makes planning difficult for their companies. They say their companies are very concerned about volatility in their energy costs and price increases.
- Half or more of respondents view extreme weather as a threat to the electricity system and to transportation, roads, and bridges. Electrical outages are not currently a major problem for most respondents' companies, although more than one quarter (28%) have experienced outages every few months.
- Two-thirds of respondents' companies have made changes over the past five years to reduce energy risks; over half made energy efficiency improvements (57%) and 40 percent signed long-term energy contracts. The most commonly cited reasons are economic benefits, awareness of new efficiency opportunities, energy use analysis, and rebates; environmental benefits are also commonly cited.
-

Energy Opportunities

- Ninety-five percent of the companies represented in the survey are likely to make efficiency improvements over the coming five years.
- Respondents do not view onsite energy generation as viable for their companies. They say the most viable option would be backup generators and the least viable would be hydroelectricity.
- Respondents see many barriers to the adoption of wind, solar, or biomass energy generation; a lengthy payback time frame and high initial costs are the most cited barriers to adoption.
- The barriers to co-generation and waste energy recovery are not as high as those impeding renewable energy adoption, but they are still substantive. The initial costs and lengthy payback time frame are again the largest barriers.
- Cost reductions, environmental benefits, and onsite power generation are the top benefits expected from the adoption of renewable energy, co-generation and waste-energy recovery. Public relations benefits are viewed as least likely.
- Close to two-thirds of respondents (63%) say that energy investments must have a positive return in two years or less. Over a quarter (27%) are willing to wait three years for positive returns, but only five percent are willing to wait longer than that.
- Forty percent of respondents say their company has an energy conservation goal. The primary motivation for this goal is to reduce the company's energy costs, but environmental benefits are also an important motivation.

- Close to a quarter of the respondents' companies (23%) have a carbon reduction goal. The primary motivation for these programs is the environmental benefit they provide.
- Respondents' impressions of companies that are moving to sustainable energy sources are largely positive. While sixty percent (62%) say that these companies are trying to make a good impression on the public, few respondents believe they are being financially irresponsible or unwise. Over a third believe these companies are admirable, and two-thirds say they are being environmentally responsible. A third believe these companies are profitable, and half believe these companies are making investments that will result in cost reductions in the future.

Policy Options

- Respondents' top priorities are energy policies that lead to reliable and inexpensive energy with stable prices.
- Eighty-two percent of respondents say that tax credits for companies that install high efficiency equipment would be very beneficial for their company.
- Three-quarters of respondents say that offshore drilling would benefit them, and about sixty percent favor tax credits for construction of new nuclear power plants.
- Two-thirds of respondents believe that shareholders should pay for environmental remediation of old utility assets, and that utility shareholders should bear the costs of energy price spikes caused by extreme weather.
- Over 60 percent of respondents (63%) believe that allowing competitive energy efficiency programs would create consistent and low energy costs
- Half of respondents say that electric grid operators should recognize distributed power generation as a capacity resource for capacity and transmission planning.
- Opposition to both a carbon tax and a national cap-and-trade program is high: Majorities say a carbon tax or a cap-and-trade program would be harmful. Regulation of CO2 as a pollutant is also viewed very negatively, with 68 percent of respondents saying it would be harmful to their company.

Key Contacts and Energy Community Respondents

Two groups of people were included in this survey: "Key Contacts" and participants in the OMA "Energy Community." *Key Contacts* are the lead person designated by OMA member companies to interact with OMA (one contact per company). *Energy Community* participants are people from member companies that OMA has identified as being interested in energy (as indicated by attending OMA-sponsored workshops on energy, requesting information from OMA on the topic, etc); each member company can have multiple people in the *Energy Community*. **As such, the *Key Contacts* results can be interpreted as representative of OMA members as a whole, while the *Energy Community* results can be interpreted as representing this OMA group with special interest in energy.**

Differences between the *Energy Community* respondents and the *Key Contacts* were apparent throughout the survey. As compared to the *Key Contacts*, *Energy Community* members reported:

- Greater concern at their companies about energy supply disruptions and perceptions of greater threat to the electricity system from extreme weather;
- Fewer power outages, and more reductions in power outages over the past five years;
- More changes made by their company to reduce risks to their energy supplies and costs;
- Stronger social responsibility and environmental motivations for their companies' efficiency improvements;
- Higher likelihood of making energy efficiency improvements in the next five years;
- Higher perceived viability of onsite energy generation and renewable energy (although the options are still not seen as being highly viable);
- Greater perceived benefits and fewer perceived barriers to the adoption of renewable energy, co-generation, and waste-energy recovery;
- Greater likelihood of having company goals to reduce energy reduction and/or carbon emissions; and greater likelihood of reporting that these goals are motivated by their environmental benefits, public relations value, and cost savings;
- Greater belief that companies moving to renewable energy are innovative, making investments that will save money in the future, admirable, profitable, and protecting themselves against risks;

PART I: RISK MANAGEMENT

Perceptions of the Risks and Uncertainties of Energy Availability and Costs

A large majority of respondents say that uncertainty about energy costs makes planning difficult for their companies.

"Uncertainty about energy costs makes it difficult for my company to plan ahead."				
Response Scale		All Respondents	Key Contacts	Energy Community
Strongly Agree	*+4*	6%	4%	6%
	+3	18%	16%	15%
	+2	25%	23%	25%
	+1	24%	21%	26%
Neutral or Don't Know	*0*	10%	9%	9%
	-1	8%	7%	9%
	-2	7%	11%	6%
	-3	3%	0%	4%
Strongly Disagree	*-4*	0%	0%	0%
Average		1.2	1.1	1.1
Standard Deviation		1.7	1.7	1.7
N		107	57	80

* Due to rounding, percentage columns may not total to 100%.

Close to three-quarters of respondents (72%) agree that planning ahead is more difficult for their company, due to uncertainty about energy costs. Close to a quarter (24%) agree strongly that uncertainty makes planning difficult, selecting "+3" or "+4" on the response scale, compared to 3 percent who strongly disagree, choosing "-3" or "-4," indicating strong disagreement.

Sources of Uncertainty

Manufacturers in Ohio are concerned about several uncertainties in their energy availability and costs, but they are particularly concerned about energy cost increases due to government policies, and the volatility of energy prices.

Concern about energy supply disruptions due to extreme weather and supply chain disruptions due to energy availability are both slightly above the middle of the scale, indicating some – but not strong – concern.

[On a 0 to 10 scale*] How concerned is your company currently about…									
	All Respondents			**Key Contacts**			**Energy Community**		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Energy cost increases due to government policies	**7.8**	2.1	120	**7.7**	2.1	57	**7.7**	2.1	92
Volatility of energy prices	**7.1**	2.2	120	**6.9**	2.1	57	**7.2**	2.2	92
Energy supply disruption due to energy availability	**5.9**	2.4	119	**5.5**	2.4	56	**6.0**	2.6	92
Supply chain disruption due to energy availability	**5.3**	2.5	119	**5.1**	2.4	56	**5.3**	2.6	91

* 0 (Not at all concerned) – 10 (Extremely concerned)

Respondents from the Energy Community express higher concern than Key Contacts about energy supply disruptions due to energy availability; they are also slightly more concerned about price volatility and supply chain disruptions.

Perceptions of the Threat of Extreme Weather to Systems & Infrastructure

Over the next five years, manufacturers in Ohio perceive a moderate degree of threat from extreme weather to the electricity and transportation systems, and lower levels of threat to water availability or quality.

[On a 0 to 10 scale*] In your opinion, over the next 5 years, how much of a threat does extreme weather pose to the following systems in the communities where you operate in Ohio?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
The electricity system	**5.9**	2.2	120	**5.6**	2.1	57	**5.9**	2.2	92
Transportation, roads, & bridges	**5.5**	2.2	120	**5.6**	2.2	57	**5.5**	2.2	92
Water availability	**3.8**	2.3	120	**3.5**	2.2	57	**3.9**	2.3	92
Water quality	**3.9**	2.4	120	**3.7**	2.3	57	**4.0**	2.3	92

* 0 (No threat at all) – 10 (Very high threat)

Respondents from the Energy Community are more likely than Key Contacts to see extreme weather as a greater threat to the electricity system, to water availability, and to quality.

Power Outages

Over the past five years, more than two-thirds of respondents experienced a power outage no more than once a year (69%), and most respondents (64%) say that this frequency has not increased (or decreased) relative to the past. A minority experienced frequent outages and an increase in their occurrence. Conversely, close to a quarter (22%) report fewer outages over the past five years than in the past.

Approximately how frequently have significant power outages occurred during the past 5 years?			
	All Respondents	Key Contacts	Energy Community
Less than once per year	31%	27%	38%
About once per year	38%	39%	36%
Several times per year	28%	30%	23%
Every month or two	3%	4%	3%
N	*120*	*56*	*88*

Key Contacts report more frequent power outages than members of the Energy Community: 30 percent experience outages several times a year, compared to 23 percent within the Energy Community. Twenty percent of Energy Community respondents say power outages at their facilities have decreased over the past five year, compared to 14 percent of the Key Contacts, who say their facilities have seen outage decreases.

Over the past 5 years have power outages in your Ohio facilities been happening...			
	All Respondents	Key Contacts	Energy Community
Much less often	4%	2%	4%
Less often	18%	14%	20%
About the same as previously	64%	71%	63%
More often	12%	11%	12%
Much more often	2%	2%	2%
N	*120*	*56*	*86*

* Due to rounding, percentage columns may not total to 100%.

Company Responses to Energy Supply Risks and Uncertainties

Over the past five years, two-thirds of all respondents' companies have made changes to reduce energy risks. Over half made energy efficiency improvements (57%) and 40 percent signed long-term energy contracts.

Over the past 5 years, has your company made any changes to reduce the risks associated with its energy supply and/or uncertainty about energy costs in Ohio? What changes has your company made (check all that apply)

		All Respondents		Key Contacts		Energy Community	
		Percent	Type of Change	Percent	Type of Change	Percent	Type of Change
Yes		66%		64%		66%	
	• Energy efficiency improvements		57%		58%		55%
	• Long-term energy contracts		40%		37%		44%
	• Demand response		28%		23%		33%
	• Hedged energy contracts		20%		12%		21%
	• On-site electrical generation (e.g., combined heat & power, renewable energy)		10%		11%		11%
DK		4%	1%	2%	0%	6%	1%
No		30%		34%		29%	
N		*120*	*76*	*57*	*36*	*92*	*56*

The companies of Energy Community members are more likely to have made several changes that reduce the risks to their energy supplies, including long-term contracts, demand response and hedged energy contracts. Key Contacts' companies are slightly more likely to have made energy efficiency improvements.

Number of changes made			
	All Respondents	Key Contacts	Energy Community
1	9%	19%	11%
2	18%	39%	25%
3	25%	36%	44%
4	8%	6%	16%
5	2%	0%	4%
Average	*2.6*	*2.3*	*2.8*
Std. Deviation	*1.0*	*0.8*	*1.0*
N	*75*	*36*	*56*

On average, all respondents who made changes indicated that they had made 2.6 of the listed changes. Energy Community respondents report more changes than Key Contacts do.

Factors Motivating Energy Efficiency Improvements

Respondents say a number of factors were important in their companies' decision to make energy efficiency improvements (*see next page*). The factors cited as most important were economic benefits, awareness of new efficiency opportunities, and an analysis of their energy use. Other factors cited as important (defined as scoring six or higher on the 11 point scale) are rebates, competitive advantage, and environmental benefits.

Compared to Key Contacts, Energy Community members give slightly higher importance ratings to factors that received lower ratings, including environmental benefits, social responsibility, public relations benefits, favorable financing terms, and acting as leaders within their industry.

[On a scale of 0 to 10*] Over the past 5 years, has your company improved the energy efficiency of your Ohio facilities or processes? How important were each of the following factors in your company's decision to improve its energy efficiency in Ohio?										
		All Respondents			Key Contacts			Energy Community		
	Motivations	%	**Avg**	S.D.	%	**Avg**	S.D.	%	**Avg**	S.D.
Factors Motivating Improvements		96%			96%			98%		
	• Economic benefits		**8.8**	1.3		**8.8**	1.4		**8.9**	1.3
	• Awareness of new efficiency opportunities		**7.5**	1.9		**7.4**	1.8		**7.5**	2.1
	• Analysis of our energy use		**7.4**	2.2		**7.2**	2.2		**7.5**	2.0
	• Rebates		**6.9**	3.0		**6.2**	3.3		**6.8**	3.1
	• Competitive advantages		**6.5**	2.8		**6.1**	3.1		**6.8**	2.5
	• Environmental benefits		**6.0**	2.6		**5.2**	2.7		**6.3**	2.4
	• Social responsibility		**5.4**	2.7		**4.7**	2.7		**5.7**	2.6
	• Acting as leaders within our industry		**5.1**	3.1		**4.5**	2.8		**5.4**	3.0
	• Employee morale		**4.6**	2.9		**4.1**	3.0		**4.6**	2.9
	• Favorable financing terms		**4.2**	3.3		**3.6**	3.1		**4.5**	3.3
	• Public relations benefits		**4.1**	2.8		**3.1**	2.5		**4.3**	2.8
No Improvements		3%			2%			2%		
Don't Know		1%			2%			0%		
N		*120*	*106*		57	52		92	81	

* 0 (Not at all important) – 10 (Very important)

PART II: ENERGY OPPORTUNITIES

Prospective Energy Efficiency Improvements

Ninety-five percent of the respondents say their companies are likely to make efficiency improvements over the coming five years, with 44 percent of respondents saying these improvements are "very likely," and another 33 percent saying they are "moderately likely." None of the respondents say improvements are unlikely. Energy Community gave higher likelihood ratings on average than Key Contacts.

What is the likelihood that your company will improve the energy efficiency of your Ohio facilities or processes within the next five years?			
	All Respondents	Key Contacts	Energy Community
Very unlikely	0%	0%	0%
Moderately unlikely	0%	0%	0%
Slightly unlikely	0%	0%	0%
Neither Likely Nor Unlikely	5%	9%	3%
Slightly Likely	18%	23%	14%
Moderately likely	33%	34%	34%
Very Likely	44%	34%	49%
Average*	6.2	5.9	6.3
Standard Deviation	0.9	1.0	.8
N	*106*	*53*	*79*

* 1 (Very Unlikely) – 7 (Very Likely)

Viability of Onsite Energy Generation

Respondents do not, for the most part, view any of the onsite energy generation options assessed as highly viable options for their companies. None of the eight forms of onsite energy generation were rated above the middle of the scale on average. *(See the appendix for respondents' further clarification of why they did not perceive these options as viable.)*

[On a scale of 0 to 10*] How viable are each of the following onsite energy options for your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Using backup generators during periods of peak energy demand	**4.0**	3.0	110	**3.9**	2.9	55	**3.8**	2.9	82
Waste energy recovery	**3.7**	3.3	108	**3.6**	3.2	54	**3.8**	3.4	80
Solar	**3.2**	2.8	110	**2.8**	3.0	54	**3.4**	2.8	83
Combined heat and power (co-generation)	**3.2**	3.1	110	**2.9**	3.1	55	**3.1**	3.1	82
Wind	**2.4**	2.6	109	**2.1**	2.4	54	**2.6**	2.7	81
Energy storage (batteries, pumped storage)	**2.3**	2.6	110	**2.4**	2.9	54	**2.2**	2.4	83
Biomass	**1.7**	2.3	107	**1.3**	1.9	52	**1.8**	2.4	79
Hydroelectric	**1.0**	1.7	111	**.9**	1.8	55	**.9**	1.5	83

* 0 (Not at all viable) - 10 (Extremely viable)

Compared to Key Contacts, Energy Community members view some of the onsite energy generation options as slightly more viable, although the differences are small.

Barriers to Adoption of Wind, Solar, and Biomass

Respondents see many barriers to the adoption of wind, solar or biomass energy generation.

[On a 0 to 10 scale*] To what extent are each of the following a barrier to the adoption of renewable energy (wind, solar, biomass) by your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Lengthy payback timeframe	**8.3**	2.1	108	**8.0**	2.2	53	**8.4**	1.9	81
High upfront costs	**8.0**	2.4	107	**8.0**	2.3	53	**8.1**	2.3	81
Physical setting constraints	**6.3**	3.0	107	**6.5**	2.8	53	**6.4**	3.0	81
Not suited to conditions in Ohio	**6.2**	2.7	107	**6.7**	2.6	53	**6.2**	2.6	81
Low reliability	**6.1**	2.9	108	**6.4**	3.0	54	**6.2**	2.8	81
Operations and maintenance	**5.5**	2.4	106	**5.7**	2.6	53	**5.4**	2.5	80
Regulatory barriers	**5.0**	2.8	106	**5.3**	2.9	53	**4.9**	2.7	80
Utility opposition	**3.8**	2.8	101	**4.0**	2.7	51	**3.8**	2.8	76

* 0 (Not a barrier) – 10 (Extremely large barrier)

The length of the payback time frame and the high initial costs are the most cited barriers to adoption. Over half the respondents rated these two barriers as a 9 or 10 on the 0 to 10 scales, where 10 represents "extremely large barrier." Six of eight have averages above the middle of the scale.

The Energy Community views the payback time as a slightly greater barrier than the Key Contacts do, but the Key Contacts view a number of other barriers as greater than the Energy Community does, particularly the suitability of conditions in Ohio for wind, solar and biomass energy production.

Barriers to Co-Generation and Waste Energy Recovery

[On a 0 to 10 scale*] To what extent are each of the following a barrier to the adoption of combined heat and power (co-generation) or waste-energy recovery by your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Lengthy payback timeframe	**7.5**	2.6	101	**7.4**	2.1	49	**7.5**	2.8	77
High upfront costs	**7.3**	2.6	100	**6.9**	2.7	49	**7.5**	2.4	76
Operations and maintenance	**5.7**	2.7	100	**5.7**	2.7	49	**4.6**	2.8	74
Physical setting constraints	**5.2**	2.9	98	**5.6**	2.8	47	**5.1**	3.0	76
Regulatory barriers	**4.8**	2.8	96	**5.0**	2.8	46	**4.6**	2.8	74
Low reliability	**4.7**	2.9	100	**5.2**	3.0	49	**4.4**	2.8	76
Utility opposition	**3.8**	2.9	98	**4.0**	3.0	49	**3.6**	2.8	74

* 0 (Not a barrier) – 10 (Extremely large barrier)

The barriers to co-generation and waste energy recovery are not as high as those impeding renewable energy adoption, but they are still substantive. The initial costs and lengthy payback time frame are again the largest barriers, with over three-quarters of the respondents citing them.

The Energy Community views the high upfront costs of co-generation and waste-energy recovery as a larger barrier than Key Contacts do, but the Key Contacts view most other barriers as greater than the Energy Community does. These differences were greatest for operations, maintenance and reliability, suggesting that Key Contacts may have lower trust in their ability to consistently generate energy from these sources.

Benefits of Adoption of Wind, Solar and Biomass

A majority of respondents say that cost reductions, environmental benefits, and onsite power generation are benefits of adoption wind, solar, and biomass, but they feel relatively neutral about their potential to hedge against future regulations or to provide public relations benefits. The Energy Community respondents view all the benefits as greater than the Key Contacts do, with the exception of onsite power generation (*see next page*).

[On a 0 to 10 scale*] To what extent are each of the following a benefit of adopting renewable energy (wind, solar, biomass) in your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Cost reductions	**6.2**	3.4	98	**5.8**	3.3	47	**6.2**	3.5	74
Environmental benefits	**6.0**	2.9	98	**5.2**	2.8	47	**6.2**	3.0	74
Onsite power generation	**5.8**	2.7	98	**5.7**	2.7	47	**5.7**	2.9	73
Hedge against future regulations	**5.4**	2.8	98	**5.0**	2.7	47	**5.6**	2.9	74
Public relations benefits	**4.9**	3.0	98	**4.1**	2.7	46	**5.2**	3.0	73

* 0 (Not a benefit) – 10 (Extremely important benefit)

Benefits of Co-Generation and Waste-Energy Recovery

Cost reductions and on-site power generation are seen as the primary benefits of co-generation and waste-energy recovery. Half the respondents believe there are environmental benefits. Public relations benefits are seen as least likely, with only 31 percent saying that co-generation or waste-energy recovery would provide them with a public relations benefit.

As with renewable energy generation, the benefits of co-generation and waste-recovery are viewed as greater by the Energy Community than by the Key Contacts.

[On a 0 to 10 scale*] To what extent are each of the following a benefit of adopting combined heat and power (co-generation) or waste-energy recovery in your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Cost reductions	**6.1**	3.2	95	**6.0**	3.1	45	**6.3**	3.2	72
Onsite power generation	**5.5**	2.9	95	**5.2**	3.1	45	**5.7**	2.9	72
Environmental benefits	**5.1**	2.9	95	**4.5**	2.8	45	**5.2**	2.9	72
Hedge against future regulations	**5.0**	2.9	95	**4.7**	3.0	45	**5.4**	2.8	72
Public relations benefits	**4.4**	2.8	95	**3.7**	2.6	45	**4.7**	2.7	72

* 0 (Not a benefit) – 10 (Extremely important benefit)

Satisfaction with Utility Energy-Efficiency Programs

What is your level of satisfaction with the current energy efficiency programs offered by your utility?		All Respondents	Key Contacts	Energy Community
Very Dissatisfied	*-3*	4%	2%	5%
Dissatisfied	*-2*	9%	12%	8%
Somewhat Dissatisfied	*-1*	13%	20%	11%
Neutral	*0*	37%	35%	34%
Somewhat Satisfied	*+1*	14%	18%	14%
Satisfied	*+2*	24%	13%	28%
Very Satisfied	*+3*	0%	0%	0%
Average		*0.2*	*0.0*	*0.3*
Standard Deviation		*1.4*	*1.3*	*1.4*
N		*104*	*51*	*79*

Respondents' satisfaction with the energy efficiency programs offered by their utility varies widely: 38 percent say they are satisfied with the programs; 26 percent say they are dissatisfied; and 37 percent are neutral. None of the respondents say they are "very satisfied."

Members of the Energy Community tend to be more dissatisfied than Key Contacts are: 34% say they are dissatisfied, compared to 24 percent of the Key Contacts. *(See the appendix for further clarification on why respondents are or are not satisfied with their utility's energy-efficiency programs.)*

Time Frame for Returns on Energy Investments

How quickly must energy investments have a positive return before the company would be willing to make the investment?	All Respondents	Key Contacts	Energy Community
12 months or less	10%	8%	11%
18 months	17%	16%	18%
2 years	36%	39%	35%
3 years	27%	26%	29%
More than 3 years	5%	8%	4%
Don't know	5%	4%	4%
N	*105*	*51*	*80*

Close to two- thirds of respondents (63%) say that energy investments must have a positive return in two years or less. Twenty-seven percent are willing to wait three years for positive returns, but only five percent are willing to wait longer than that.

Energy Conservation Programs

Does your company currently have an energy reduction goal?			
	All Respondents	Key Contacts	Energy Community
Yes	40%	28%	46%
No	57%	73%	52%
Don't know	3%	0%	3%
N	*104*	*51*	*79*

*Percentages may not total 100 due to rounding

Forty percent of the respondents say their company has an energy reduction goal. Energy Community members are much more likely to work at companies with an energy reduction goal – a difference of 18 percentage points.

The primary motivation for energy reduction goals is to reduce the company's energy costs, with an average score of 8.8 out of 10. Environmental benefits are also an important motivation, with an average score of 7.2 out of 10 (and only 11 percent say it's not a motivation for their company's reduction goals).

[On a 0 to 10 scale*] To what extent are each of the following a motivation for your company's energy reduction goal?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Cost reductions	**8.8**	1.7	41	**8.2**	1.9	14	**8.9**	1.7	35
Environmental benefits	**7.2**	2.3	41	**5.4**	2.2	14	**7.6**	2.0	35
Public relations value	**6.3**	2.7	41	**5.2**	2.4	14	**6.3**	2.7	35
Hedge against future regulations	**6.0**	2.9	40	**5.9**	2.9	13	**5.9**	3.0	35
Protect against natural resource or supply chain risks	**6.0**	2.3	41	**6.1**	2.0	14	**5.9**	2.3	35

* 0 (Not a motivation) – 10 (Extremely important motivation)

The Energy Community members are more likely to state that cost reductions, environmental benefits and public relations are motivations for their energy reduction goals. The difference on environmental benefits is quite large: 2.2 points on the 0-10 scale.

Carbon Reduction Goals

Does your company currently have a carbon reduction goal?	All Respondents	Key Contacts	Energy Community
Yes	23%	14%	25%
No	73%	82%	72%
Don't know	4%	4%	3%
N	*104*	*51*	*79*

Close to a quarter of the respondents' companies (23%) have a carbon reduction goal. The primary motivation for these programs is the environmental benefits they provide; public relations and cost reductions are also important motivators. These results should be interpreted cautiously, however, because only 24 respondents work for companies with carbon reduction goals, so the sample size is very small (3 participants who indicated their company had a carbon reduction goal chose not to respond to the motivational question, so the effective sample size for all respondents is 21).

[On a 0 to 10 scale*] To what extent are each of the following a motivation for your company's carbon reduction goal?	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Environmental benefits	**8.8**	1.5	21	**7.2**	1.3	6	**9.0**	1.5	18
Public relations value	**8.3**	1.6	21	**7.0**	1.4	6	**8.4**	1.6	18
Cost reductions	**7.5**	2.3	21	**6.5**	1.0	6	**7.6**	2.4	18
Protect against natural resource or supply chain risks	**6**	2.7	21	**5.7**	1.5	6	**5.8**	2.9	18
Hedge against future regulations	**5.7**	2.8	21	**5.0**	3.0	6	**5.8**	2.6	18
Onsite power generation	**3.4**	2.8	21	**3.0**	2.2	6	**3.4**	2.9	18

* 0 (Not a motivation) – 10 (Extremely important motivation)

Energy Community respondents are more likely to work for a company with a carbon reduction goal than Key Contacts are, and they are more likely to cite all motivations in the survey as reasons for their companies' goals, with the single exception of protecting against natural resource or supply chain risks**.** These results are based on a very low number of responses – particularly among the Key Contacts (N=6), but the patterns are consistent with differences between the two groups found throughout the survey.

Relationships with Companies that Have Energy or Carbon Reduction Goals

Is your company a supplier to another company with an energy or carbon reduction goal?			
	All Respondents	Key Contacts	Energy Community
Yes	29%	24%	29%
No	35%	39%	34%
Don't know	37%	37%	37%
N	*104*	*51*	*79*

Close to 30 percent (29%) of respondents' companies are suppliers to a company with energy or carbon reduction goals.

Are you required to report to that company about your company's energy use or carbon emissions?			
	All Respondents	Key Contacts	Energy Community
Yes	37%	33%	39%
No	57%	67%	52%
Don't know	7%	0%	9%
N	*30*	*12*	*23*

Over a third (37%) of respondents' companies that operate as suppliers are required to report to the other company on their energy use or carbon emissions; over half are not (57%). These results are based on only 30 respondents, and should be interpreted cautiously.

Does your company manufacture or supply parts to companies that produce renewable energy, energy-efficiency or distributed generation products?			
	All Respondents	Key Contacts	Energy Community
Yes	25%	26%	22%
No	64%	66%	65%
Don't know	11%	8%	13%
N	*102*	*50*	*77*

A quarter of respondents' companies (25%) manufacture or supply parts to companies that produce renewable energy, or that create energy efficient or distributed generation products.

Perceptions of Companies that Are Reducing Emissions and Adopting Renewable Energy

Respondents' impressions of companies that are moving to sustainable energy sources are largely positive. While sixty percent (62%) say that these companies are trying to make a good impression on the public, few believe they are being financial irresponsible (11%) or unwise (7%). Forty percent believe these companies are admirable, and two-thirds (65%) say they are environmentally responsible.

A third (33%) believe these companies are profitable, and another 50 percent say they may be profitable; only 17 percent believe they are not profitable. Half believe these companies are making investments that will result in cost reductions in the future (51%)

[On a 1 to 5 scale*] A company that is reducing its carbon emissions and moving to renewable energy sources is likely to be…									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Trying to make a good impression on the public	**3.7**	0.8	102	**3.6**	0.7	50	**3.7**	0.9	78
Innovative	**3.6**	0.9	101	**3.4**	0.8	49	**3.7**	0.9	78
Environmentally responsible in its practices	**4.7**	0.9	102	**3.6**	0.8	50	**3.7**	0.9	78
Making investments now that will save it money in the future	**3.4**	1.0	102	**3.1**	0.9	50	**3.5**	1.0	78
Admirable	**3.3**	0.9	101	**3.1**	0.9	49	**3.4**	0.9	78
Profitable	**3.2**	0.9	100	**3.0**	0.9	48	**3.3**	0.9	77
Hedging against regulation	**3.3**	0.9	102	**3.2**	0.8	50	**3.3**	0.9	78
Protecting against natural resource or supply chain risks	**3.3**	0.8	102	**3.1**	0.8	50	**3.4**	0.8	78
Financially irresponsible	**2.4**	0.9	102	**2.5**	0.9	50	**2.4**	1.0	78
Unwise	**2.3**	0.9	101	**2.4**	0.9	50	**2.2**	0.9	77

* 1 (Definitely not) – 5 (Definitely yes)

Energy Community respondents are somewhat more likely to say that companies moving to renewable energy are innovative, making investments that will save money in the future, admirable, profitable, and protecting themselves against risks.

PART III: POLICY OPTIONS

Energy Policy Priorities

Respondents' highest energy priorities are reliability with low and stable prices; over half say that having a reliable energy supply is extremely important (57%), resulting in an average socre of 9 on a 10 point scale. Around 40 percent say that inexpensive and stable energy prices are extremely important, resulting in an average of 8.5 out of 10.

Majorities, however, believe all the dimensions of energy policy assessed here are important. Even the lowest rated priority – a clean energy supply – is rated as important by close to two-thirds of respondents (64%), as indicated by choosing responses within the top half of the response scale (i.e., 6-10). Only 17 percent of the respondents view clean energy supplies as unimportant, indicating that - despite being the least important energy priority of those assessed - clean energy is still viewed as an important organizing principle.

[On a 0 to 10 scale*] Please indicate how important you believe each of the following organizing priorities are for Ohio manufacturers in regard to energy policy.

	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Reliable energy supply	**9.0**	1.3	102	**8.8**	1.5	51	**9.2**	1.3	77
Stable energy prices	**8.5**	1.7	101	**8.5**	1.4	51	**8.8**	1.4	76
Least cost energy prices	**8.7**	1.4	101	**8.3**	1.8	51	**8.3**	1.8	76
Equity in energy costs+	**7.6**	2.2	100	**7.4**	2.1	50	**7.7**	2.1	76
Domestic energy supply	**7.5**	2.2	101	**7.5**	2.4	51	**7.3**	2.2	76
Diverse energy supply	**6.8**	2.4	102	**6.2**	2.5	51	**6.9**	2.2	77
Clean energy supply	**6.5**	2.3	101	**6.4**	2.4	50	**6.4**	2.2	76

* 0 (Not at all important) – 10 (Extremely important)
+ Equity in energy costs (ex., fair pricing between consumer and rate classes)

Energy Community respondents believe most of the organizing priorities are more important than Key Contacts do, including having a diverse and reliable energy supply, stable prices and equity in energy costs. Key Contacts are slightly more likely to say having a domestic energy supply is important.

Energy Regulation Policy Preferences

Approximately 60% of respondents say that shareholders should pay for environmental remediation, while only 10 percent believe that ratepayers should bear these costs. A quarter (28%) are unsure who should pay.

Who should pay for the cost of environmental remediation of old utility assets, manufactured gas plants?	All Respondents	Key Contacts	Energy Community
Utility shareholders	62%	63%	66%
Utility ratepayers	10%	14%	7%
Unsure	28%	22%	27%
N	101	49	77

Respondents hold diverse views on cost recovery for deregulated power plants: A third say Ohio should deregulate and commit to a wholesale energy market (34%); a quarter say Ohio should create a hybrid model of partially regulated generation assets; and a quarter favor deregulation with consumer protection. Only three percent believe that power plants should be re-regulated if energy prices are either high or volatile.

Key Contacts are more likely than Energy Community respondents to say that Ohio should fully commit to deregulation and the wholesale energy market, while Energy Community respondents are more likely to feel that Ohio should only fully commit to deregulation if consumer protections and programs are in place.

Ohio's electric investor-owned utilities are requesting cost recovery for their deregulated power plants. Ohio should:	All Respondents	Key Contacts	Energy Community
Fully commit to power-plant deregulation and the wholesale energy market	34%	39%	32%
Re-regulate power plants	12%	14%	13%
Create a hybrid model of partially regulated generation assets	25%	27%	24%
Fully commit to electric generation deregulation, but only if consumer protections and programs are in place	26%	20%	28%
Re-regulate power-plants, but only if energy prices are volatile or high	3%	0	4%
N	96	57	72

*Percentages may not total 100 due to rounding

Two-thirds of respondents (65%) believe that utility shareholders should bear the costs of energy price spikes caused by extreme weather. Close to a quarter are unsure who should bear the costs (23%), while 12 percent believe shareholders should have to cover the cost of the price spike.

Extreme weather events like the "Polar Vortex" result in energy price spikes. If customers have fixed-rate contracts, who should pay the costs of these price spikes?

	All Respondents	Key Contacts	Energy Community
Utility shareholders	65%	66%	66%
Utility ratepayers	12%	12%	11%
Unsure	23%	22%	24%
N	100	49	76

*Percentages may not total 100 due to rounding

The electric grid operator, PJM, pays for reduction in power consumption. Who should have control over how this resource is monetized?

	All Respondents	Key Contacts	Energy Community
Electric utilities	10%	9%	10%
Government	7%	6%	8%
Third parties	17%	11%	18%
Manufacturers	24%	28%	24%
Unsure	42%	47%	41%
N	97	47	74

*Percentages may not total 100 due to rounding

Respondents hold diverse views regarding control of the monetization of reductions in power consumption, and forty percent are unsure who should have control. Among those who have an opinion, manufacturer control is preferred (24%).

Energy Community members are more likely to favor third party control than Key Contacts are, but the percentages in both groups favoring this option are low (less than 20%).

If a manufacturer reduces power use, and thus capacity, but does so by taking a utility rebate, who should own the capacity reduction?			
	All Respondents	Key Contacts	Energy Community
Electric utilities	20%	14%	20%
Government	1%	2%	1%
Manufacturers	46%	43%	45%
Unsure	33%	41%	34%
N	100	46	74

Approximately half the respondents believe that manufacturers should own the capacity reduction if they reduce both their power use and capacity by taking a utility rebate. Close to a third (33%) are unsure, and 20 percent say the utility should own the capacity reduction.

If a manufacturer reduces electricity or fuel use, and thus carbon emissions, who should control how this emissions reduction value is monetized?			
	All Respondents	Key Contacts	Energy Community
Electric utilities	5%	4%	5%
Government	8%	6%	8%
Manufacturers	58%	63%	58%
Unsure	29%	27%	29%
N	100	49	76

Close to sixty percent of the respondents believe manufacturers should control the monetization of reductions in carbon emissions; Key Contacts are more likely to hold this view than Energy Community members are. A quarter of the respondents (29%) are unsure who should have control, and the remainder are divided between utility and government control.

Half the respondents (50%) say that electric grid operators should recognize distributed power generation as a capacity resource for capacity and transmission planning. Eleven percent say operators should not and 39 percent are unsure.

Should electric grid operators (such as the PJM regional transmission organization) recognize distributed power generation, such as combined heat and power at manufacturing facilities, as a capacity resource for capacity and transmission planning?			
	All Respondents	Key Contacts	Energy Community
Yes	50%	46%	50%
No	11%	11%	12%
Unsure	39%	44%	38%
N	99	48	76

*Percentages may not total 100 due to rounding

Sixty-three percent of respondents say that allowing competitive efficiency programs would create consistent and low energy costs; a quarter (25%) believe that a credit system would achieve this objective, and 18% believe that regulatory cost tests by PUCO would.

In Ohio, the cost for energy-efficiency varies significantly from utility to utility. Which of the following policies could create consistent and low costs? [Select all that apply]			
	All Respondents	Key Contacts	Energy Community
Application of regulatory cost-tests by the PUCO	18%	14%	20%
A legislative cap on the cost of energy-efficiency programs	9%	4%	10%
Creating independent, 3rd party, but monopolistic, energy-efficiency programs	11%	9%	11%
Allowing competitive efficiency programs	63%	63%	61%
Creating a credit system for energy-efficiency, similar to that for renewable energy	25%	21%	28%
N	120	57	92

Key Contacts are slightly more likely than Energy Community respondents to favor competitive efficiency programs, while Energy Community respondents are more likely to favor regulatory cost tests, a legislative cap on costs, third party efficiency programs, and a credit system for energy efficiency.

Preferences for U.S. and Ohio Energy Policies

Tax credits for companies that install high efficiency equipment were perceived as beneficial for their company (average score of 4.0/5) and offshore drilling was also seen as beneficial (4.1/5). Tax credits for construction of new nuclear power plants were also seen as beneficial (3.7/5).

[On a 1 to 5 scale*] How beneficial or harmful do you think each of the following policies are or would be for your company?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Regulation of carbon dioxide (the primary greenhouse gas) as a pollutant.	**2.0**	1.1	94	**1.9**	1.1	47	**2.0**	1.0	71
Creation of a new national market that allows companies to buy and sell the right to emit the greenhouse gases said to cause global warming (a cap-and-trade program).	**2.1**	1.1	93	**2.0**	1.3	47	**2.2**	1.1	70
Expansion of offshore drilling for oil and natural gas off the U.S. coast.	**4.1**	0.8	95	**4.2**	0.8	47	**4.0**	0.8	72
Providing tax credits for the construction of new nuclear power plants in Ohio.	**3.7**	1.0	93	**3.8**	0.9	46	**3.6**	1.0	71
More research funding for renewable energy sources, such as solar and wind power.	**3.0**	1.2	94	**3.0**	1.2	47	**3.1**	1.2	71
Requiring companies that produce or import fossil fuels (coal, oil and natural gas) to pay a carbon tax of $25 per ton of CO_2, which would be refunded to the public.	**2.1**	1.2	95	**2.0**	1.1	47	**2.2**	1.2	72
Providing tax credits for the installation of high efficiency equipment by companies.	**4.0**	0.8	95	**4.1**	0.9	47	**3.9**	0.9	72
Government rebates or tax credits to promote distributed generation (power that is generated onsite).	**3.6**	0.8	94	**3.5**	0.8	47	**3.6**	0.9	71
Diminishing the role of ratepayers in the electric regulation process by allowing utilities "sole discretion" over certain actions.	**1.8**	0.9	94	**2.0**	0.9	47	**1.8**	0.9	71
Reforming the US Tax Code by replacing 42 current energy tax incentives with an incentive each for electricity production and transportation fuels that are 25% cleaner than industry averages.	**3.3**	1.0	92	**3.3**	1.0	47	**3.3**	0.9	69

*1 (Very harmful) – 5 (Very beneficial)

Opposition to both a carbon tax and a national cap-and-trade program is high: 66 percent say a carbon tax would be harmful to their company, and 62 percent say cap-and-trade would be harmful. Regulation of CO2 as a pollutant is also viewed very negatively, with 72 percent of respondents saying it would be harmful to their company.

Differences between the Energy Community and Key Contacts on policy preferences are small, but the Energy Community is somewhat less supportive of offshore drilling, building nuclear power plants, and tax credits for efficiency improvements, while the Energy Community respondents are somewhat more supportive of CO2 regulation, a carbon tax, and cap-and-trade.

Priority of Protecting Local Resources from Extreme Weather

Respondents are most concerned that the electricity system is protected from extreme weather, with an average of 7.9 out of 10. Majorities would prioritize protecting all of these resources, as indicated by averages above the mid-point on the scale (5).

[On a 0 to 10 scale*] In your opinion, how much priority should Ohio's state and local governments give to protecting each of the following from extreme weather over the next 10 years?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
The electricity system	**7.9**	1.8	96	**7.9**	1.9	47	**8.0**	1.7	73
Transportation, roads, & bridges	**7.6**	1.7	96	**7.8**	1.8	47	**7.7**	1.6	73
Water quality	**7.1**	2.0	96	**7.0**	2.2	47	**7.1**	2	73
Water availability	**6.8**	2.2	96	**6.8**	2.4	47	**6.8**	2.1	73

* 0 (No priority) – 10 (Very high priority)

Political Influence and Energy Policy Decisions

The vast majority of respondents believe that electric utilities and large campaign contributors have large to moderate effects on elected officials' energy policy decisions (95% and 88%, respectively). Fossil fuel companies (coal, oil and natural gas) are believed to have a large to moderate effect on policy decisions by 84 percent of the respondents.

Environmentalists and renewable energy companies (solar, wind and geothermal) are believed to have less – but still substantial – influence: two-thirds (68%) of respondents believe environmentalists have a large to moderate effect on policy decisions, and close to half (48%) believe that renewable energy companies have a moderate to large effect.

[On a 1 to 4 scale*] How much influence to you think each of the following groups have on the decisions Ohio's elected officials make about how to deal with energy issues?									
	All Respondents			Key Contacts			Energy Community		
	Avg	S.D.	N	**Avg**	S.D.	N	**Avg**	S.D.	N
Electric utilities	**3.5**	0.6	95	**3.5**	0.6	48	**3.6**	0.6	71
Large campaign contributors	**3.4**	0.8	94	**3.4**	0.8	47	**3.4**	0.8	70
Coal, oil, and natural gas companies	**3.3**	0.8	95	**3.3**	0.7	48	**3.3**	0.7	71
Environmentalists	**2.8**	0.8	96	**3.0**	0.7	48	**2.7**	0.8	72
Solar, wind, and geothermal companies	**2.6**	0.7	96	**2.5**	0.7	48	**2.5**	0.7	72
Your industry	**2.3**	0.8	95	**2.2**	0.8	48	**2.3**	0.7	71
Independent research and experts	**2.4**	0.6	94	**2.5**	0.7	47	**2.4**	0.6	70
Your company	**1.7**	0.7	95	**1.5**	0.7	48	**1.8**	0.7	71

* 1 (No effect at all) – 4 (A large effect)

STUDY METHODOLOGY

This study was conducted by George Mason University's Center for Climate Change Communication in partnership with The Ohio Manufacturers' Association and made possible by funding from the Energy Foundation to explore Ohio manufacturers' views on energy. The survey consisted of approximately 50 questions and took about 20 minutes to complete.

The survey was e-mailed to 805 members of The Ohio Manufacturers' Association (excluding 9 members whose e-mails bounced). The survey was fielded from September 22nd to October 17th, 2014. Respondents were sent up to five e-mail and two mailed postcards as invitations and reminders to participate in the survey. Respondents who completed the survey were removed from subsequent invitation and reminder lists.

A total of 120 individuals participated, from 100 companies. Given the low number of respondents who came from the same company (one company had 4 respondents, four companies had 3 respondents, nine companies had 2 respondents, and the other eighty-six companies each had only one respondent), data were analyzed at the respondent level.

Respondents to this survey were sampled from two groups: "Key Contacts" and participants in the OMA "Energy Community." *Key Contacts* are the lead person designated by OMA member companies to interact with OMA (one contact per company). *Energy Community* participants are people from member companies that OMA has identified as being interested in energy (as indicated by attending OMA-sponsored workshops on energy, requesting information from OMA on the topic, etc); each member company can have multiple people in the *Energy Community*. As such, the *Key Contacts* results can be interpreted as representative of OMA members as a whole, while the *Energy Community* results can be interpreted as representing this OMA group with special interest in energy. Among the 404 *Key Contacts* contacted, 15% (57 participants) responded. Among the 541 members of the *Energy Community* contacted, 17% (92 participants) responded. 30 participants were involved in both the *Energy Community* and K*ey Contacts* groups.

APPENDIX

The following are responses to open-ended questions designed to probe respondents' thoughts about the viability of onsite generation and about their satisfaction with their utility's energy efficiency programs.

Reasons Onsite Generation Is Not Viable

- Physical resources required and funding required are not available in our business plan.
- almost no payback from many of these, and we don't have hydro, wind nor sufficient sun.
- Budget constraints, and general return on capital
- Capacity demand is too high for battery storage and no viable source of hydroelectric.
- capital expense and uninformed about them
- Cost and lack of impact
- Cost benefit for solar in the region that we work in.
- Cost benefit ratio for those type of energy options
- cost for financial benefit
- Cost prohibitive or unavailable
- Cost, O&M is non-core to business, cost-effectiveness is not sufficient, long ROI
- Cost. Unless technology changes, these alternatives simply aren't yet cost effective.
- costy / benefit
- Do not currently have and capitol cost to install not worth return today. Also making power is not core business.
- Don't have the infrastructure or personnel to handle something like what is lested above. Have already looked at a few (wind) and it is NOT ecomonically feasible for payback.
- Due to size of company and business operating a low profit margins typical of our industry, I do not see that we would pursue these options.
- DUE TO THE LANDSCAPE THAT SURROUND THE FACILITY TOO MANY TREES AND NO AVAILABLE WATER SOURCE
- Economic payback for non-viable options greater then threshold set by corporate budgeting
- High cost of wind and solar. Energy storage and backup generators are not feasible.
- Hydroelectric - facility not located near a source of hydroelectric power. Solar - costs, capacity uncertainty and performance concerns. Backup generators - environmental permitting and reporting. Energy storage - costs, capacity uncertainty and perfomance concerns. Biomass - costs to implement; viable and sustainable source of biomass.
- I don't have enough familiarity on this particular part of our production, but these topics I listed below 5 are not ones I've heard discussed within our company.
- I'm not familiar with any ways that we could use hydroelectric power to replace any portion of our existing energy demand.
- In our geographical area, they do not appear to be applicable and/or the economic justification would not be there. Ours is a low margin business. We are very careful on project selection.

- Infrastructure doesn't exist.
- INITIAL INVESTMENT COSTS AVAILABILITY
- Insufficient financial requirments
- land and space availability
- Limited Access to hydro power
- Local government zoning laws
- Location and Industrial Park restrictions
- low process thermal requirements year round
- No access to enough/any low cost water to be beneficial.
- No adequate payback.
- No available land for wind turbine. Too many residences located near factory. No water available for hydro.
- No possibility of hydro power onsite.
- No running water sources nearby, not very windy
- No water
- No water power close, ROI on wind is poor, plus we are close to airport and precludes tower
- No water resources on property
- No water source close by and wind energy was explored and abandoned upon USDA Protection stance for area bald eagles.
- No water source for hydroelectric.
- No waterfalls nearby
- None of those are really viable for industrial electricity consumers except waste heat recovery or combined heat and power.
- Not available in our area.
- Not cost effective
- Not cost effective or sustainable without huge tax subsidies
- Not economical
- Not efficient solutions, limited space available, poor aesthetics for neighborhood
- Not financially viable
- not lots of sun in NE ohio
- Not on a river. Wind turbines make too much noise for neighbors.
- Not sure where we would access hydroelectric at our facilities in Ohio
- nothing close to us with these capabilities
- Our company conducted cost benefit analysis on several of these and found the initial cost and ongoing operational cost to far outweigh the advantages.
- Our electricity usage is beyond the ability of the options listed
- projects do not provide good return on investment.
- Require more electricity than feasible with battery storage. Not located near moving water with magnitudes capable of producing electric. Do not have the area needed to install a solar field.
- Site characteristics does not provide reasonable provision for these technologies.
- Solar is not very efficient considering sun time in Ohio, also wind can be unpredictable.

- There are no facilities along rivers where the permtting process would be workable or the hydraulics.
- There are no running water resources near our facilities to generate hydroelectric power.
- They do not make economic sense.
- We actually investigated manufacturing solar and consider the economics to be negative for sustainable use. We use too much energy for storage to be an option. Biomass we should not be using potential food production to produce energy.
- we are not near a source of hydroelectric
- we are on the edge of a suburban area. and, we are not a big energy user. our only on site option would be if Utica Shale Gas was found under our property. we would then invest in a gas well to fuel our needs.
- We are on top of a hill and thus there is no water available for miles.
- We do not have the money. We a re a very small family owned and operated business.
- We use energy provided by the City of Hamilton - one of the few monopoly locations in Ohio. Our provider does not include these options and we can't choose otherwise
- We use large amounts of electricity. To supply that electricity with alternate energy (biomass, wind, hydro, solar) would be prohibitively expenses and would also require backup.
- Wind - have checked with consultant, to much turbulance from surroundings Solar - investment too large for benefit Hydroelectirc - no water source
- wind - not enough space solar - too expensive waste heat recovery / co gen - hard to make work in our processes b/c we don't hav ea need for steam offtake in most cases
- wind = not in Wayne County, Ohio Hyro = no Dams near my shop Biomass = from what? Solar = 94.5% of office is solar 0% of factory is Solar We need about 5 acres of panels at $1,000,000. per acre, I don't think so.
- wind- we are not oocated in an area that would be a huge benefits for wind turbines
- Would need additional information regarding technology and associated costs.

Please describe why you are dissatisfied with the current energy efficiency programs offered by your utility.

- Difficult to maneuver.
- Don't believe AEP is efficient in managing their program.
- First Energy and the republican government destroyed the Ohio incentive program as part of their nationwide agenda. I assume led by big energy.
- Government is a joke!
- I am dissatisfied because I do not know what these programs currently are. Since I do not know what they are then they must not be advertised and explained well enough.
- I do not believe they offer any/
- I was and am treated like I am a crook !!!!!!!!!!!!!!!!!!!!!!
- It's a municipal power system, and I am unaware of any such programs offered. However, their rates are quite good.
- No energy efficiency programs are offered
- Not cost effective for us.
- not well publicized
- nothing new, no real areas to improve upon
- On a municipal system that does not offer the same extent as publicly held utilities.
- The cost benefit has not been realized as the savings was all paper because of the increase in the unit cost. Additionally, the program appears to provide more incepntive to the utility as they retain the reduced incrimental value associated with not havng to construct more generation.
- The most recent energy efficiency project resulted in lower spend but the increased utility costs made the finished project impossible to defend with the finance team.
- The one program we participated resulted in less than anticipated savings and a much lengthened payback.
- The only one offered was a lighting program. When we elected to go forward with it, OE changed the rules and pulled most of the financial support they originally offerd.
- THE UTILITY COMPANY ISN'T PROACTIVE IN WORKING WITH AREA BUSINESSES TO EDUCATE TO WHATS AVAILABLE
- The utility does not strike me as being proactive or terribly easy to engage with on these subjects.
- There are none
- They are not aggressive in promoting or informing customers about programs.
- They are not very proactive and we are not contacted to do anything.
- To much volatility in programs and legislation. Difficult to plan longer term projects.
- Use a municipal electric distribution. Benefits offered to not meet those of AEP that are not available to us.
- We pay much more into their program than we can ever recover in rebates. We had the unpleasant experience of having a project denied and had to "fight" to get the

rebate.

- What are they?

Please describe why you are satisfied with (or feel neutral about) the current energy efficiency programs offered by your utility.

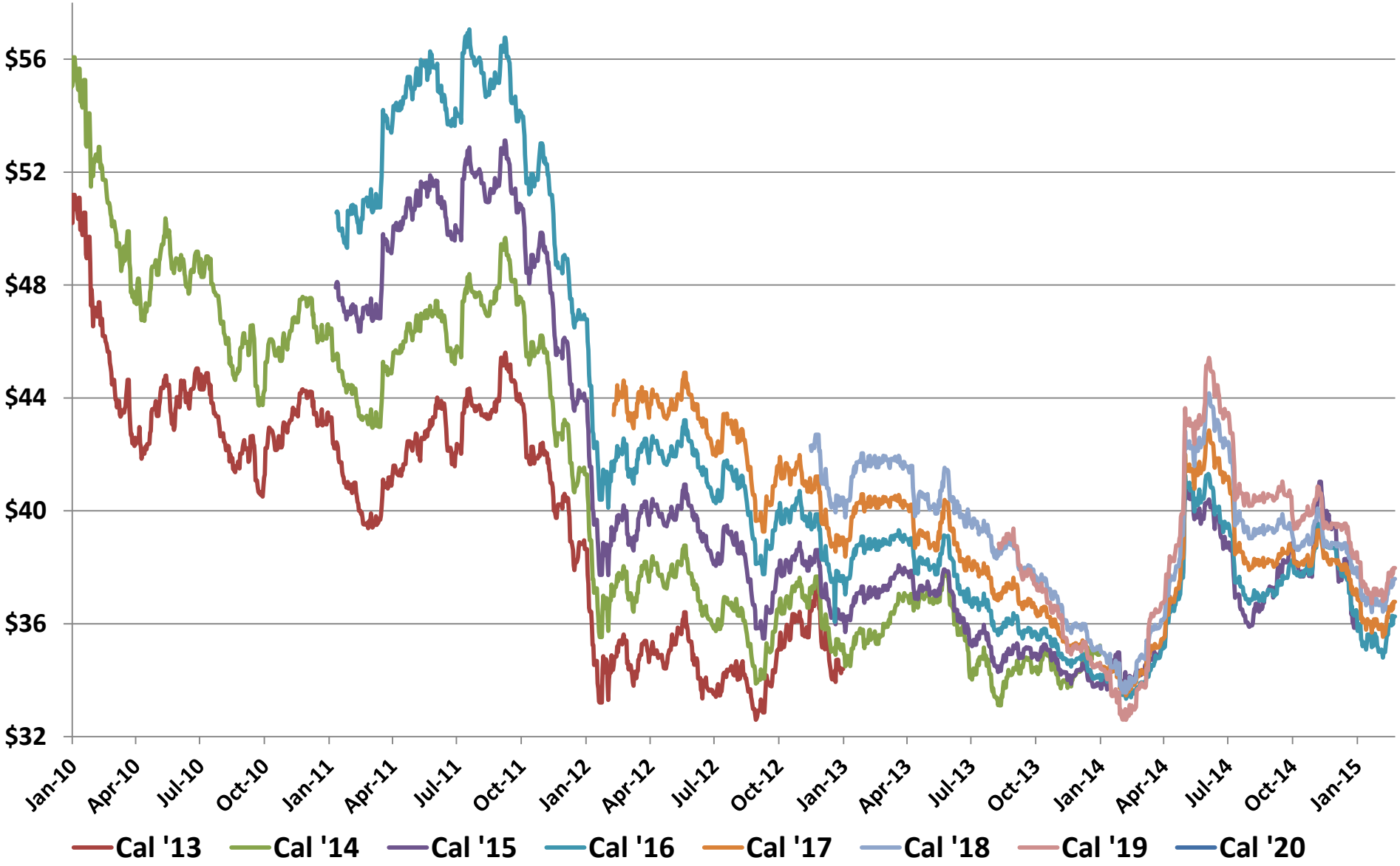
- AEP actively engages our largest mfg plant in programs and rebate opportunities. However, the same support is not actively engaging our other locations.
- As the controller for the facility I am not in the best position at this time to comment as I am not completely familar with what is offered or not. Our head of engineering would likely know more than I.
- CEI program through AEP has been a great resource for improving efficiency by implementing low to no cost energy solutions. Capital projects have been harder to implement due to budget constraints.
- Combined rates for electric and natural gas
- Curent programs helps incentative capital investments to reduce energy footprint and have been somewhat a focus on the Utility.
- Ease of use, significant rebates
- Energy efficiency is not the responsibility of the local utility. They offer what they can to benefit themselves. Each business has to determine what makes sense for themselves.
- fairly generous and for equipment most need or can replace. Incentives drive most energy efficiency projects as payback when compared to production projects, energy projects cannot compete.
- Fairly good relaibility. Low costs.
- Financial assistance with electric conservation investments.
- for the amount of work and reporting the benefit is not high enough
- Good notifications of programs available. Easy to work with.
- Have provided finantial incentive on several pojects, not sure how much impact it had on getting funds appreoved but it certainly helped
- I believe incentives are enough to push start cap-ex projects. Real benefits to companies come in the future with using less energy. Companies must spend to future or pay thru increased consumption.
- I don't have any problems with them
- I find them to be satisfactory, but they could offer more.
- It is very difficult for us to take advantage of the programs. Basically, we pay in, but get no benefit.
- Limited knowledge of offerings
- n/a
- Newer program that we recently received information on; not a lot of financial assistance.
- Not a lot applies to us since we don't use huge amounts

- Not aware of too many
- Not enough or ease of access
- Offered rebates for energy efficiency improvements.
- Offerings are limited
- One-half of our total electrical usage is for lights and our utility assisted with rebates in going to more efficient lighting.
- Only offer Demand Response
- Our company has inputs into both the advanced and fossil fuel energy industry. We are well situated regardless of changes.
- Pricing appears to be at low end of market range for services
- proactively, the provider contacts us about programs
- Program rebates are suitable for our industry.
- Programs are in place to assist with VSD, wind energy and the like. The hardship is in the amount of paperwork necessary to qualify.
- Rebate programs for demand response options
- Rebates offered
- Seems like we have gained from the low hanging fruit on lighting and large motor start ups but little offered after that from the utilities
- The utility is mandated by regulations to improve energy efficiency and has acted as a financial partner in allowing the business to make significant strides in reducing energy use.
- There are limited programs offered.
- They are doing what they can under the constraints of Ohio weather and environment
- they are not much of a help
- They are not offering any real options to pursue.
- they are proactive regarding energy rebate programs
- they have incentive for investment in electrical energy savings.
- They provide a wide range of options for manufacturers.
- They provided a nice rebate program that made the difference in us upgrading lighting in the past year.
- They seem to be behind the movement and offer a fair rebate. They have also contacted us directly and put our energy team through training with a rebate to boot.
- Was able to utilize the program and more than offset premiums.
- We are at the point of "it is what it is" the utility companies are in charge. We need the energy to operate business, we need energy to live our lives, therefore you pay what you have to and continue on.
- We are not a major consumer so we have limited issues here.
- We do not have the knowledge or money to have an educated opinion.
- We have continuous programs in place per our policies.
- we have invested where it has made sense.

- We have three locations on two different utility providers. One is very proactive and offers programs to upgrade efficiency and demand response, one does nothing (it's a COOP)
- wide range of programs, CEI program

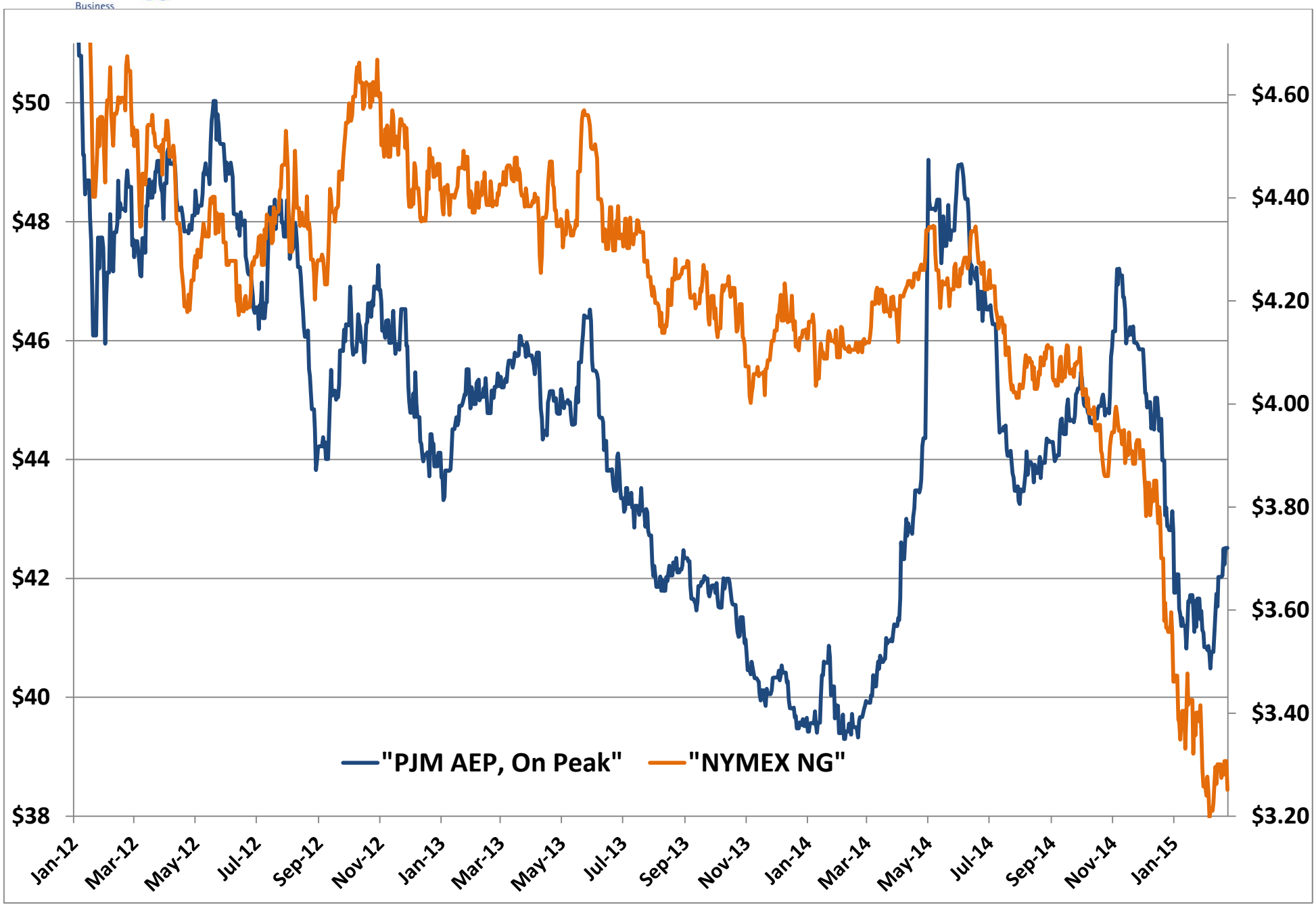
Direct Energy Business

Historical Pricing
PJM AEP. Around the Clock



Direct Energy Business

PJM AEP vs NYMEX Natural Gas, Calendar 2016



2/24/2015

PRICE TREND ANALYSIS

Transaction Point: **PJM AEP ATC**

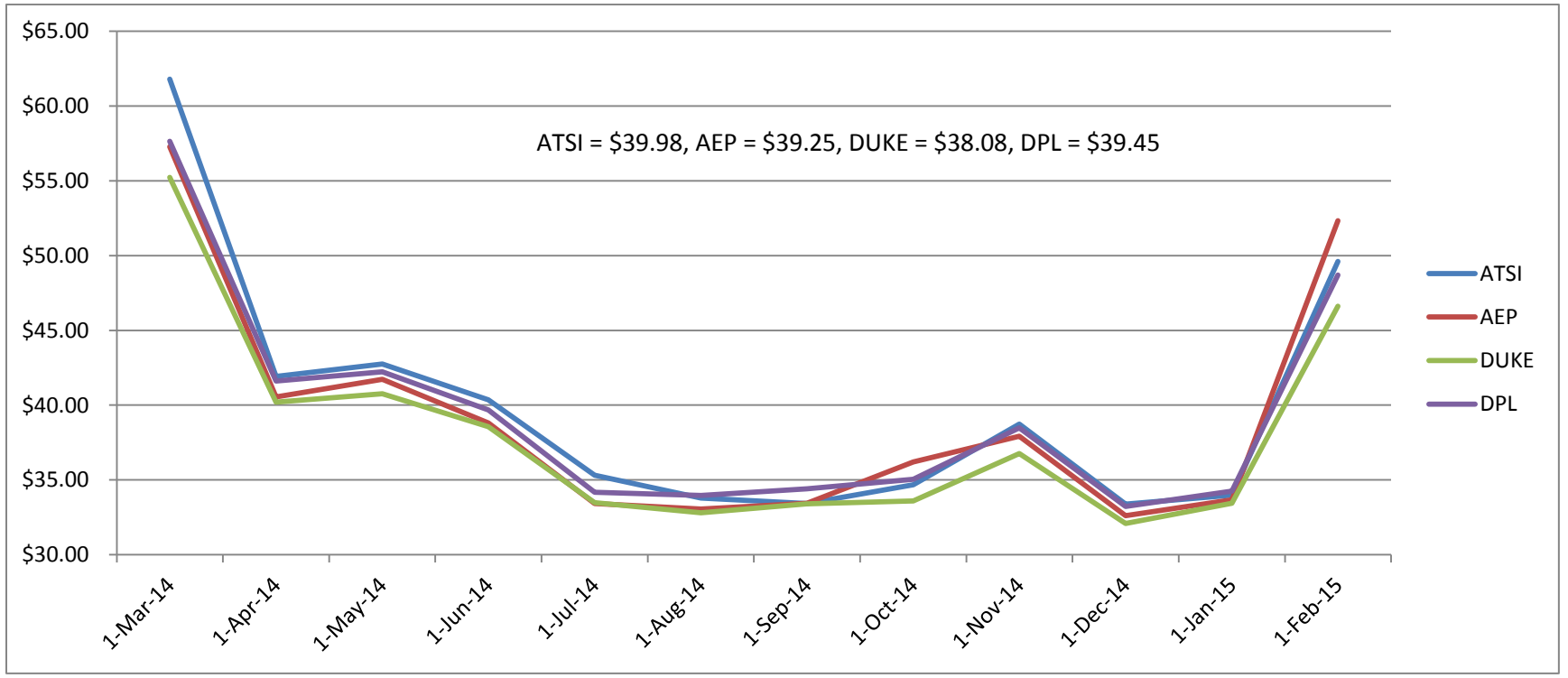
Data Range								
From:	1/10/2011	1/10/2011	1/10/2011	1/11/2011	1/11/2011	2/9/2012	11/15/2012	8/9/2013
To:	2/23/2015	2/23/2015	2/23/2015	2/23/2015	2/23/2015	2/23/2015	2/23/2015	2/23/2015

	Q2 - 15	Q3 - 15	Q4 - 15	Q1 - 16	2016	2017	2018	2019
Current Price	$33.24	$35.46	$33.12	$41.94	$36.26	$36.78	$37.59	$37.97
Current Percentile	**18.3%**	**7.3%**	**19.3%**	**42.3%**	**20.0%**	**23.1%**	**28.0%**	**45.4%**
Minimum Price	$30.01	$34.12	$29.95	$35.13	$33.34	$33.46	$33.56	$32.59
Date of Minimum	1/31/14	2/6/15	2/26/14	12/18/13	2/6/14	2/6/14	2/6/14	2/6/14
Maximum Price	$51.12	$55.59	$51.12	$59.60	$57.06	$44.89	$44.17	$45.42
Date of Maximum	9/8/11	7/19/11	9/7/11	7/19/11	7/19/11	5/19/12	6/4/14	6/4/14
25th Percentile	$33.88	$37.29	$33.52	$39.30	$36.90	$36.89	$37.22	$36.42
50th Percentile	$35.96	$39.74	$35.59	$43.18	$39.11	$38.78	$39.16	$38.47
75th Percentile	$38.57	$42.79	$38.35	$49.84	$42.57	$41.27	$40.57	$40.40

All prices are $ per MWh and represent wholesale price component only.
The Current Percentile represents the percentage of days during the reference period in which the market price has been below the current price.

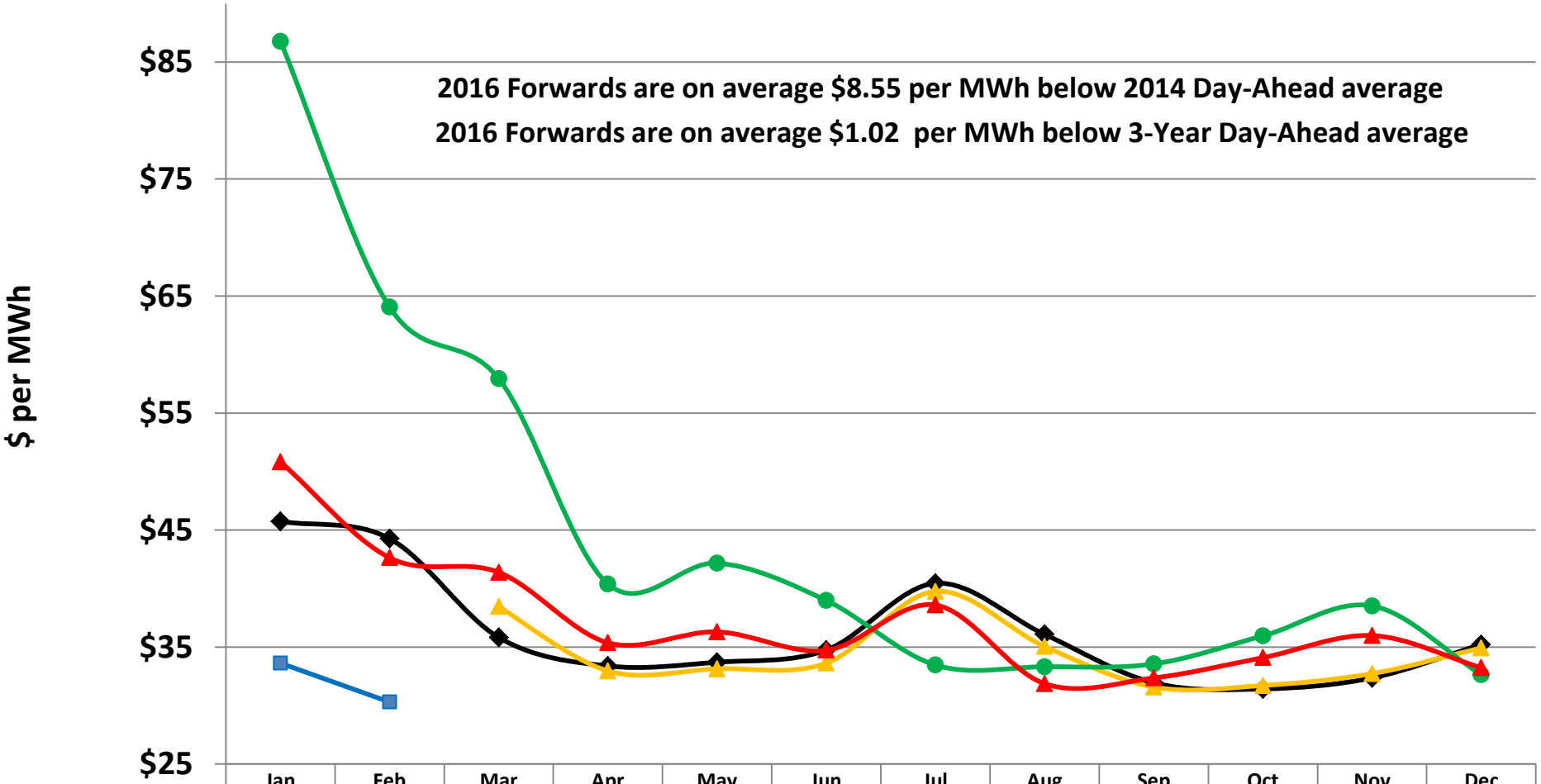
scioto energy

Monthly Average Day Ahead Prices



	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15
ATSI	$61.78	$41.93	$42.75	$40.36	$35.31	$33.79	$33.43	$34.68	$38.74	$33.39	$33.98	$49.61
AEP	$57.26	$40.55	$41.73	$38.81	$33.43	$33.06	$33.45	$36.20	$37.92	$32.61	$33.67	$52.32
DUKE	$55.22	$40.21	$40.77	$38.56	$33.48	$32.81	$33.41	$33.60	$36.77	$32.09	$33.45	$46.62
DPL	$57.63	$41.61	$42.23	$39.68	$34.17	$33.97	$34.42	$35.04	$38.49	$33.24	$34.26	$48.70

Historical Day-Ahead vs Forward Prices
PJM AEP



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016 FWD	$45.74	$44.26	$35.82	$33.38	$33.70	$34.74	$40.44	$36.08	$31.94	$31.42	$32.37	$35.21
2015 FWD			$38.47	$32.96	$33.14	$33.62	$39.76	$35.05	$31.58	$31.72	$32.73	$34.92
2015 DA Average	$33.62	$30.30										
2014 DA Average	$86.78	$64.06	$57.94	$40.38	$42.17	$38.98	$33.47	$33.32	$33.56	$35.96	$38.52	$32.63
3 YR AVG	$50.83	$42.63	$41.38	$35.36	$36.30	$34.72	$38.59	$31.87	$32.36	$34.09	$35.98	$33.24

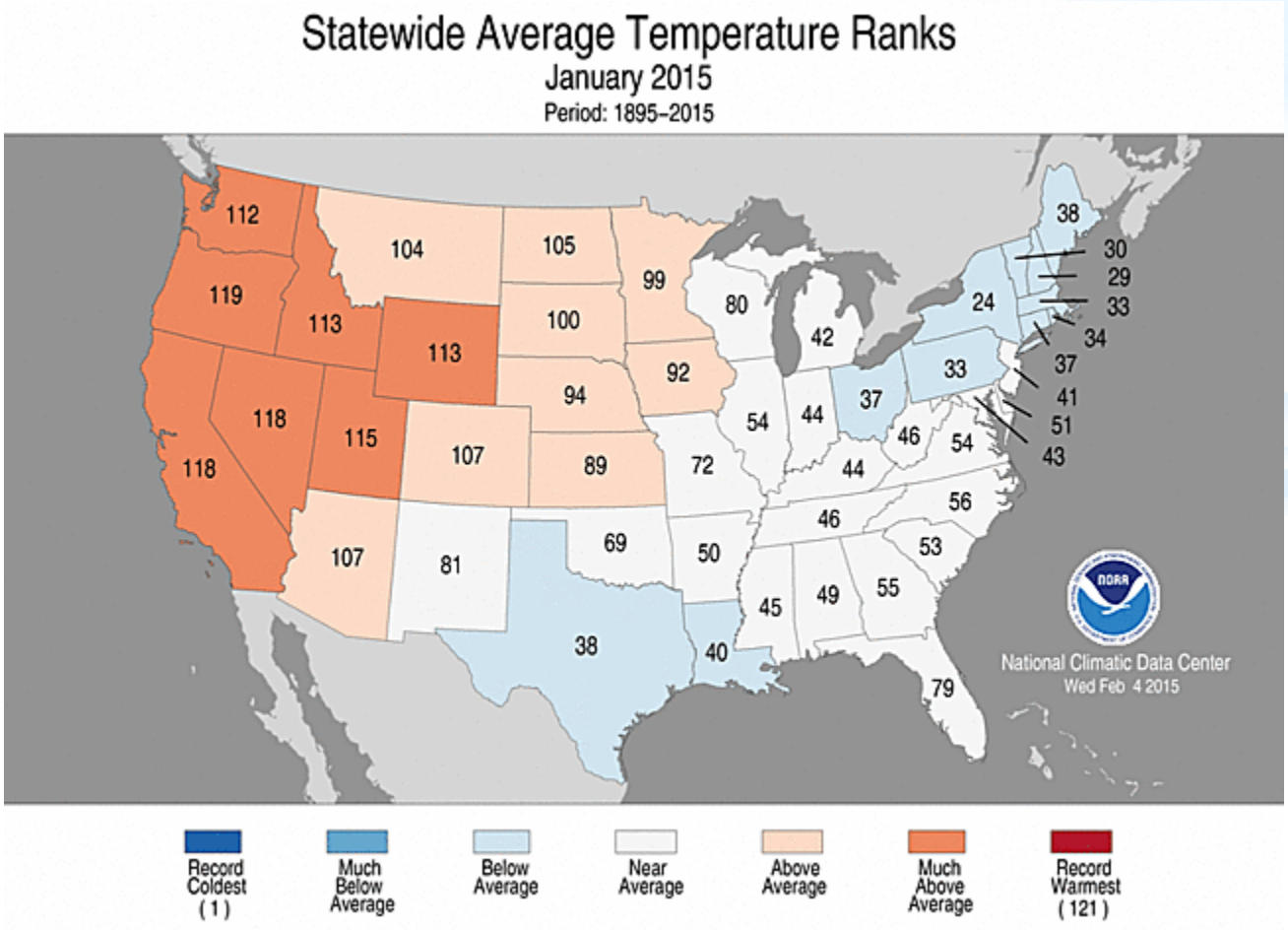
Natural Gas Update
OMA Energy Committee

Richard Ricks
NiSource
February 25, 2015

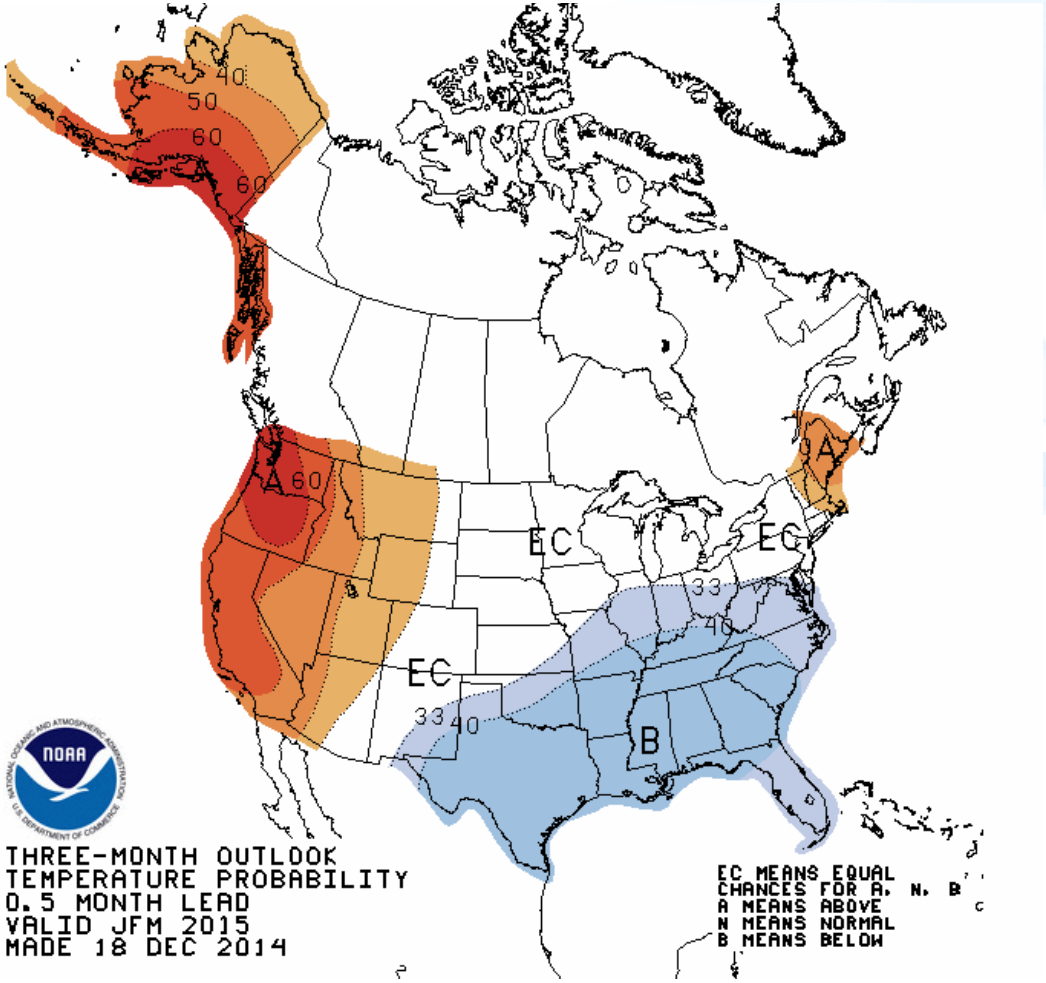
Agenda

- Weather
  - National
  - Degree Days
- National Storage
- Natural Gas Pricing
  - NYMEX Spot
  - NYMEX Prompt Month
  - NYMEX Futures
  - Various Pricing Points
- Production and Rig Counts

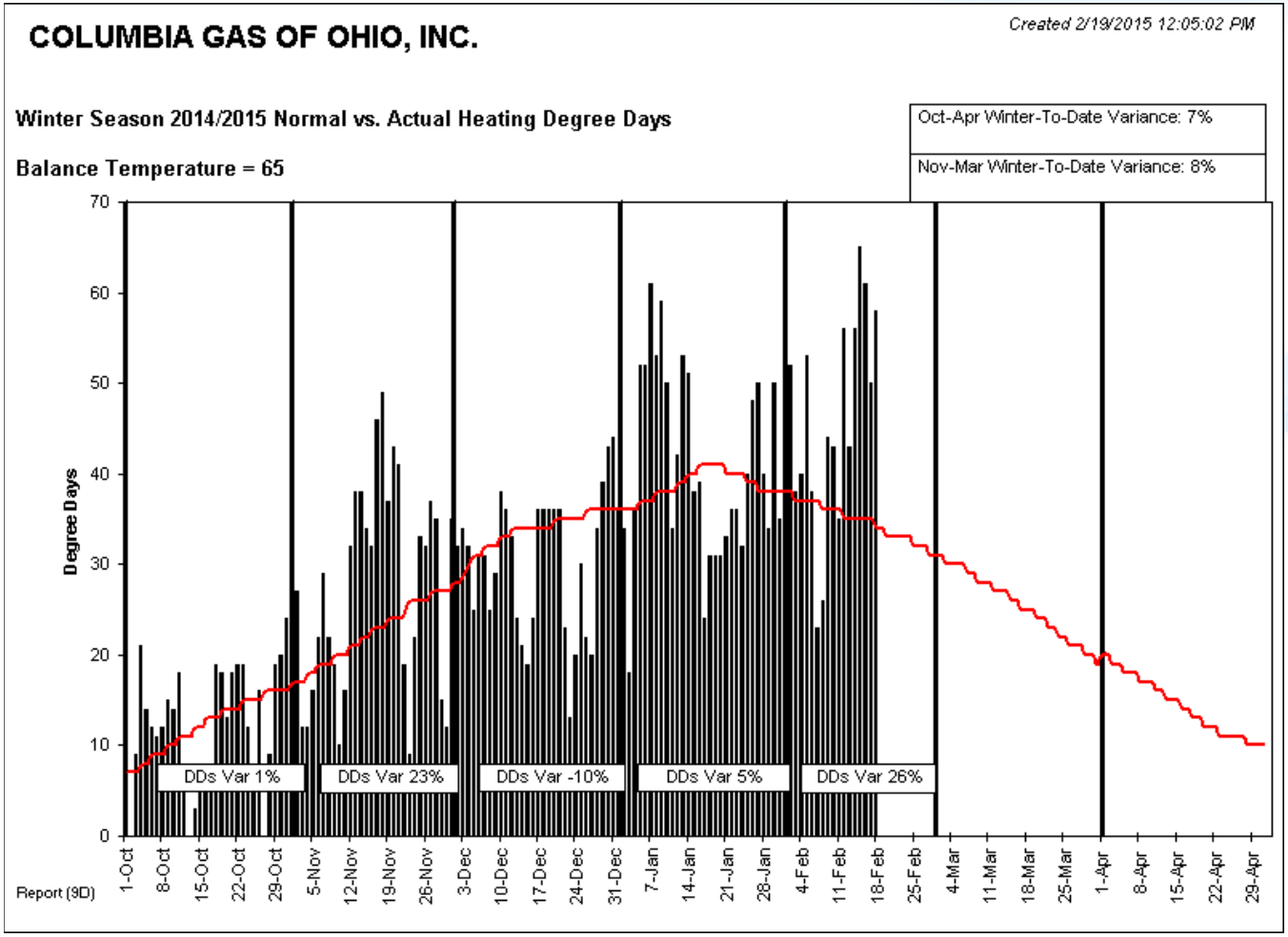
Average US Temperature During January was 33.0°F, 2.9°F Above Average



January, February, March
2015 Temperature Outlook



Degree Day Comparison



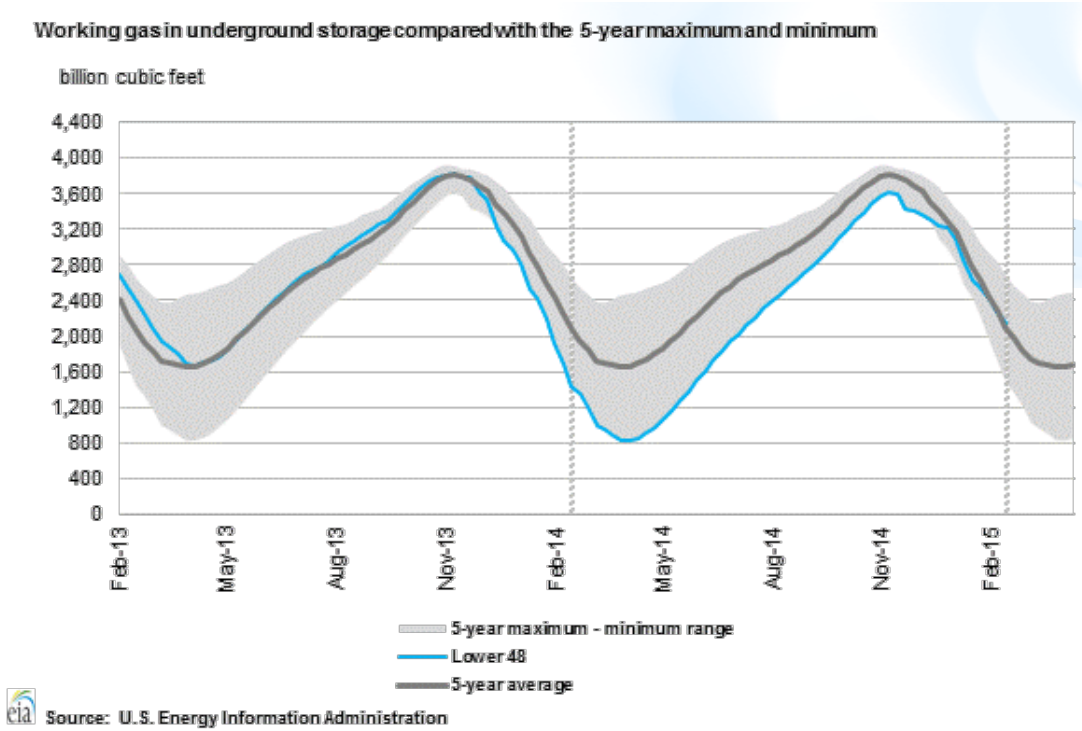
Anticipated Rank of This Year's February Weather

Columbia Gas Distribution Companies
February 2015 Cold Weather Rank (based on 28 days)
Degree Days Calculated Using a BPT of 65°F

		Actual 2/1 - 2/17	Forecast 2/18 - 2/28	Total 2/1 - 2/28	Anticipated Feb-15 Rank
CKY					
Review of 67 Winters					
	Feb-15	624	493	1,117	**2 nd**
Prior Top 3					
#1	1978			1,201	
#2	1958			1,091	
#3	1979			1,054	
CMD					
Review of 67 Winters					
	Feb-15	669	479	1,148	**2 nd**
Prior Top 3					
#1	1978			1,179	
#2	1979			1,137	
#3	1963			1,125	
COH					
Review of 67 Winters					
	Feb-15	759	532	1,291	**3 rd**
Prior Top 3					
#1	1978			1,368	
#2	1979			1,303	
#3	1963			1,245	
CPA					
Review of 67 Winters					
	Feb-15	733	530	1,263	**2 nd**
Prior Top 3					
#1	1979			1,275	
#2	1963			1,226	
#3	1978			1,226	
CGV					
Review of 67 Winters					
	Feb-15	558	413	971	**3 rd**
Prior Top 3					
#1	1979			1,029	
#2	1978			1,000	
#3	1963			936	
CMA					
Review of 55 Winters					
	Feb-15	811	496	1,307	**1 st**
Prior Top 3					
#1	1979			1,258	
#2	1963			1,180	
#3	2003			1,160	

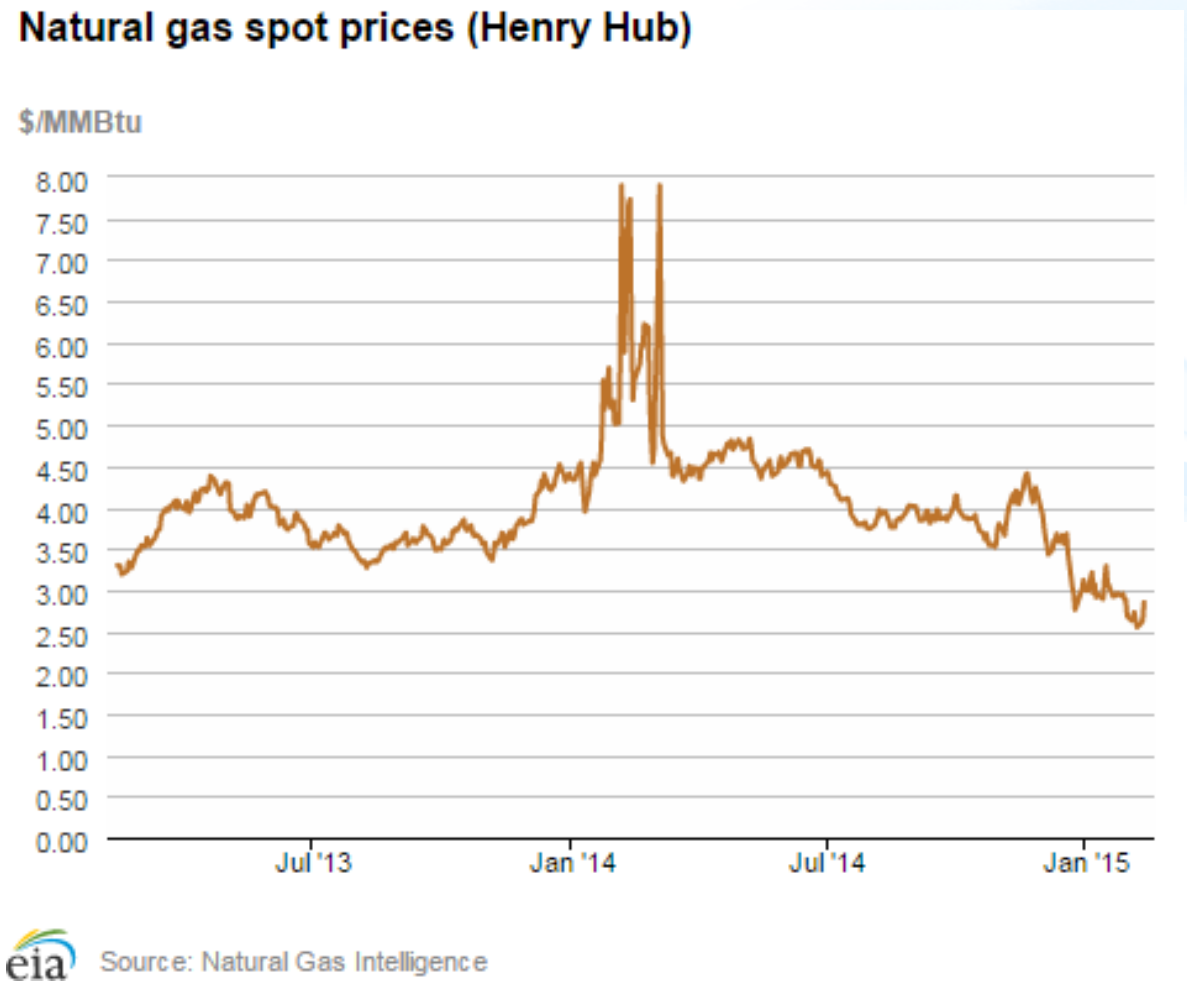
National Storage

Summary
Working gas in storage was 2,157 BCF as of Friday, February 13, 2015, according to EIA estimates. This represents a net decline of 111 BCF from the previous week. Stocks were 678 BCF higher than last year at this time and 58 Bcf above the 5-year average of 2,099 BCF. In the East Region, stocks were 28 BCF below the 5-year average following net withdrawals of 97 BCF. Stocks in the Producing Region were 26 BCF above the 5-year average of 772 BCF after a net withdrawal of 18 BCF. Stocks in the West Region were 60 BCF above the 5-year average after a net addition of 4 BCF. At 2,157 BCF, total working gas is within the 5-year historical range

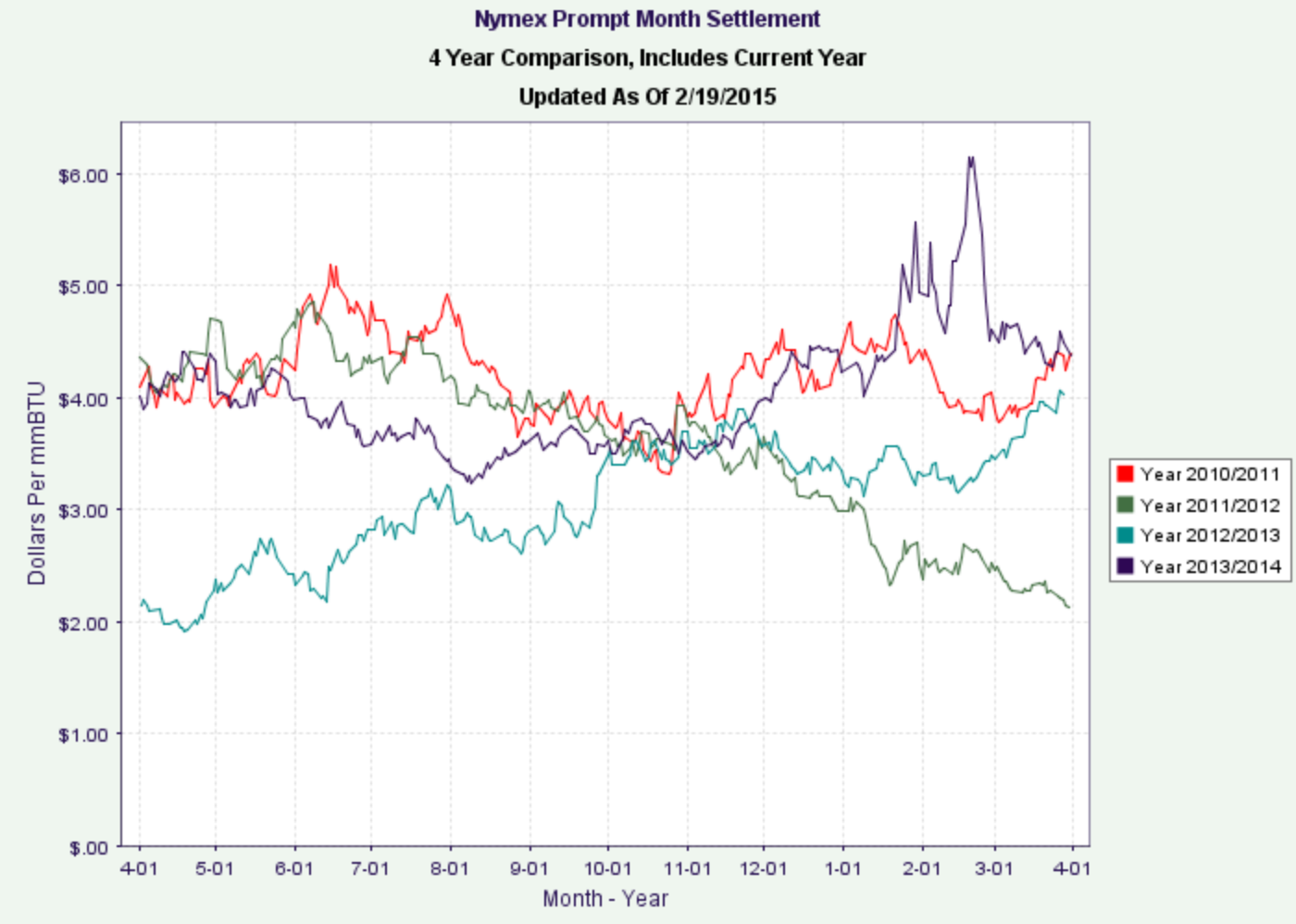


Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2010 through 2014.
Source: Form EI-91, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year-ago weekly periods

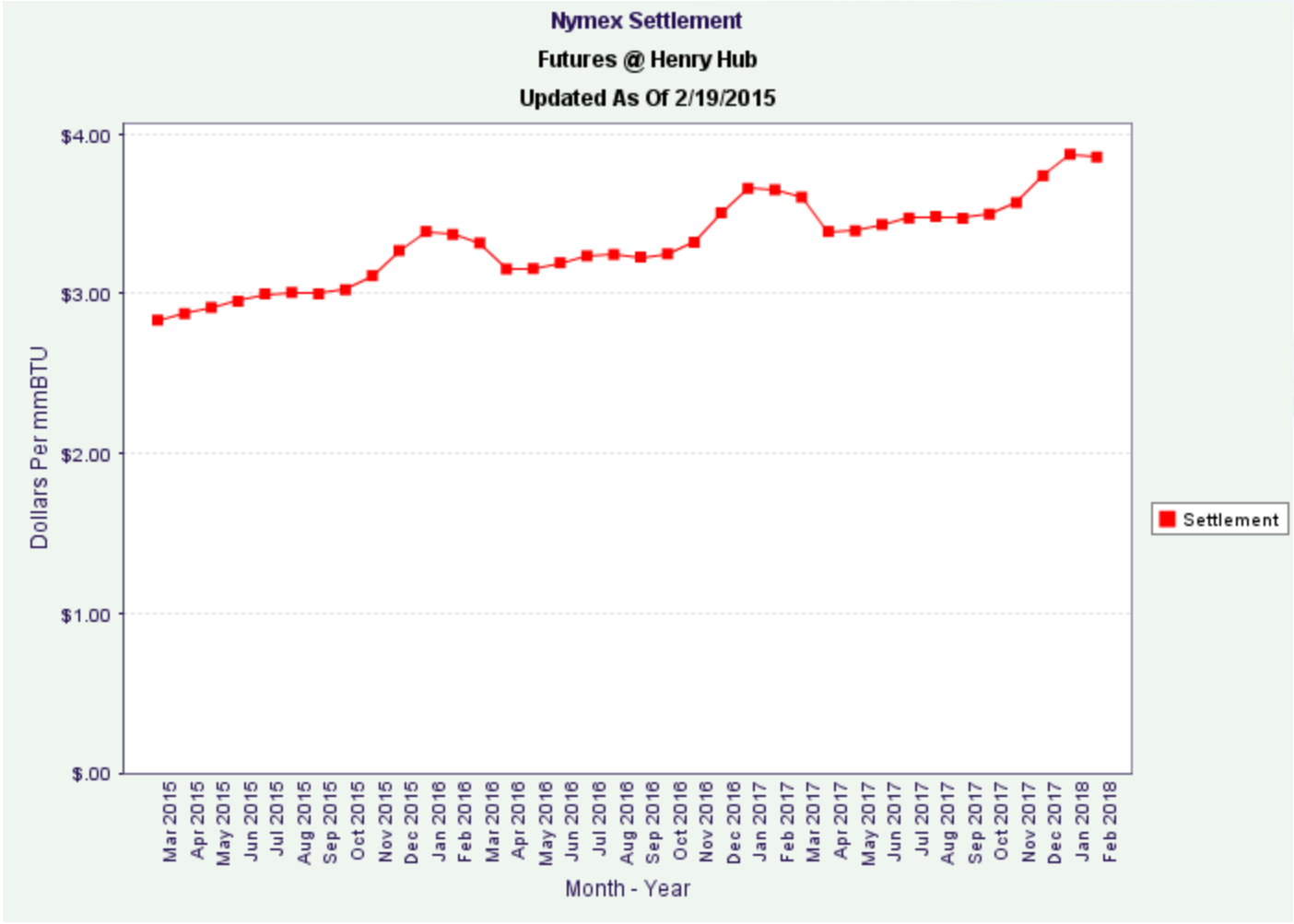
Henry Hub Natural Gas Spot Prices



NYMEX Prompt Month Settlement



NYMEX Futures



Strip Pricing

Term	Price
3 Month	$2.87
6 Month	$2.93
12 Month	$3.06
18 Month	$3.11

These prices include recent, modest increases

Pricing still relatively flat going forward

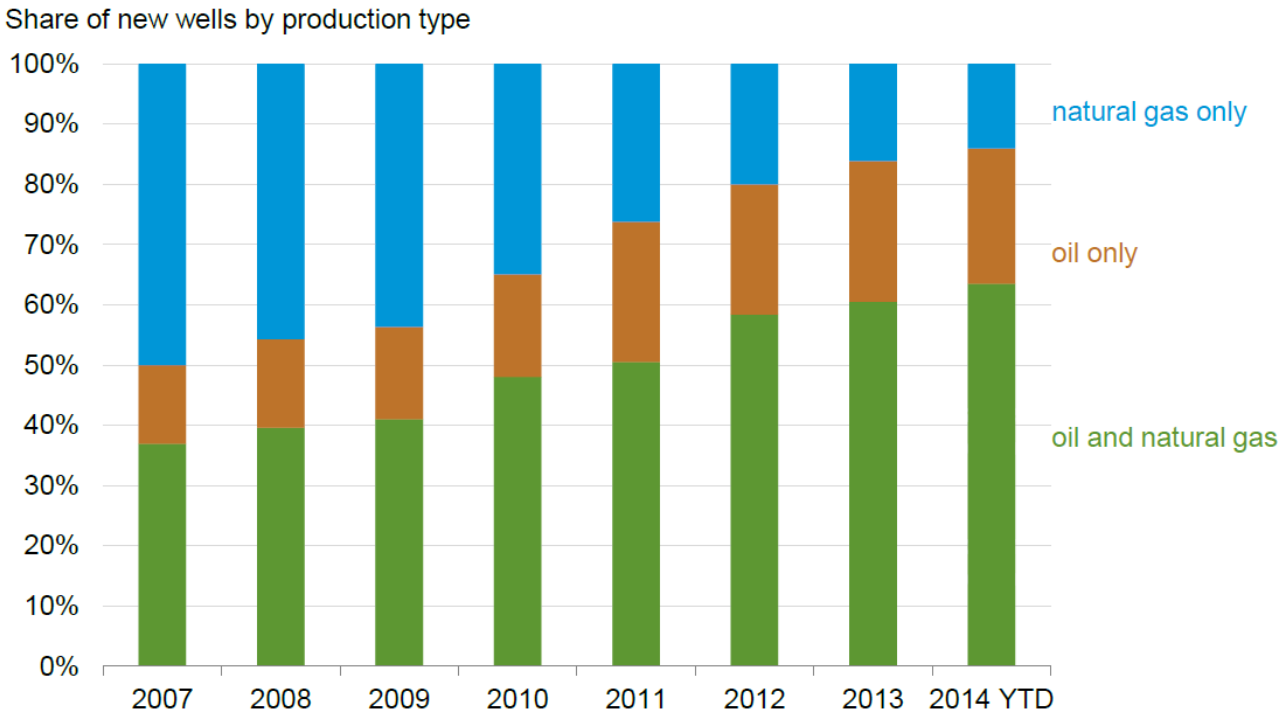
Various Pricing Points

Location	Feb 19	Feb 20
Henry Hub	$2.92	$2.97
TCO Pool	$3.01	$3.00
Chicago CG	$11.59	$6.60
TETCO M-3	$20.66	$14.75
NY CG	$35.50	$18.23
Transco NY	$37.90	$21.14
MichCon CG	$9.25	$5.24

NOTE: Index Prices versus City Gate Prices

New Wells Produce Natural Gas and Oil

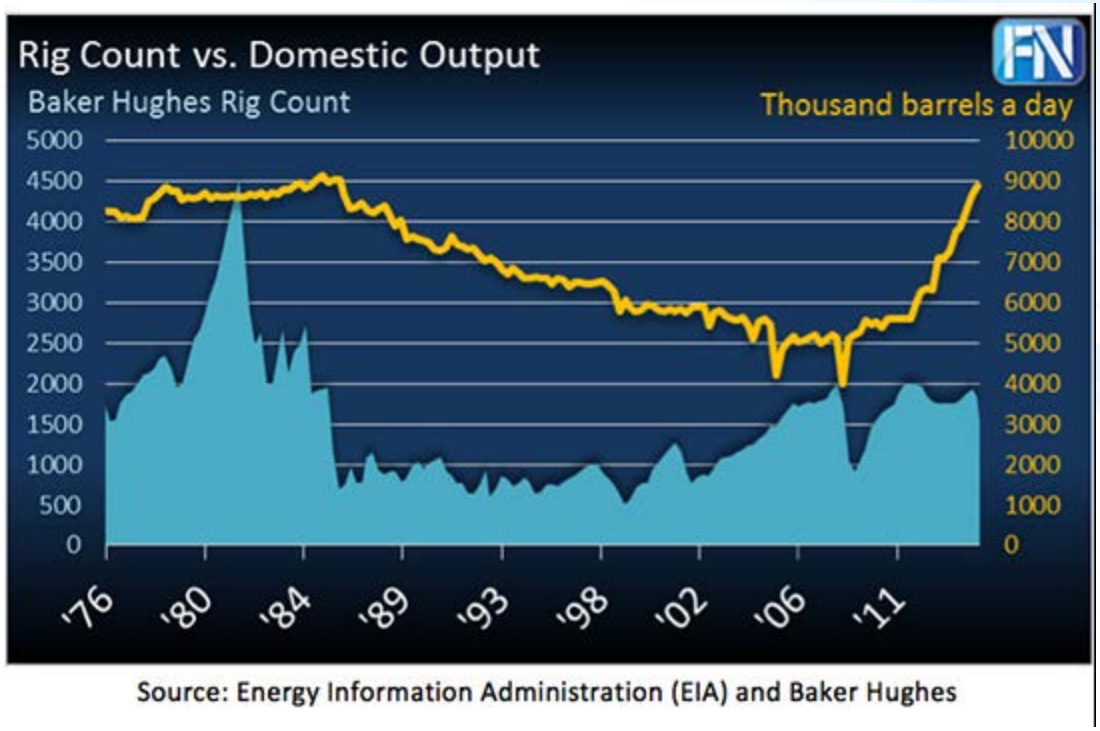
A larger share of new wells produce both oil and natural gas



Note: 2014 figure represents averages from January to September 2014

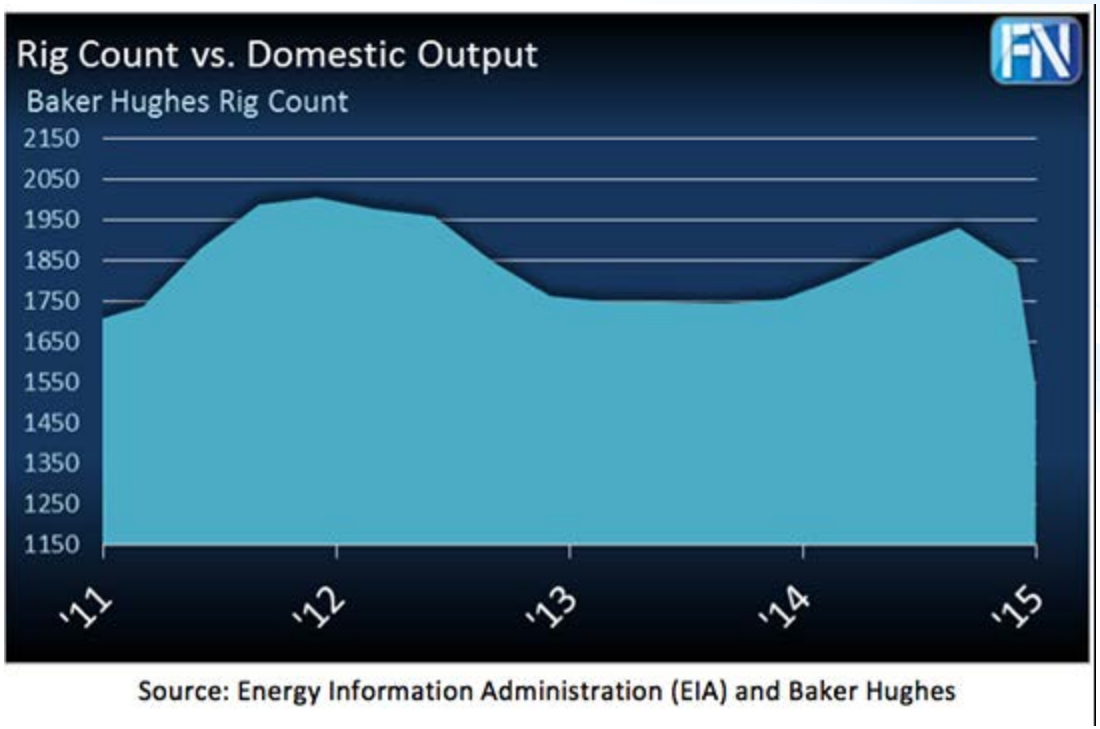
Source: EIA based on DrillingInfo

Rig Count and Domestic Oil Production



Source: Energy Information Administration (EIA) and Baker Hughes

U.S. Rig Count Drop by 90 Rigs in one week



Source: Energy Information Administration (EIA) and Baker Hughes

2015 World Wide Rig Count

BAKER HUGHES INCORPORATED WORLDWIDE RIG COUNT									
2015	Latin America	Europe	Africa	Middle East	Asia Pacific	Total Intl.	Canada	U.S.	Total World
Jan	351	128	132	415	232	1,258	368	1,683	3,309
Feb									
Mar									
Apr									
May									
Jun									
Jul									
Aug									
Sep									
Oct									
Nov									
Dec									
Avg.	351	128	132	415	232	1,258	368	1,683	3,309