ABATE

ASSOCIATION OF BUSINESSES ADVOCATING TARIFF EQUITY

SEVEN ESSENTIAL ENERGY POLICY REFORMS FOR A PROSPEROUS MICHIGAN FUTURE

1. Expand Electric Choice: Electric Choice saves hundreds of millions annually for consumers. Today, there are 11,000+ consumers on a waiting list for Choice in Michigan — and they stand to save over $230 million annually. Additionally unfair and burdensome provisions should not be placed solely on retail choice suppliers that will only result in increased cost to customers.

2. Require a Competitive Bid/Supply Planning Process:
An Integrated Resource Planning Process (IRP) will identify the existing generation resources, identify the timing/need for new resources, explore all of the options and identify a portfolio of projects that will meet the need. Moreover enormous consumer cost savings can be achieved if electric utilities are required to utilize a competitive bid process for each of the projects in the IRP. Competitive bidding is a proven cost reduction tool used in many other industries. Non-utility companies should not be limited to construction only or partial ownership. In exchange, the utilities should be allowed to earn an authorized rate of return on any power purchase agreements entered into associated with the competitive bid process.

3. Eliminate Self-Implementation of Rate Hikes and require the use of Actual Costs: Michigan utilities have over billed customers more than $237 million since 2008 through self-implemented rate increases and refunds to customers have not matched what they have actually overpaid. Utilities should be required to only implement rate changes after public service commission review and only based on actual costs, not on unknown projected costs. The publicly owned utilities in Michigan are regulated monopolies. As such they are provided the opportunity to recover their costs and earn an authorized rate of return. In setting the customer rates for such a utility, the utilities should be required to use cost information which is known from a historical test year with adjustments for only known and measurable changes. This provides greater protection for customers while still providing cost recovery for the utilities. Allowing rates to be set on uncertain, project cost has only resulted in higher rates for customers and the utilities earning more than their authorized rate of return.

4. Eliminate Revenue Decoupling: With the ability to file rate cases every 12 months, revenue decoupling is currently provided to the utilities via the rate case regulatory process. The current rate case process creates an environment that allows the utilities to earn their authorized rate of return while also protecting all customers from line item approvals or fractured rate-making that could result in excessive earnings by the utilities. While initially

1

created to encourage energy efficiency, separate revenue decoupling mechanisms for natural gas have increased consumer rates, even when the utilities are earning more than their authorized rate of return. Any adjustment to the utilities' rates should only take place after complete PSC review in a rate case.

5. Energy Efficiency (EE), Energy Optimization (EO) and Demand-Response (DR) need to utilized and treated as a generation resource: Energy Efficiency, Energy Optimization and Demand Response are generally the lowest cost resources. To fully take advantage of these resources we need to make EE, EO and DR part of the IRP and competitive bid process for new resources. EE, EO and DR need to be treated as a capacity/generation resource and, therefore, utility cost recovery should occur in a similar manner as other generation resources allowing for the utility to earn a separate approved rate of return on the money spent on the EE/DR project. This approach does not require the use of revenue decoupling, and all of the problems associated with decoupling. It also does not require the use of separate EE charges (especially per unit charges) or incentive payments for "installing" this EE/DR resource, just as we do not have separate surcharges or pay the utility incentive payments to build new generation. "By definition, incentives are inducements to act when there is discretion not to act. Having received the privilege to serve, the monopoly has no discretion not to act. If it had that discretion, it could refuse to act until it got what it wanted. That is not how regulation works. Busy intersections don't offer cars money for not stopping; the red light orders them to stop. And in utility regulation, we set standards and require compliance. We don't (or shouldn't) pay "incentives." We define an obligation and we compensate for that obligation, based on reasonable cost and reasonable profit."[1]

6. Promote Self-Generation / Co-generation: Industrial customers install co-generation facilities that produce both electricity and steam for use at their facility. Electricity generation from co-generation facilities is very efficient. Industrial customers need to be able to use this electricity directly in their facility and not have to pay the full utility retail rate and simply sell this electricity into the wholesale market. Additionally, many times in order to satisfy the steam demand there is excess electricity generated. Industrial customers also install self-generation to improve reliability. A loss of electricity to an industrial facility can result in millions of dollars in cost. There should not be a limit on the size of, or the total amount of, self-generation/co-generation that industrial customers can install. Legislation should encourage the development of large industrial self-generation and co-generation facilities, not restrict it.

7. Require Securitization Bonds for Retiring Coal Plants: The use of lower cost debt to refinance retiring coal plants would bring consumer costs down considerably.

[1] "Reforming the Energy Vision: Did New York Get Everything Right?" July 2015, Scott Hempling

(2)

SB 437

Support the following (could tend to reduce rates or control costs):

1. p. 3 line 27, pg 4 lines 1-27, pg. 5 lines 1-6: Self –implemented rates repealed; refund problems mitigated.

2. p. 26 commencing at line 15: Statewide integrated resources plan required.

3. p. 39 commencing at line 3: standards added for integrated resource plans including projected rate impact of IRP Plan required to be considered.

4. p. 41 line 8: Performance based regulation studied with collaboration of representatives of each customer class.

5. p. 42 lines 14-16: Performance based rate making to consider profit sharing provision to spread proficiency gains among customers and utility shareholders.

Oppose as written the following (likely increase utility revenues or raise rates):

1. p. 3 line 11-13: Still allows utilities to use projected cost in developing requested rates and charges. The publicly owned utilities in Michigan are regulated monopolies. As such they are provided the opportunity to recover their costs and earn an authorized rate of return. In setting the customer rates for such a utility, the utilities should be required to use cost information which is known from a historical test year with adjustments for only known and measurable changes. This provides greater protection for customers while still providing cost recovery for the utilities. Allowing rates to be set on uncertain, project cost has only resulted in higher rates for customers and the utilities earning more than their authorized rate of return.

2. p. 5 line 26: Rate cases must be decided in ten (10) months, not twelve (12) or request is automatically approved. This should only be considered if self-implementation is eliminated and there should be an option for commission to extend to 12 months if necessary due to the complexity of the case.

3. p. 10 line 27 and p. 11 lines 1-9: Allows revenue decoupling for electric and gas utilities and requires the Commission give deference to the utilities' proposed decoupling plans. With the ability to file rate cases every 12 months, revenue decoupling is currently provided to the utilities via the rate case regulatory process. The current rate case process creates an environment that allows the utilities to earn their authorized rate of return while also protecting all customers from line item approvals or fractured rate-making that could result in excessive earnings by the utilities. While initially created to encourage energy efficiency, separate revenue decoupling mechanisms for natural gas have increased consumer rates, even when the utilities are earning more than their authorized rate of return. Any adjustment to the utilities' rates should only take place after complete PSC review in a rate case. Legislation should never limit the commission's ability to

(3)

determine the merits of a program by requiring the commission to give deference to the utilities proposal.

4. P. 18 line 27 and p. 19 lines 1-2: Removes the ability of commission to disallow capacity charges associated with power purchased for period in excess of 6 months unless the utility has obtained the prior approval of the commission.

5. P. 30 lines 10-20: Request for Proposals to meet the identified generation need is only required for the initial RFP. This needs to be an integral part of the IRP process each and every time. Also the utility should be required to select the option that meets the identified requirements at the lowest costs.

6. P. 30 lines 25-26: Proposals shall not include demand side resources. We should be promoting the use of energy efficiency and demand side resources through this IRP process not restricting it.

7. p. 31 lines 3-5: A utility is not required to accept any proposals submitted in response to its RFP from the IRP, thus making the RFP unlikely to attract other proposals. In addition to a robust Integrated Resource Planning Process (IRP) which will identify the existing generation resources, identify the timing/need for new resources, explore all of the options and identify a portfolio of projects that will meet the need, enormous consumer cost savings can be achieved if electric utilities are required to utilize a competitive bid process for the projects approved in the IRP. Competitive bidding is a proven cost reduction tool used in many other industries. Non-utility companies should not be limited to construction only or partial ownership. In exchange, the utilities should be allowed to earn an authorized rate of return on the non-fuel portion of any power purchase agreements selected through the competitive bid process.

8. p. 34 line 24: As written intervention can only be by parties "approved" by the Commission rather than "interested" parties which should have a "right" to intervene.

9. p. 35 lines 7-15: The Commission may authorize a rate of return on PPAs, and costs for identified investments included in an approved IRP are automatically considered reasonable for cost recovery purposes; thus shifting risks to customers and utility keeps high ROE as though bear the risk. However we could support this if the PPA (including the cost of an authorized rate of return to the utility) and other investments have been selected as the best option through the IRP and RFP competitive bid process.

10. p. 36 lines 26-27 and p. 27 lines 1-4: Attempts to limit the manner and scope of judicial review of an Integrated Resources Plan by the Court of Appeals.

11. p. 37 lines 5-17: Eliminates the standard regulatory safe guard of investments being "used and useful" before allowing the utility to include cost in their rates. This section is vague and may allow utilities to immediately file for rate increases of "approved" costs that they have not even yet incurred. This also effectively shifts all risks of mistaken plan on to customers without any off-set in ROE of utility.

(4)

12. p. 40 line 17: Only an electric utility can seek amendments to an approved IRP. Other interested persons should be able to seek amendments.

13. p. 41 lines 1-7: Only certain government entities can request a plan review, not customers. Customers should be able to petition for a plan review.

14. p. 42 lines 8-27 & p.43 lines1-25: Agree that performance based regulation should be studied. However there is no need for legislation to specify what should be included in a performance based system. What should be included needs to be part of the study and recommendation. One of the primary goals should also be to determine if performance based regulation can provide more competitive rates than the existing regulatory approach.

15. P. 43 lines 8-17: Deletes some of the key purposes and customer benefits of retail choice

16. p. 46 lines 5-27 and p. 47 lines 1-13: **Regulates customers** not utilities and requires customers give certain notices in order to stay on choice. At a minimum ten percent retail choice needs to be maintained as is.

17. p. 47 lines 19-27: Even for customers who elect to stay on choice attempts to regulate how much they can expand their use of choice by limiting the expanded use of choice to facilities that are "similar in nature" and where the customer owns more than fifty percent of the new facility. If a customer is on retail choice there should not be any limits on what existing facilities or new facilities that customer can serve using retail choice.

18. p. 48 lines 1-8: **Penalizes customers** who return to service by requiring that they are no longer eligible to ever receive competitive service from an AES. At a minimum ten percent retail choice needs to be maintained as is.

19. p. 48 lines 12-27 & p. 49 lines 1-3: **Requires customers** returning to utility service provide three (3) years advance written notice. Existing return to service provisions are adequate. However if the utility can demonstrate that existing full service customers will incur cost associated with the returning customer than the returning customer should assume those cost.

20. p. 48 lines 15-16: Provides that a notice of intent to return to standard service is irrevocable. Utility must be required to identify any cost that the returning customer would incur within 30 days of the notice to return to full service by the customer. Returning customer should then have 30 days from the date of such cost notice to withdrawal their notice of intent to return to full service.

21. p. 48 lines 17-18: Allows the utility to **legally discriminate** against customers by waving the notice requirements for some customers and not for others. Existing return to service provisions are adequate.

22. p. 48 lines 18-27: Provides that if a returning customer did not provide three years notice and such return causes additional cost or impairs reliability, an unspecified amount of costs can be assessed to the returning customer. Any assessment of costs must be net

incremental costs that also considers benefits/revenue achieved by the returning customer. Also any and all additional cost to the returning customer needs to be identified prior to the customer making their final commitment to return.

23. p. 49 lines 12-19: Provides that a customer on the waiting list must take the next supply available within seven (7) days or that customer is removed from the list and is not eligible again for customer choice service. Seven days is ok for a customer to provide notice that they accept the open position. However 7 days is not enough time to finalize all agreements with the choice supplier and begin taking retail choice service.

24. p. 50 lines 2-4: Requires that an AES file all of its electric supply contracts with the Commission. Presents serious customer and supplier confidentiality issues with no easy way to really protect the information.

25. p. 50 lines 14-22: Requires an AES demonstrate dedicated firm physical electric generating capacity to serve choice customers load plus an unknown amount of load growth for three (3) years. At most this requirement should only be tied to length of contract with customer, the contracted load and the applicable planning reserve margin.

26. p. 50 lines 23-27 and p. 51 lines 1-14: Requires AES demonstrate five (5) years capacity if MISO forecasts a shortfall two years out. What does "capacity shortfall" mean? We have seen the MISO assessment be way off and substantially revised from year to year.

27. p. 51 lines 23-27: Limits the demonstrable capacity from power purchase contracts to only those that are **pre-paid**. Why is this more onerous than the requirements of the investor owned utilities? IOU's do not pre-pay for PPAs.

28. p. 52 lines 1-6: Limits the demonstrable capacity to no more than five (5) percent coming from market auction purchases. The MISO auction was specifically setup as a market tool for the efficient purchase of capacity. This provision will only increase cost for retail choice customers.

29. p. 53 line 4-16: Requires the Commission establish a planning reserve margin for customers served by AES, and effectively establishes a fifteen percent reserve margin for AES. Again, why is this more onerous than the requirements of the investor owned utilities? Choice suppliers should have to meet the same planning reserve margin that is setup by the independent system operator just like the investor owned utilities.

30. p. 53 lines 11-16: Prohibits the Commission from considering demand response measures in considering whether the reserve margin has been met unless it can find that the demand response measures are as reliable as firm physical generating capacity. Should utilize the same requirements as the independent system operator in determining whether demand response qualifies as a capacity resource.

31. p. 54 line 4-22: Authorizes an electric utility to create new "value added programs and services" without regard to compliance with the Code of Conduct, thus effectively authorizing cross-subsidization from the monopoly services.

32. p. 57 lines 7-16: Repeals long standing regulations which require revenues from non-utilities services be included in setting rates (which historically recognized that you really could not control utilities trying to cross subsidize businesses) and specifically authorizes utilities to retain profits generated from unregulated business ventures without regard to the Code of Conduct.

33. p. 75 lines 9-17: Allows an electric utility to shut off a customer for non-payment of energy efficiency charges.

34. p. 75 lines 23-27 & p.76 lines 1-3: Allows the electric utility to shut off a customer that has not paid the per meter charge for energy efficiency and optimization programs.

SB 438

Oppose the following (likely increase utility revenues or raise rates):

1. Costs of the programs can be volumetric charges. For many industrial this could be a substantial increase. Any energy efficiency charge must be a per meter charge.

2. Section 75: Financial incentive INCREASED from 15% to 20% and the limitation to no more than 25% of the cost reductions achieved by the customers is **deleted**, so now the more they spend, the bigger the bonus. To fully take advantage of these resources we need to make EE, EO and DR part of the competitive bid process for new resources. EE, EO and DR need to be treated as a capacity/generation resource and, therefore, utility cost recovery should occur in a similar manner as other generation resources allowing for the utility to earn a separate approved rate of return on the money spent on the EE/DR project. This approach does not require the use of revenue decoupling, and all of the problems associated with decoupling. It also does not require the use of separate EE charges (especially per unit charges) or incentive payments for "installing" this EE/DR resource, just as we do not have separate surcharges or pay the utility incentive payments to build new generation. However for natural gas if this EO/Waste Reduction program continues to be structured such that the utility collects the money from customers through a surcharge then the utility should not be allowed to capitalize the cost of the EO program as proposed in Section 89A(4). The money is collected up front from the customers and then simply redistributed through the program so there is no risk to the utility to warrant paying a rate of return.

3. Allows natural gas utility to implement a revenue decoupling mechanism. With the ability to file rate cases every 12 months, revenue decoupling is currently provided to the utilities via the rate case regulatory process. The current rate case process creates an environment that allows the utilities to earn their guaranteed rate of return while also protecting all customers from line item approvals or fractured rate-making that could result in excessive earnings by the utilities. While initially created to encourage energy efficiency, separate revenue decoupling mechanisms for natural gas have increased consumer rates, even when the utilities are earning more than their authorized rate of return. Any adjustment to the utilities' rates should only take place after complete PSC review in a rate case.

4. Section 93: Manufacturing customers have requested that the self-directed provisions be simplified, eliminate some of the red-tape and the penalty provisions for not meeting targets, and let manufacturing customers spend their own money on their own programs, rather than be charged a surcharge and then try to get their own money back in a grant. NONE of these requests is reflected in SB 438.

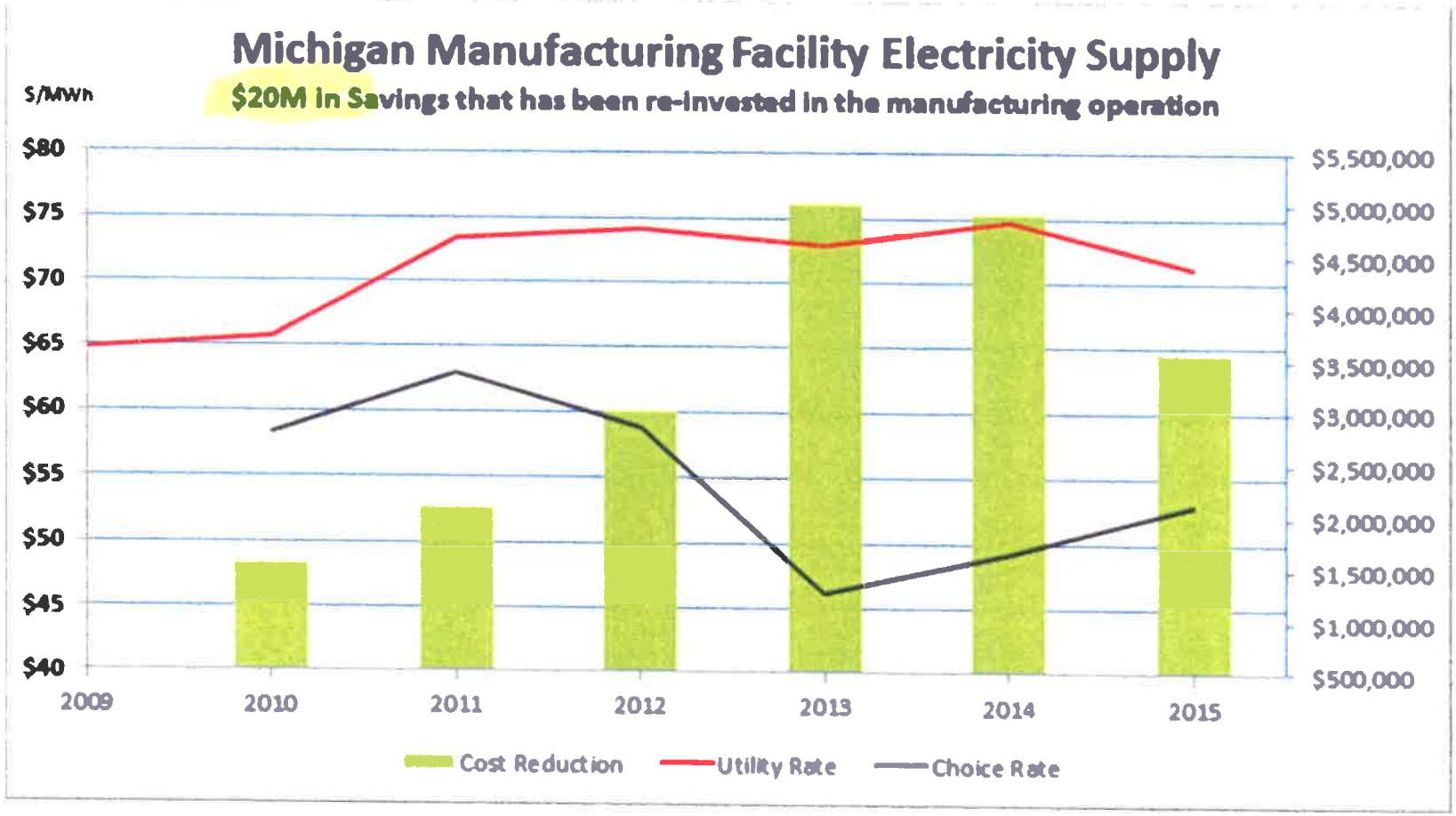
5. Section 173: Originally in Act 295 this was a small net metering program for very small load. In SB 438 it has become a comprehensive distributed generation program designed to restrict self-generation and protect the monopoly position of the incumbent utilities. The total amount of distributed generation is capped at 10% of the average peak over the last 5 years, and of the 10%, only 2.5% can come from eligible generators

producing more than 150 kw. Also the bill language now seems to cap all forms of self-generation to no more than 110% of the customer's average annual electricity consumption. Finally the pricing is proposed to change so that the customer has to pay the full retail rate for all electricity and then gets a bill credit back for the value of the avoided energy cost, which will be the day ahead wholesale energy rate at MISO. For industrial customers these provisions are **very problematic**. In many cases, industrial customers install co-generation facilities that produce both electricity and steam for use at their facility. Electricity generation from co-generation facilities is very efficient. Industrial customers need to be able to use this electricity directly in their facility and not have to pay the full utility retail rate and simply sell this electricity into the wholesale market. Additionally, many times in order to satisfy the steam demand there is excess electricity generated. There should not be a limit on the size of the self-generation/co-generation facility that an industrial customer can install. Also, industrial customers will install self-generation to improve reliability. A loss of electricity to an industrial facility can result in millions of dollars in cost. Legislation should encourage the development of large industrial self-generation and co-generation facilities, not restrict it. At a minimum the following amendment needs added to protect industrial manufacturing customers' right to build, own and operate self-generation/cogeneration:

Sec. 173.
(8) Notwithstanding any other provision of this act, nothing in this act shall in any way limit or restrict an industrial customer's ability to build, own, operate or have a third party build, own and operate one or more self-generation or cogeneration facilities. As used in this section, "cogeneration facilities" means equipment used to produce electric energy and forms of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes, through the sequential use of energy.

Average retail price of electricity	cents per kilowatthour	2014	
United States : industrial	cents per kilowatthour	7.01	EIA
Michigan : industrial	cents per kilowatthour	7.71	EIA
Wisconsin : industrial	cents per kilowatthour	7.65	EIA
Minnesota : industrial	cents per kilowatthour	7.03	EIA
Indiana : industrial	cents per kilowatthour	6.87	EIA
Ohio : industrial	cents per kilowatthour	6.62	EIA
Illinois : industrial	cents per kilowatthour	6.35	EIA
Michigan : industrial Retail Choice	cents per kilowatthour	5.94	* Constellation

* Average of all industrial customers served (in DTE rate class D6 and Consumers rate class GPD


Michigan Manufacturing Facility Electricity Supply
$20M in Savings that has been re-invested in the manufacturing operation
$/MWh
$80
$75
$70
$65
$60
$55
$50
$45
$40
$5,500,000
$5,000,000
$4,500,000
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
2009
2010
2011
2012
2013
2014
2015
Cost Reduction
Utility Rate
Choice Rate

Quarterly Financial Report on Michigan Electric and Natural Gas Utilities

Prepared by: Financial Analysis & Audit Division
Michigan Public Service Commission
4th Quarter 2014 Update

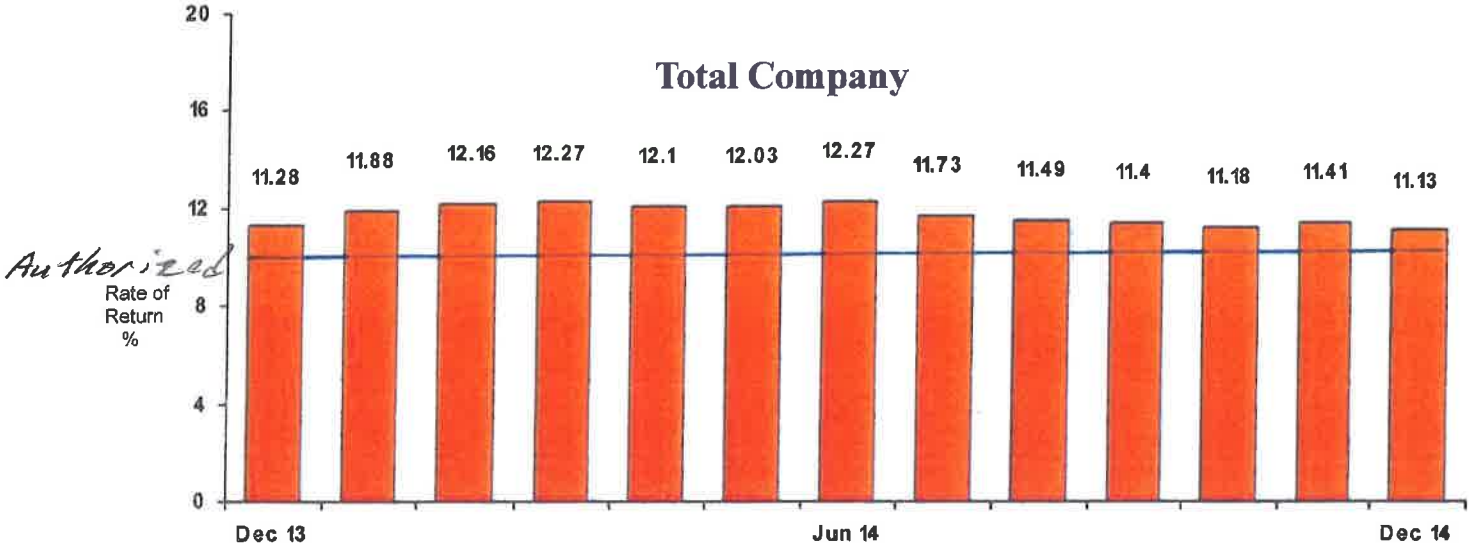
12

Consumers Energy

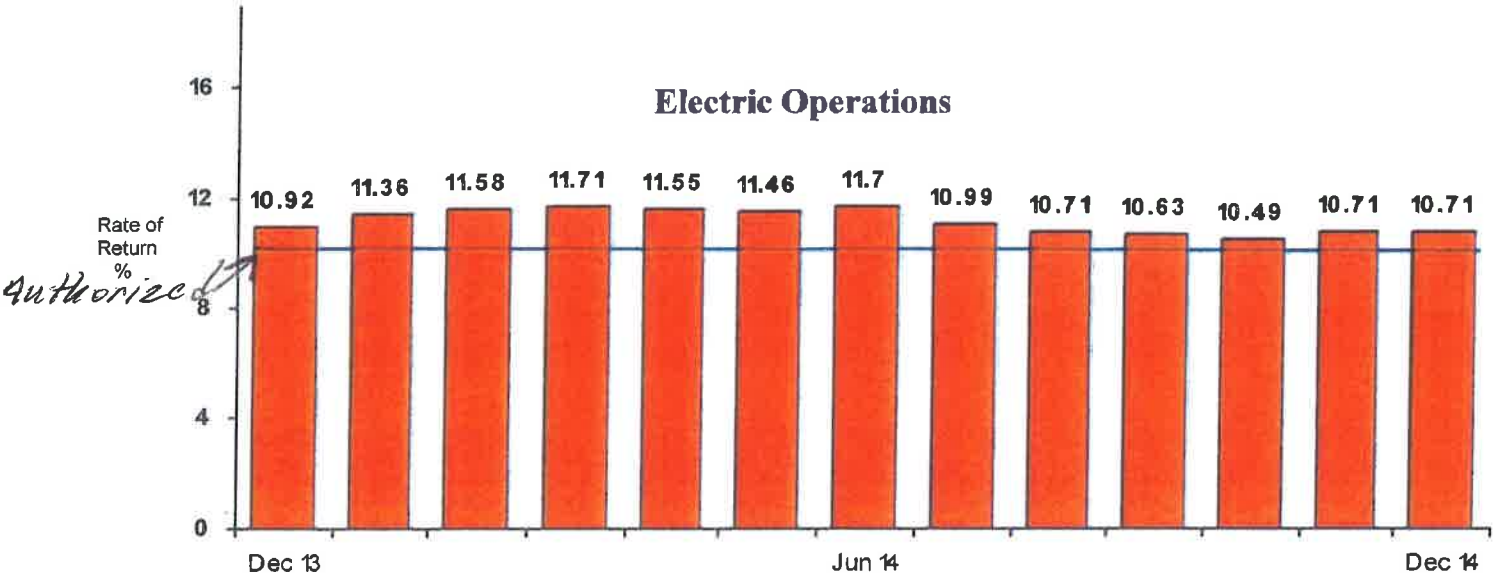
10.30% Authorized Electric & Gas

Earned Rate of Return on Common Equi

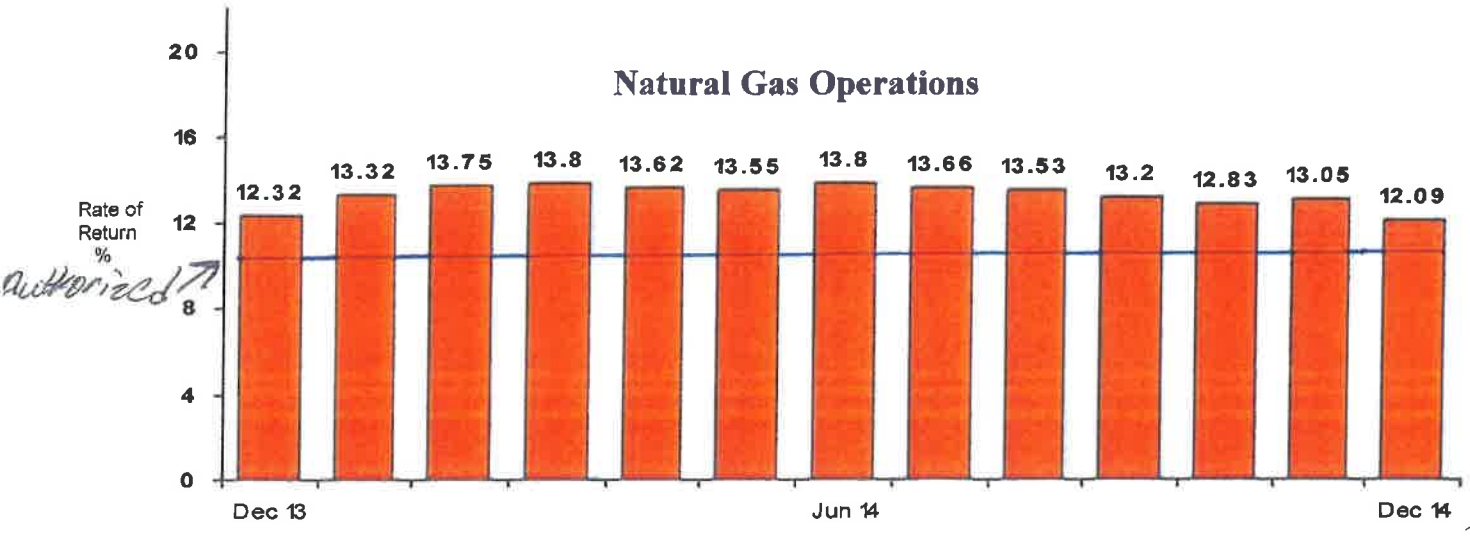
Total Company



Electric Operations



Natural Gas Operations

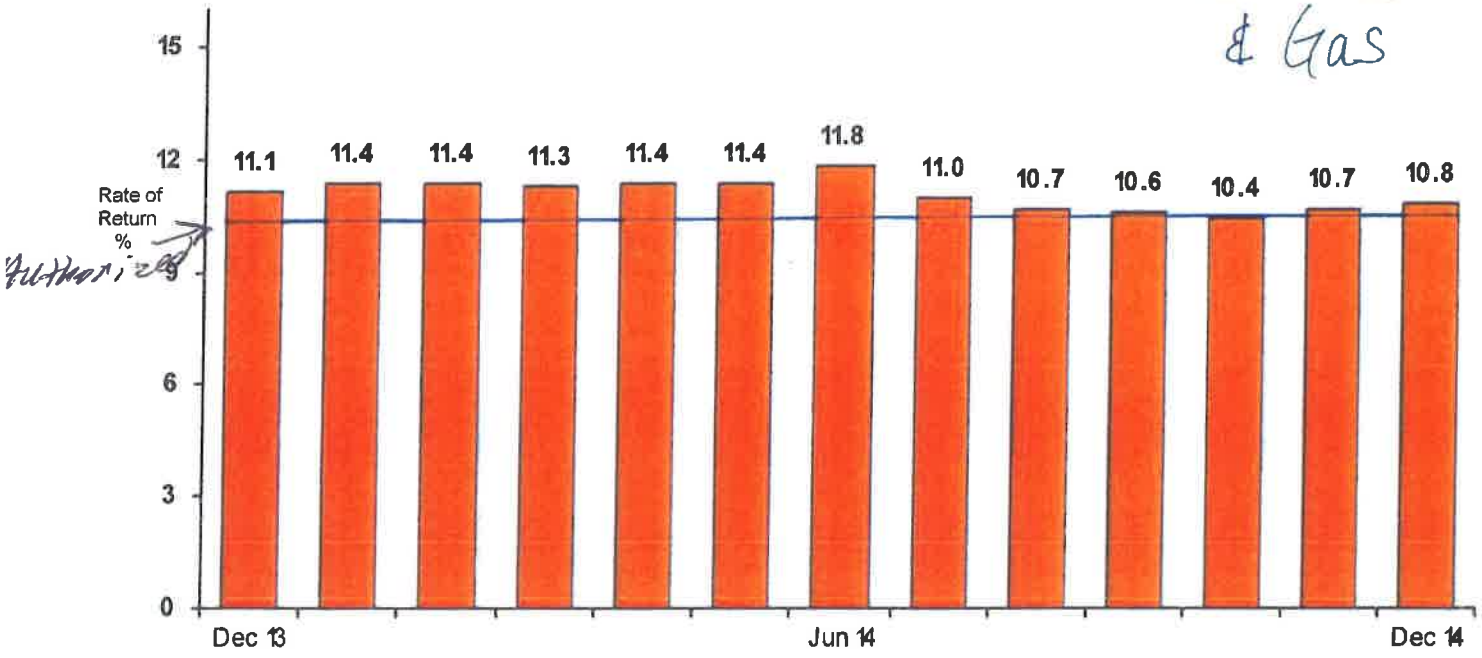


17

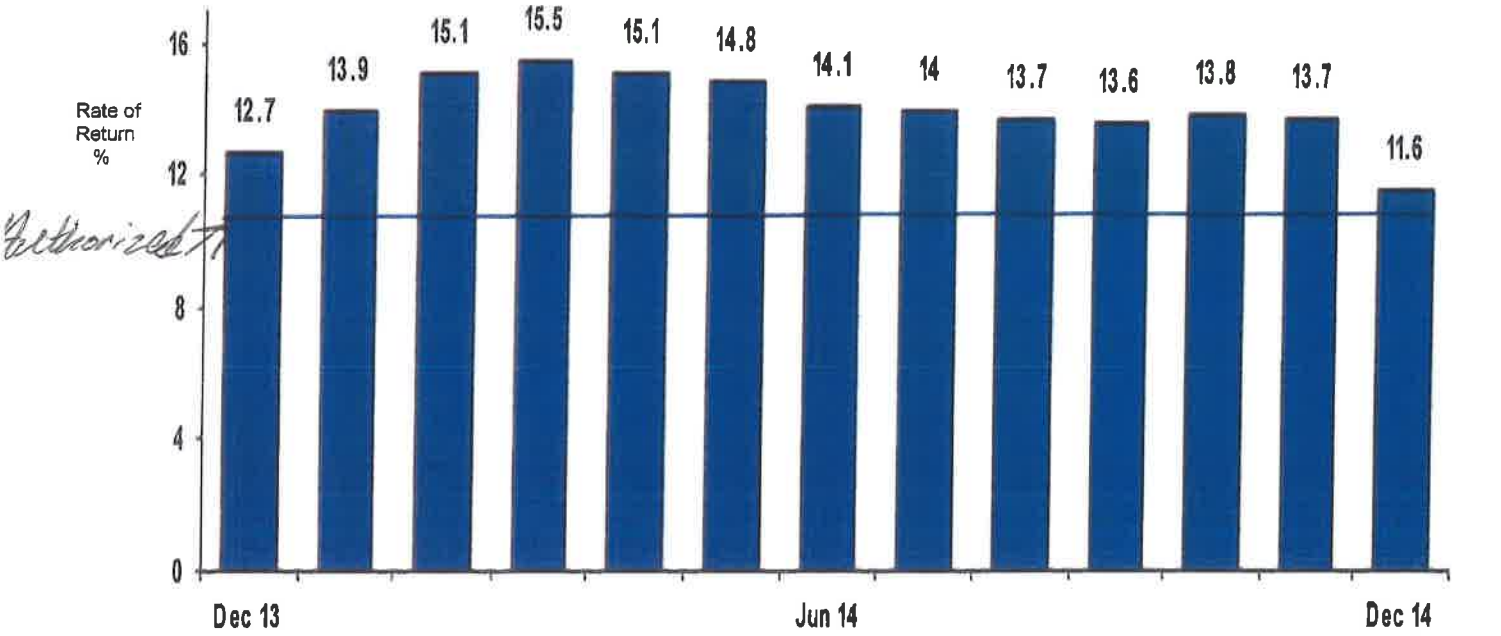
DTE Electric – DTE Gas
Earned Rate of Return on Common Equity (%)

10.5% Authorized Electric & Gas

DTE Electric



DTE Gas



(10)

Quarterly Financial Report on Michigan Electric and Natural Gas Utilities

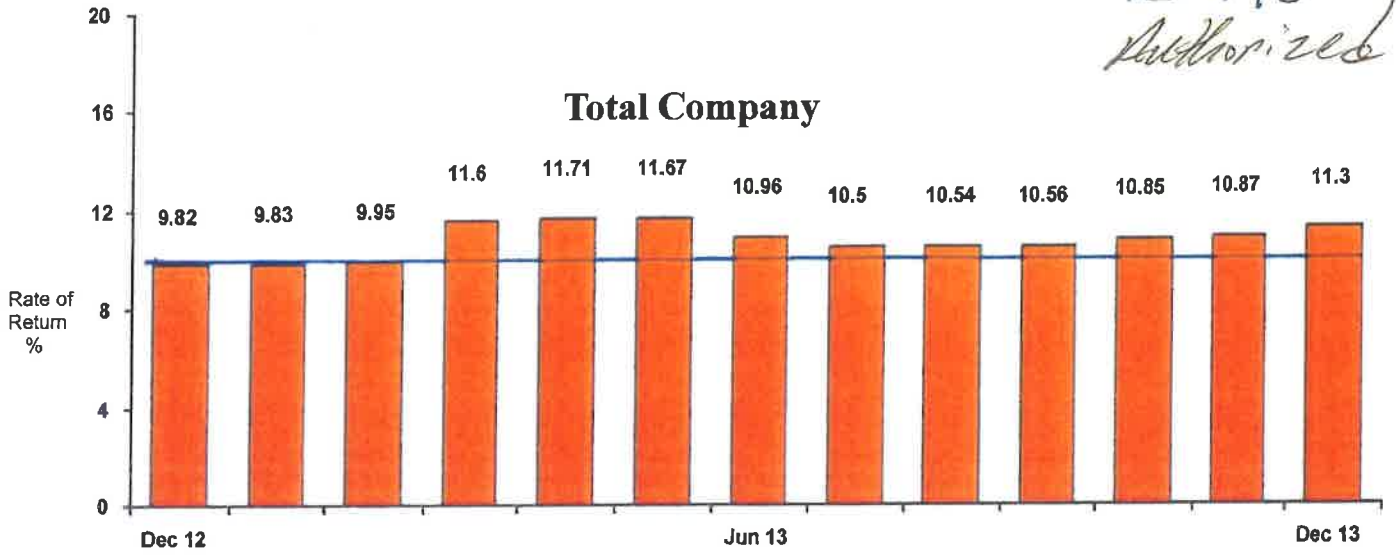
Prepared by: Financial Analysis & Audit Division
Michigan Public Service Commission
4th Quarter 2013 Update

Consumers Energy

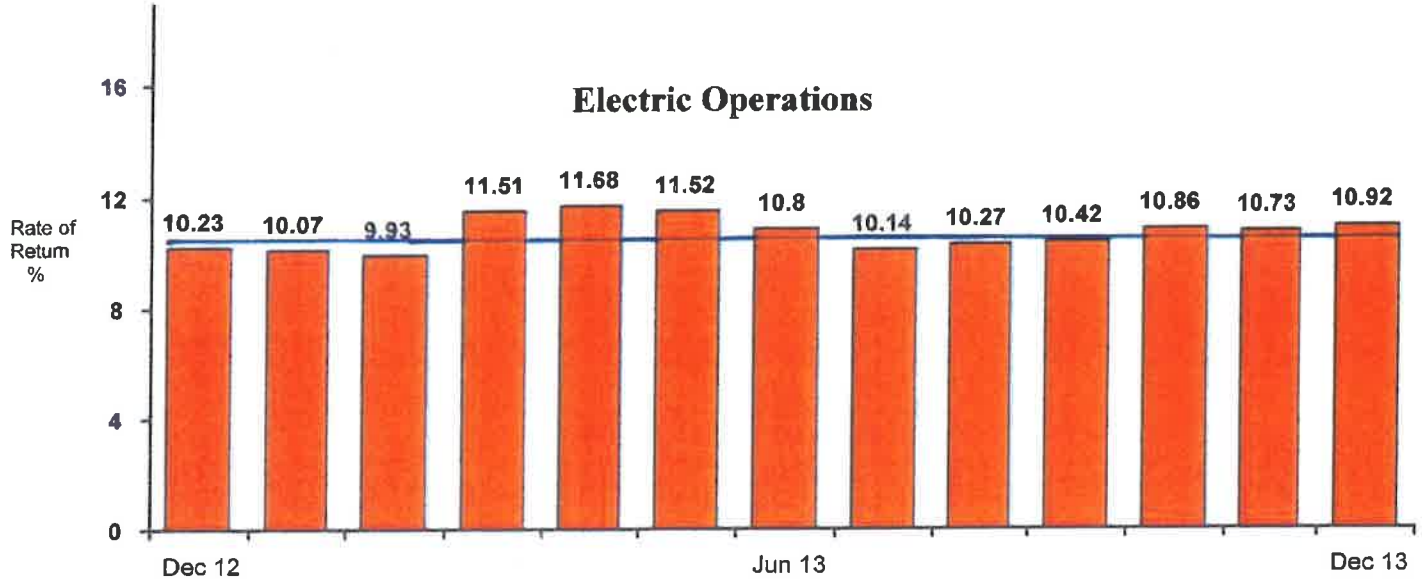
Earned Rate of Return on Common Equity

10.3% Authorized

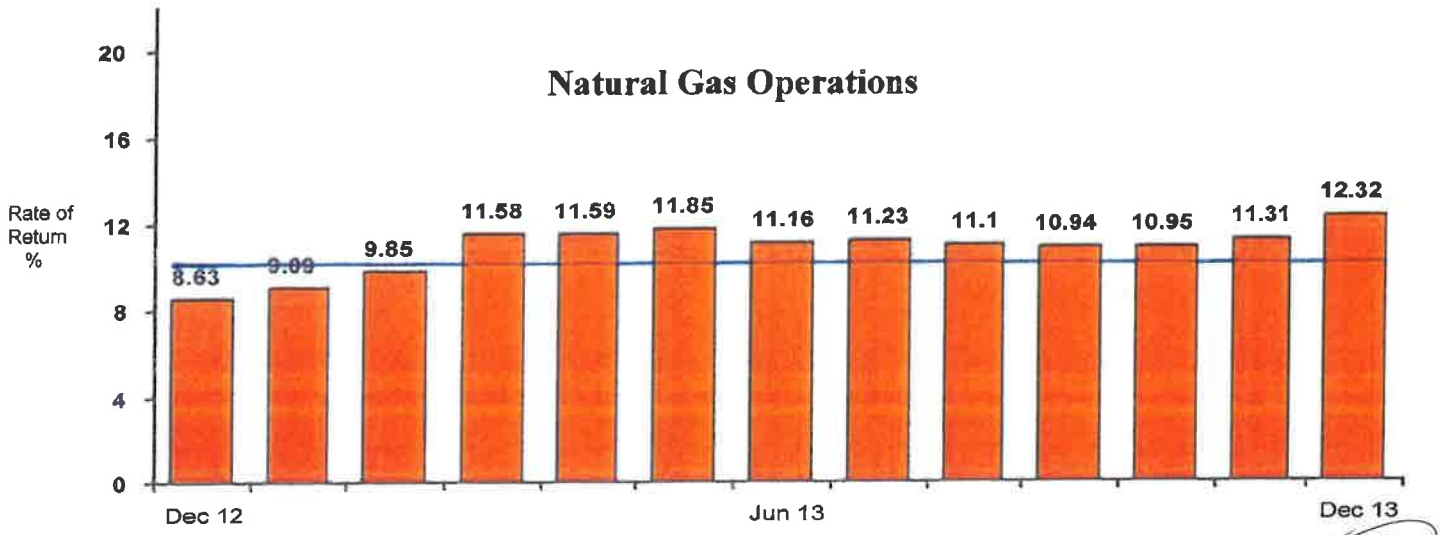
Total Company



Electric Operations



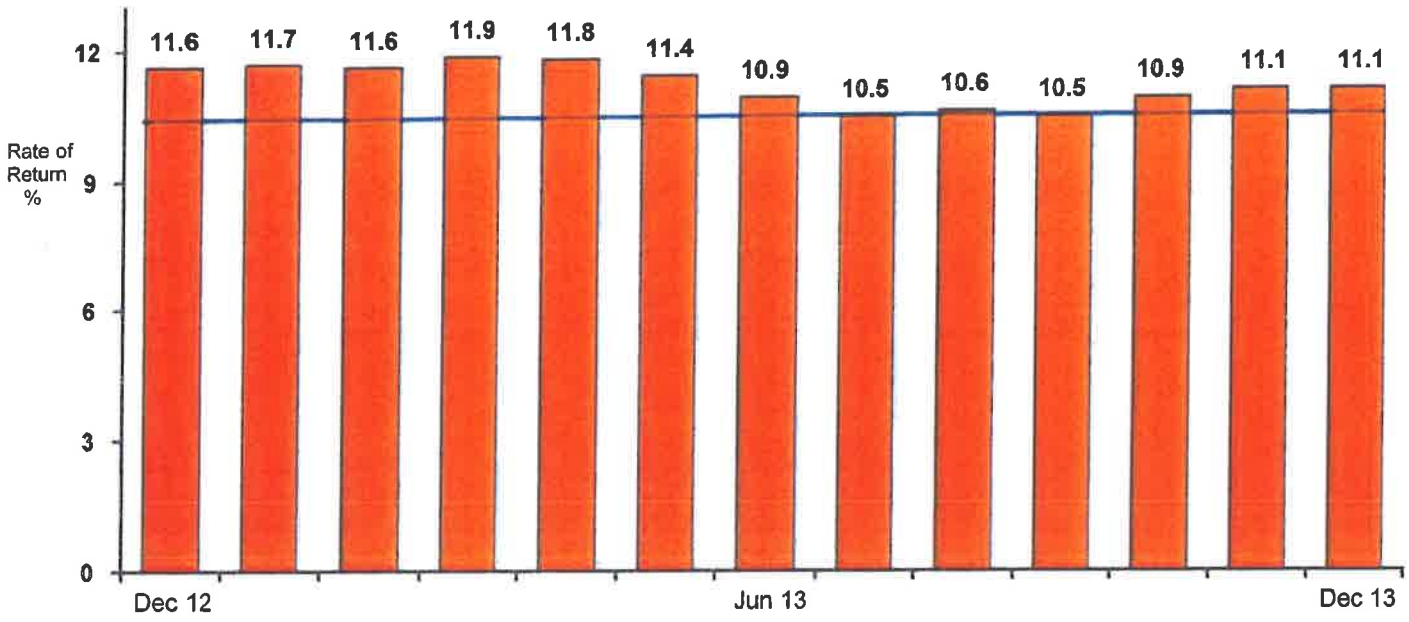
Natural Gas Operations



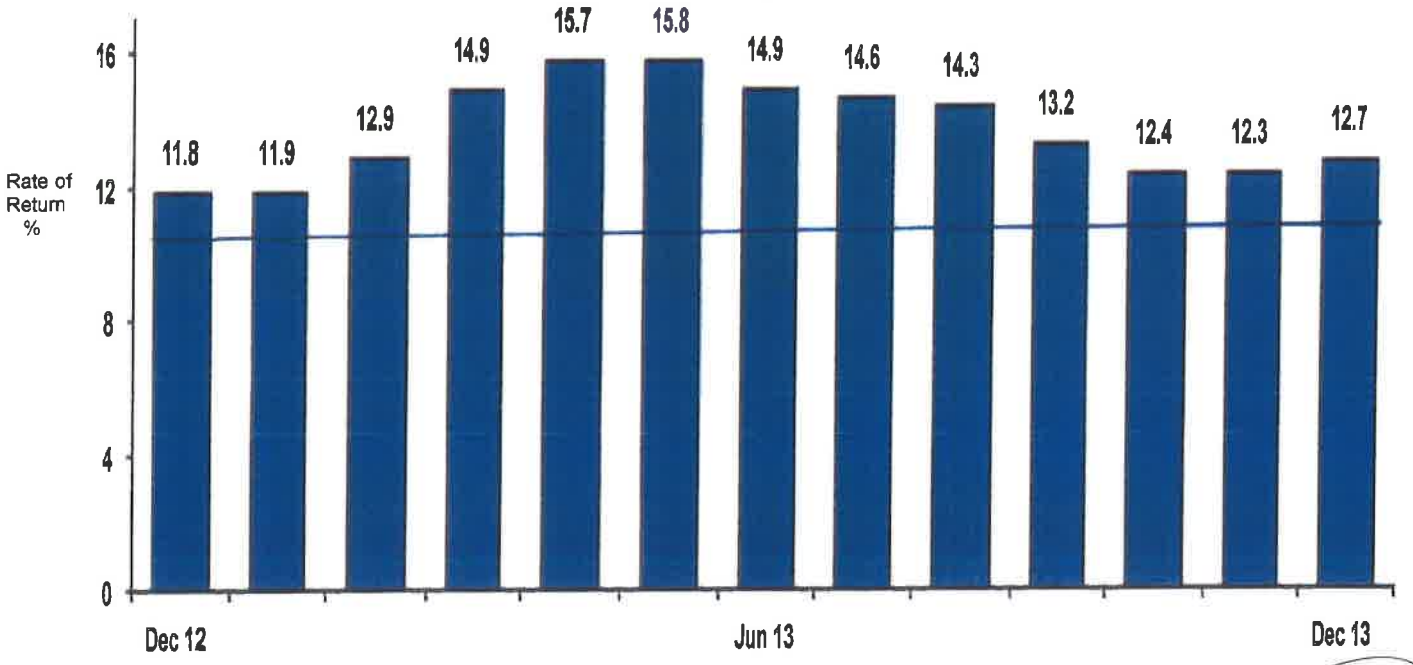
DTE Electric – DTE Gas
Earned Rate of Return on Common Equit

10.5% Authorized

DTE Electric



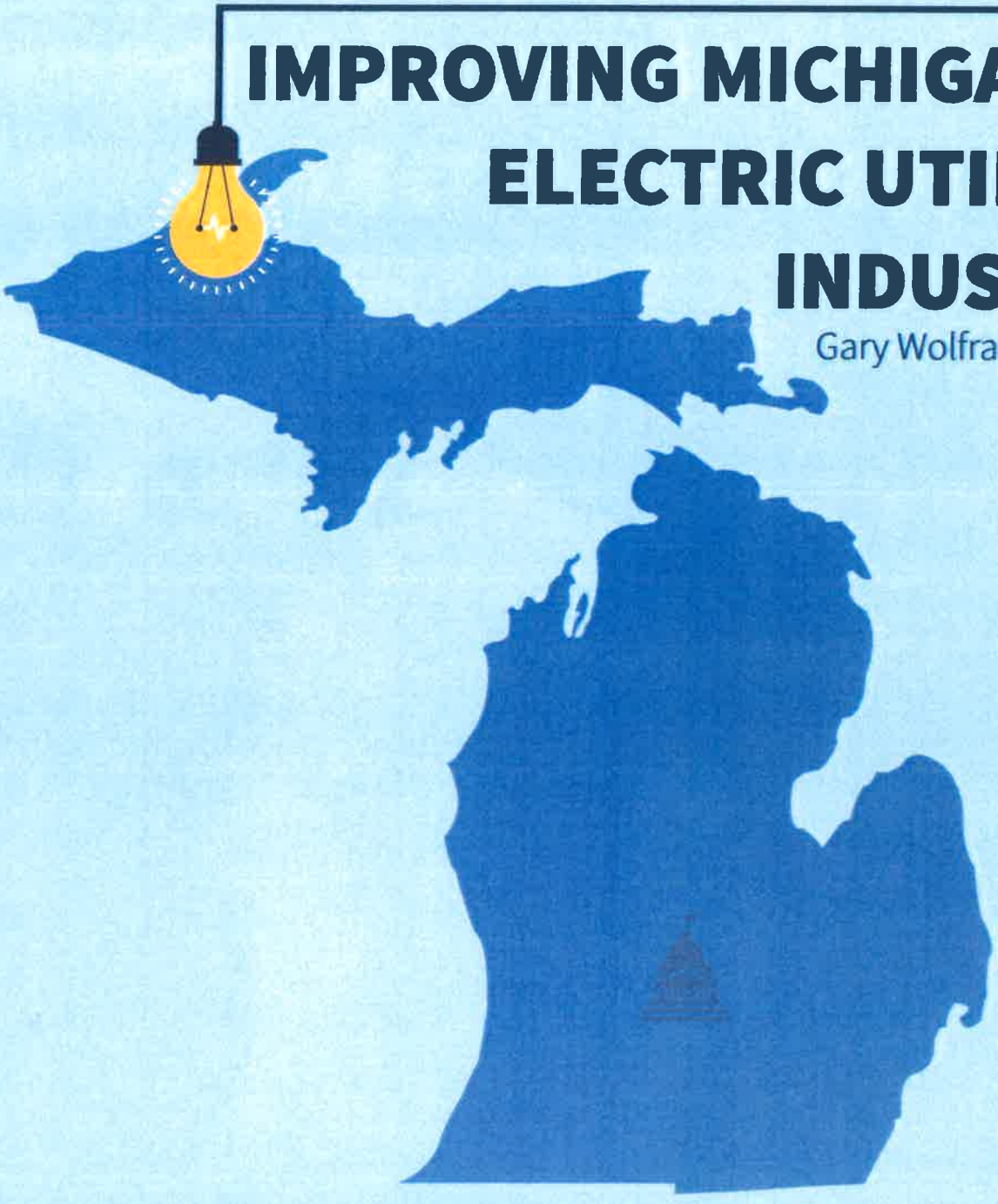
DTE Gas



17

IMPROVING MICHIGAN'S ELECTRIC UTILITY INDUSTRY

Gary Wolfram, Ph.D.

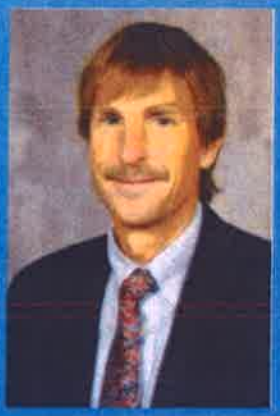


Copyright © 2015 Michigan Conservative Energy Forum

(18)

Hillsdale Policy Group, Ltd.
Specializing in Taxation & Public Policy Analysis

ABOUT THE AUTHOR:



Gary Wolfram is President of Hillsdale Policy Group, Ltd, and the William E. Simon Professor of Economics and Public Policy and the Director of Economics at Hillsdale College. He is the author of A Capitalist Manifesto: Understanding Market Economy and Defending Liberty, and has published numerous works on public policy issues. He has served in several policy positions, including Michigan's Deputy State Treasurer, member of the Michigan State Board of Education, President of the Board of Trustees of Lake Superior State University and Congressman Nick Smith's Washington Chief-of-Staff. Dr. Wolfram received his Ph.D. in Economics from the University of California at Berkeley and has taught at the University of California at Davis, Mount Holyoke College, Washington State University, and the University of Michigan at Dearborn.

Presented to:

Michigan Conservative Energy Forum

September 17, 2015

MICHIGAN CONSERVATIVE ENERGY FORUM

Copyright © 2015 Michigan Conservative Energy Forum

19

I. INTRODUCTION

The electric utility market has some defining characteristics that set it apart from what one thinks of when discussing a market-based economy. The most important of these is that it developed as a regulated monopoly, thus creating certain inefficient incentives for both producers and consumers. Because of the barriers to entry, electric utilities that deliver the power to the customer do not respond to the marketplace in the same way that producers in a competitive market do.

In most cases government intervention in a market will cause unintended consequences that result in a state of the world that is inferior to what would be the case if individuals and firms were allowed to operate according to their own plan. However, the ***electric utility industry as structured today can be improved by government activities that require the providers and distributors of electricity to undertake certain actions that make them more responsive to consumer demand*** and that move the industry towards competition. Indeed, legislation is being considered that would attempt to address the inefficiencies in the current incentive structure.

Most Americans are aware that Thomas Edison developed the light bulb, but not nearly as many are aware of the battle between the use of direct current and alternating current in the generation and distribution of electricity. In the late 19th century there was a battle between direct current and alternating current, which was won by the alternating current. Direct current basically required generators to be close to the distribution point, whereas alternating current is based upon larger generation and higher voltage.

THE *CURRENT* WAR

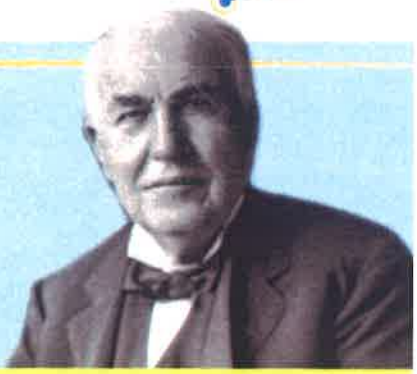
Alternating Current **VS.** Direct Current

WINNER

Alternating Current

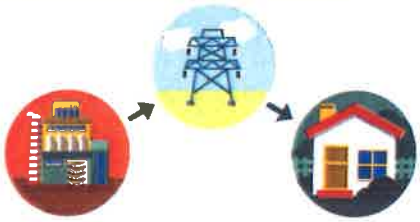
REASON

Direct current basically required generators to be close to the distribution point, whereas alternating current is based upon larger generation and higher voltage.



Nikola Tesla **Thomas Edison**

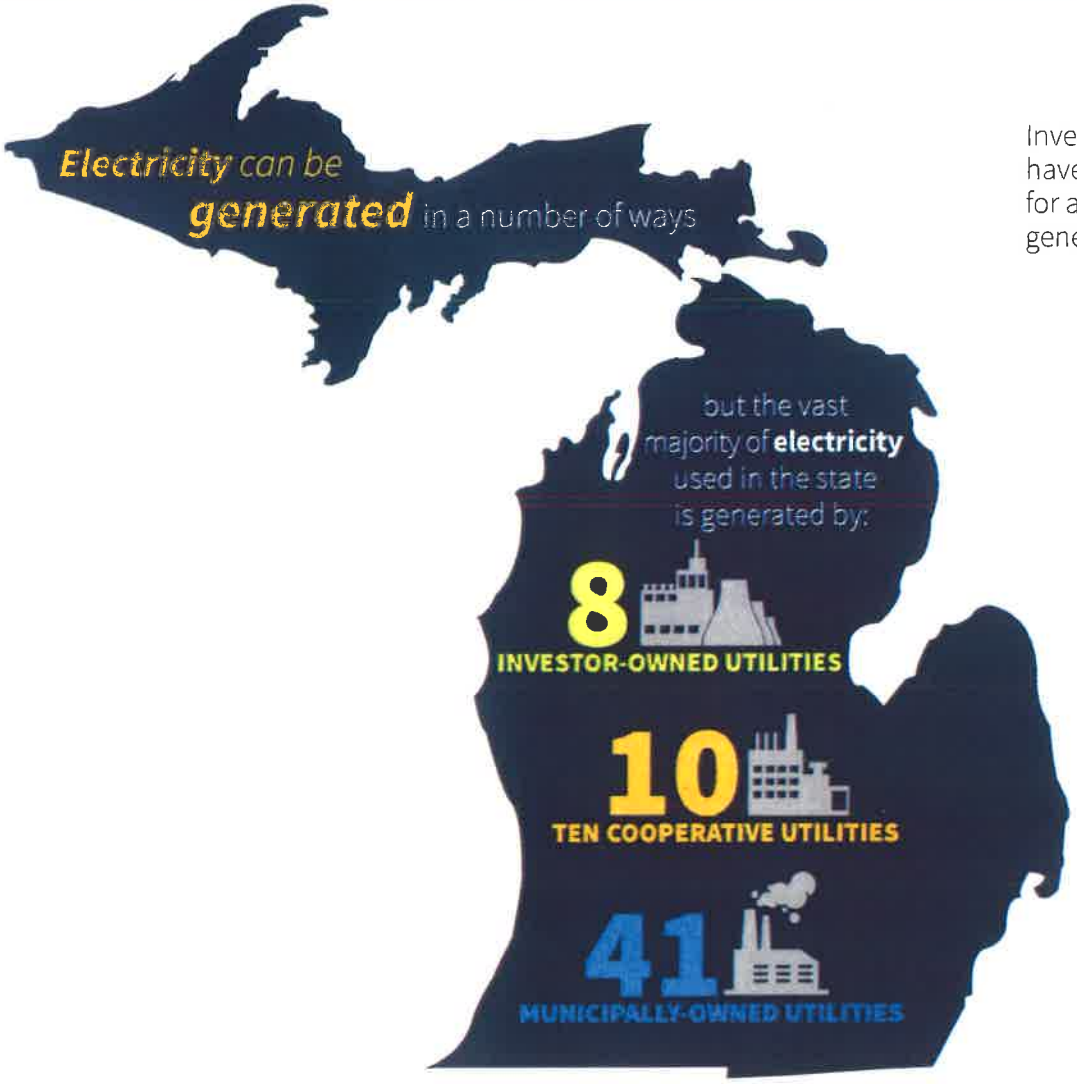
While the details of the "current war" are interesting, the main point is that it became economically efficient to have large generating facilities. Combined with the opposition to having lots of different electric lines distributing power from various companies, the electric utility market became a regulated monopoly, with only certain companies being allowed to generate, transmit and distribute electricity.



While it was long held that electricity was a "natural monopoly" due to the unique characteristics of generation and distribution, innovations in generation, transmission and distribution have resulted in the ability of the industry to become competitive and the theory of regulation has developed to point out the ***inefficiencies in the incentives*** of companies that are ***regulated monopolies.***

While one might reasonably ask the equivalent of the question: "If it ain't broke, why fix it?" regarding the current state of the industry, ***the fact that electricity costs in Michigan are significantly higher than in surrounding states should spur the Legislature*** and the Michigan Public Service Commission to examine ways in which Michigan's market can become more efficient. Those who are reluctant to place regulations on the firms that generate and distribute electricity should keep in mind that these firms did not gain their market position by outcompeting other firms. But rather through government regulation itself. Since electricity is a direct or indirect input into a major portion of the state's economy, reductions in energy costs will result in greater economic activity as well as benefits to the state's producers and consumers.

II. BRIEF DESCRIPTION OF THE ELECTRIC UTILITY MARKET



Investor-owned utilities produce or have power purchase agreements for approximately 85% of power generated in the state. There are...

COAL-FIRED GENERATING UNITS

290

NATURAL GAS GENERATING UNITS

NUCLEAR PLANTS

Electricity is transported through transmission lines at high voltage from the generating plants to substations near the end consumer. It is transmitted at high voltage to reduce the loss that occurs in transmitting the electricity. The substation brings the voltage down to a level that can be used by the consumer. The electricity is then distributed to consumers.

Historically the generation, transmission, and distribution of electricity was a vertical monopoly, that is, the generating utility also transmitted the electricity and distributed it to its customers. Consumers of electricity were not free to purchase electricity from alternative producers. As other industries, such as telecommunications and the airline industry, were deregulated, the Federal Energy Regulatory Commission gradually moved to separate the transmission and generation of electricity. In 1996, Order 888 effectively required utilities to functionally separate generation and transmission by either divesting their transmission lines or forming a separate corporate affiliate for the transmission of electricity.

In Michigan electricity is transmitted through a number of transmission companies that are separate from the companies that generate and distribute electricity. The transmission of electricity in Michigan and throughout the upper middle of the US is overseen by Midcontinent Independent System Operator (MISO). This is what is known as a Regional Transmission Organization (RTO) that ensures the interconnection and reliability of the transmission system. Another RTO, PJM Interconnection serves a portion of southwestern Michigan.

The Michigan electricity industry remains basically a regulated monopoly. While the transmission of electricity has been separated from the generation and distribution of electricity, the distribution of electricity generally remains with the generator. For example, DTE generates electricity and also retails it to customers in its area and owns the lines that move from the substation to the customer. The obvious economic incentive for DTE is to use its distribution system to favor the company's generation.

In 2000, the legislation was passed that effectively opened up the retail market to competition by allowing customers to purchase electricity from a firm other than the generator that owned the line from the substation to the customer. This opened up the wholesale market as well, since a customer might purchase electricity from another generator, or wholesale firms might purchase electricity from a generator and retail it to the consumer. For example, a customer might purchase electricity from a firm that purchases power from a generator in another state with lower costs of generation and retails it in Michigan. For this to occur, of course, requires the utility that controls the line to the consumer to make available its distribution system to other generators and wholesalers.

In 2008 legislation, PA 286, was enacted that limited the loss of customer base for DTE and Consumers to 10%. Once these investor-owned utilities have lost 10% of their customer base, any customer that wishes to switch to another electricity retailer must get on a waiting list. This, obviously, severely limits the power of competition to provide consumers with the electricity at the lowest price.

Michigan does have modest provisions for market access by renewable generation. PA 295, also adopted in 2008, requires 10 percent of electricity to be generated by renewable sources, ***such as wind and solar power, by 2015.*** It further requires that at least half of that renewable generation be purchased from independent power producers. Most observers believe this requirement was successful in bringing specialists in renewable generation to Michigan and using competition to drive down costs. Since utilities have met this requirement, there are no provisions in Michigan law for further market access by such independent producers.

In addition, PA 295 established ***"net metering"*** for utility retail customers with on-site renewable generation systems, subject to a number of limits on system size and level of participation. Most Michigan utilities have only a few customers participating because the terms of participation are unfavorable for commercial customers and solar, the primary technology for net metering, is just becoming cost-competitive in Michigan. However, the participation caps are likely to be reached within a couple of years for some Upper Peninsula utilities where rates are high, making net metering financially attractive.

III. INEFFICIENCIES INHERENT IN THE ELECTRIC UTILITY INDUSTRY IN MICHIGAN

A fundamental point of economic theory is that people and firms respond to incentives. It is important to think through the incentives of regulated monopolies, such as the electric utility industry, and determine whether the result will be an efficient allocation of resources and what action can be taken to improve these incentives.

First, ***because the regulated monopoly has governmentally imposed barriers to entry, the economy is burdened by a misallocation of resources.*** Resources remain in their current use or are unused instead of flowing into the industry that earns monopoly profits. For instance, in the face of high electric rates we would normally expect resources to enter that market, increasing supply or using more efficient means of production. This is not fully possible in Michigan due to governmentally-produced barriers to entry and so rates remain higher than otherwise would be the case.

Second, ***there is a reduction in entrepreneurial activity and innovation,*** as it is not possible for someone who takes on the risk of innovating to capture the benefits of such innovation. Since the utility generating the electricity owns the access lines to customers, ***there is little or no incentive to allow competitors to have access to its customers.*** As a consequence, entrepreneurs have little incentive to take on the risk of innovating and developing alternative or less expensive means of generating electricity. As an example, an entrepreneur may wish to take on the risk of developing a new solar power panel that is more effective than those in current use, but if she cannot have access to customers then she is unlikely to undertake such a venture.

Third, regulated monopolies are subject to what is termed "regulatory capture," in the public choice literature. In a famous body of work, ***Nobel Laureate economist George Stigler pointed out that the regulated companies have strong incentives to craft regulation that is in their favor***, while the general public is what is called "rationally ignorant'" in that it has little or no incentive to be informed about or monitor regulations. As a consequence, despite attempts to set up a regulatory agency that is transparent and independent, the regulated firms are likely to have considerable influence in what regulations are enacted. The fact that the regulatory body is often reliant upon the regulated firms for information on costs of production, feasibility of methods of production, etc., makes it difficult to eliminate all forms of regulatory capture. This problem can apply to both administrative bodies and legislatures.

Fourth, because utilities are awarded rates based upon the concept that they will be able to recover their costs including an authorized rate of return, combined with the inability of their customers to seek other providers, ***there is certainly a dampened incentive to produce electricity in the most cost efficient manner or to quickly adopt new technologies.*** The authorized rate of return is intended to reflect market rates for capital, but is set by regulators who are subject to regulatory capture. If the authorized rate of return is too large, the utility is incented to invest in excess of the needs of its customers [1], a phenomenon that is common in electric utilities.

Fifth, when there are regulatory barriers to entry firms may use resources directly in an attempt to overcome the barriers (and by utilities to defend them). These resources are used less efficiently than would otherwise be the case when firms can simply enter the industry. For example, an ***independent power producer may face significant legal costs and delays in getting a fair price from monopoly utilities who control access to customers.***

Sixth, it is difficult for the average consumer to estimate the benefits and costs of actions that reduce electricity usage, such as purchasing a new water heater that uses less electricity than the existing one, and ***there is little incentive for the utilities to encourage their customers to conserve electricity since that would reduce their revenue.*** Energy service companies assist firms and households in undertaking measures to reduce the consumption of electricity.

When there is a *strong market* ***with competition, there is an*** incentive ***for these firms to*** **find new and innovate** ***ways to*** reduce energy ***consumption.***

Monopoly utilities have an incentive to control information and access to customers to block market activities of energy service companies. Further, the inability of competing alternative energy suppliers to jointly offer power and efficiency programs stands as a barrier to on-bill and other more economically efficient financing as well as to guarantees of results from energy efficiency.

Seventh, another feature of the industry is that the generation of electricity must be capable of meeting peak-load demand. There would be brown-outs and black-outs if, for example, the demand at its daily peak were 5000 kw and the generating capacity were only 4000 kw. If electricity usage would be spread out during the day rather than at peak periods, the generating capacity could be smaller, reducing the cost of generation.

However, there is little incentive for the utility to encourage consumers to alter their utility usage to reduce peak-load demand. In fact, since a higher than peak load requires greater generating capacity on which the utility can receive a rate of return, a utility may be incented to resist peak-load demand reduction. If consumers are provided an incentive to move their usage to off-peak load times the resources used up to provide electricity will be smaller and more efficiently used, but the utility may be less well off financially.

As noted above the need for improvement can be readily seen by comparing the price of electricity across Michigan and its surrounding competitor states. Table 1 provides the average retail price of electricity in cents per kilowatt hour in Michigan and its surrounding states in the years 2014, 2013 and 2008. ***It should be clear that retail prices in Michigan are substantially higher than in its competitor states.*** The price in Michigan in 2014 (latest data available from U.S. Energy Information Administration) was 25% higher than the lowest price state, Illinois, and 3.5% higher than the closest priced state, Wisconsin. It is notable that prices have risen substantially more in Michigan than the surrounding states since the 2008 legislation that severely limited retail choice.

The price of electricity in *Michigan in 2014* **was 25% higher than the lowest price surrounding state, Illinois.**

[1] See Averch, Harvey; Johnson, Leland L. (1962). "Behavior of the Firm Under Regulatory Constraint". American Economic Review 52 (5): 1052–1069

53

Table 1

Year	Average retail price in cents per kilowatt hour					
	Source: Energy Information Agency					
2014	Michigan 11.10	Wisconsin 10.73	Ohio 9.67	Minnesota 9.63	Indiana 8.97	Illinois 8.87
2013	Michigan 11.21	Wisconsin 10.51	Minnesota 9.41	Ohio 9.20	Indiana 8.73	Illinois 8.30
2008	Ohio 9.39	Illinois 9.23	Wisconsin 9.00	Michigan 8.93	Minnesota 7.79	Indiana 7.09

Reducing the cost of electricity would reduce the cost of production in most industries and services as there are few that do not use electricity in some fashion. Reducing what economists refer to as the marginal cost of production would increase the supply of goods and services, both lowering prices and increasing the number of jobs. The benefits of lowering the cost of electricity would be widespread.

Michigan utilities also do not provide better service nor meet higher environmental standards for their higher costs. Table 2 shows that Michigan utilities provide lower reliability than nearby states. Comprehensive national statistics on reliability are only available for 2013. Other data sources show that while Michigan's results in 2013 were particularly bad, our utilities have persistently been less reliable than most utilities elsewhere in the country.

Table 2

	2013 Average outage per customer					
	Source: Energy Information Administration form EIA-861					
MINUTES PER YEAR	Michigan 779	Minnesota 353	Indiana 225	Ohio 217	Illinois 184	Wisconsin 142
EVENTS PER YEAR	Minnesota 1.62	Michigan 1.51	Indiana 1.19	Ohio 1.16	Illinois 1.10	Wisconsin 0.77

Table 3 shows that Michigan utilities are not less polluting per unit power generation than are utilities in most nearby states.

Table 3

2012 Average Emissions

State	Sulfur Oxide (tons/TWh)	Nitrous Oxide (tons/TWh)	Mercury (lbs/TWh)	Carbon Dioxide (1000 tons/TWh)
MI	1987	747	20.8	628
WI	1531	617	20.8	646
OH	2735	701	32.4	736
MN	637	687	16.8	546
IN	2264	936	27.7	870
IL	873	309	10.0	478

Table 4 shows that Michigan utilities were not recently subject to generally more stringent performance standards than are utilities in most nearby states.

Table 4

Energy Standards

State	Renewable Energy Standard	Energy Efficiency Standards
MI	10% by 2015	1% per year
WI	10% by 2015	1.2% spending requirement
OH	12.5% Renewable by 2025 12.5% Advanced by 2025	22% by 2027
MN	31.5% by 2020 (Xcel) 26.5% by 2025 (Others)	2.0% per year (Xcel) 1.5% per year (Others)
IN	10% by 2025 (goal)	Ramp up to 1.1% in 2014, repealed thereafter
IL	25% by 2025	Ramping up to 2% per year

Table 3 Source: Energy Information Agency at http://www.eia.gov/electricity/data/state/emission_annual.xls

Table 4 Source: DSIREUSA.org

[2] Suspended in 2014, pending legislative review

(25)

IV. APPROACHES TO OFFSETTING THE INCENTIVE PROBLEMS OF A REGULATED MONOPOLY IN THE ELECTRICITY INDUSTRY

There are several approaches ***that legislation and regulation may take to*** *improve the incentives and performance* ***of Michigan's electric power industry. Broadly, these may provide*** ***increased competition,*** reduce the perverse incentives of monopoly, ***or*** impose performance standards ***by regulation that might otherwise be obtained through competition.***

1. **Expanding retail competition**
2. **Structural separation**
3. **Allowing Consumers a Choice to Purchase Renewable Energy Specifically**
4. **Require Purchase of Renewable, Co-Generation, and Waste-to-Energy Energy Sources**
5. **Peak load pricing and Other Mechanisms to Encourage Consumer Efficiency**

1. *Expanding retail competition*

Expanding retail choice would alter the incentives of the existing utilities as they would have to compete with new entrepreneurs and existing generators and wholesalers. The added supply of electricity would put pressure on the utilities to ***improve their production and reduce rates or face the loss of their customer base.*** The risk of losing customers if costs are too high would discourage utilities from owning excess capacity or building overly large plants when new capacity is required.

A good deal has been written on the benefits of the deregulation of the electric industry and there is not space in this paper to delve into the full arguments in favor of competition other than to note that ***it is clear that competition will lower prices in the electric industry as it does in every other industry.*** [3]

This is also not the place to consider in any detail the manner in which competition should be established. However, an obvious mechanism that would expand choice would be to increase the limit on the market share that the utilities may lose that was put in place in 2008. An example would be to increase this by a certain percentage a year over some given number of years.

Expansion of customer choice is not without its difficulties. One of the major questions surrounding the introduction of competition is whether to or how to deal with issues such as stranded costs. Michigan ratepayers have already compensated utilities for stranded costs as part of the 2000 legislation but further consideration might be necessary for investments made since reregulation in 2008. Traditional electricity generation has high fixed costs, so there must be some certainty to invest in increased generating capacity. For example, suppose ACME Energy has just spent $700 million building a new power plant and its customer base is then opened up to competition.

How legislation that improves the efficiency of the industry through the introduction of retail competition should address these issues is also well beyond the scope of this paper. However, even though there are difficulties it is important that a legislative debate be taken up in the near future to examine the details of how to move the industry towards a competitive one.

2. *Structural separation*

Because there is little incentive for a utility that generates electricity to provide access to another generator or a wholesaler to the line to their customer's home or business, one approach to change the incentives would be to ***structurally separate the ownership of generation from the ownership of distribution***, in the same way that transmission was separated from generation. This would require the utilities to either sell their distribution network or their generating facilities.

[3] See for example, Markiewicz , et al., "Does Competition Reduce Costs: Assessing the Impact of Regulatory Restructuring on U.S. Electric Generation Efficiency," MIT Department of Economics Working Paper 04-37, November 2004, and O'Connor, "Retail Electric Choice: Proven, Growing, Sustainable, " Compete Coalition, April 2012.

Under structural separation the company distributing electricity to the final customer would not have an incentive to exclude a particular supplier nor favor a different supplier. The incentive would be to provide access to its distribution network to any supplier of electricity willing to pay the access fee. ***This would create incentives for new and existing generators to innovate, in particular those in the renewable energy fields***, as they would have access to the full customer base. It would also eliminate incentives of distribution utilities to resist energy efficiency, since they would no longer be concerned about preserving demand for generation.

3. *Allowing Consumers a Choice to Purchase Renewable Energy Specifically*

Just as some consumers would rather purchase organically-grown vegetables even if the cost of these vegetables is greater than those grown conventionally, there are consumers that would rather purchase energy that is produced from renewable sources. Again, this paper is a general overview and not the place to detail how this would come about. There already exist renewable energy certificates that consumers may purchase supporting the production of renewable energy. But one could consider ***allowing consumers to specifically purchase power generated by renewable sources.***

To the extent that the demand for such energy exceeds the supply produced by the incumbent generator, the utility could be required to purchase renewable energy from other sources. This would provide an ***incentive for innovation in the production of renewable energy***, possibly leading to an energy source, such as solar, becoming price competitive with natural gas and certainly coal-fired plants.

Since the cost of renewable energy has been falling rapidly and is approaching the same cost as traditional generation, particularly for peak-load[4], we can reasonably expect that it will in the foreseeable future be cheaper. This is especially likely as environmental regulations continue becoming more stringent. However, an incumbent utility providing the opportunity for customers to purchase renewable power will have the incentive to discourage such purchases if the volume of such purchases starts to cut into the sales of its traditional generation. This process of replacement of old production methods and investments by newer ones is handled well by competitive markets but is challenging within a regulated monopoly. This form of customer choice would be more effective if served by competing suppliers or at least regulated through structural separation from the producer of traditional power.

4. *Require Purchase of Renewable, Co-Generation, and Waste-to-Energy Energy Sources*

As noted above, entrepreneurs have reduced incentives to take on the risk of innovating in the generation of electricity from renewable sources such as solar power, or other cutting-edge methods like co-generation and waste-to-energy, as they may not have access to a final consumer or the mass of consumers. Suppose you were considering investing $100 million developing a technique for capturing energy from the sun in a way that is 20 times more efficient than current technology. If you did not have a way to get the energy you produced to firms or households because the distribution network was owned by a company with little incentive to allow you access as a competitor to their power generation, you would not undertake the innovation.

Requiring the utility that distributes electricity to the customer base to purchase alternative power at an economically efficient rate would lead to innovations in power production that will lead to lowered costs throughout the economic system. Michigan's 2008 renewable energy requirement that each utility acquire half of renewable generation from independent producers is an example of such a policy and appears to have had the effect of driving costs down.

Some consumers will be willing to generate a portion of their electricity on their own, most likely through the use of solar power. As power that is generated at the current time cannot be stored (although innovations in battery storage may be on the horizon that would allow consumers to generate solar power during the day, store it, and use it in the evening) the consumer cannot garner benefits from excess solar production. If utilities are required to purchase excess solar power from consumers then they would have more incentive to reduce their usage of power generated from traditional sources such as coal. However, ***the full benefit of customer generation is only achieved if the customer is paid the "market price" of power***, which is effectively the cost of power if supplied by the monopoly utility at the same time and place as customer generation. If it costs a utility 8 cents per kWh to supply power and a customer can supply power for 7 cents a kWh, but the utility influences its regulators to limit customer payments to 4 cents per kwh, then the customer won't generate and the cost to society is 1 cent per kWh that the customer did not choose to generate.

[4] For example, the Levelized Cost of Energy for solar has fallen by 78% from 2009 to 2014 from $323 per MWh to $72 MWh. Currently the Levelized Cost of Energy for solar is below that of coal with CCS and peaker natural gas, while geothermal and land-based wind are below even natural gas combined cycle. Of course, Levelized Cost of Energy does not reflect all aspects of power sources, see for example GE's June 25, 2012 comments to EPA in Docket EPA-HQ-OAR-2011-0660, but the comparison of Levelized Cost of Energy does provide an indicator of cost trends.

Requiring the utility that distributes electricity to the customer base to purchase alternative power at an economically efficient rate would lead to innovations in power production that will lead to lowered costs throughout the economic system. Michigan's 2008 renewable energy requirement that each utility acquire half of renewable generation from independent producers is an example of such a policy and appears to have had the effect of driving costs down.

Some consumers will be willing to generate a portion of their electricity on their own, most likely through the use of solar power. As power that is generated at the current time cannot be stored (although innovations in battery storage may be on the horizon that would allow consumers to generate solar power during the day, store it, and use it in the evening) the consumer cannot garner benefits from excess solar production. If utilities are required to purchase excess solar power from consumers then they would have more incentive to reduce their usage of power generated from traditional sources such as coal. However, ***the full benefit of customer generation is only achieved if the customer is paid the "market price" of power***, which is effectively the cost of power if supplied by the monopoly utility at the same time and place as customer generation. If it costs a utility 8 cents per kWh to supply power and a customer can supply power for 7 cents a kWh, but the utility influences its regulators to limit customer payments to 4 cents per kwh, then the customer won't generate and the cost to society is 1 cent per kWh that the customer did not choose to generate.

5. *Peak load pricing and Other Mechanisms to Encourage Consumer Efficiency*

As noted above, electric utility generators have little incentive to encourage their customers to reduce electricity usage from the utility or to move their consumption to times that are lower costs to produce. As a consequence there will be inefficiencies not just in the production of electricity, but in its consumption as well.

In the context of a utility having the obligation to reliably serve customers on demand, it may be cheaper for a utility to serve some customers by arranging for and even compensating other customers to use less power overall or at particular times rather than to provide additional power supply. This has traditionally been done through interruptible services to industrial customers, but the concept can be extended to all customers and long-run efficiency as well.

There are at least two ways to change this incentive. The first is to ***require utilities to set rates that reflect the added cost of production***. The use of electric power at peak load requires an added cost of an increased size of generating facility, since the facility must be built for peak load demand, so the consumer should be charged more for the use of electricity at this time than at times where load is below peak. This differential pricing will provide the consumer with an incentive to, for example, run their dryer in the evening rather than in the afternoon when the load is at peak. This will reduce the size of generating facilities which, as noted have high fixed costs.

Reduction in energy consumption even in off-peak periods can reduce the costs of owning facilities needed to generate electricity, since base load plants are significantly more expensive than peaking plants. Less resources are used in electricity production allowing greater production in other areas of the economy. It should be noted that ***in a competitive market, individuals become more price conscious and are better able to make the comparison of benefits and costs of energy-saving actions. Increased customer efficiency to avoid power supply costs can be achieved through utility offers to customers,*** and such offers can help overcome information deficits and other barriers to customer adoption of efficiency measures.

V. CONCLUSION

The current structure of Michigan's electricity industry results in inefficient use of resources, higher prices for electricity, and reduced economic activity due to the incentives of both producers and consumers inherent in the current regulated monopoly structure. Michigan's economy could be improved and consumers would benefit from introducing a fully competitive industry and/or through regulations that correct the improper incentives and add to incentives to innovate. Given the high price of electricity and relatively poor performance of Michigan utilities compared to its surrounding competitor states, it is the responsibility of the Legislature and Michigan Public Service Commission to fully address these issues either by creating a competitive market or creating regulatory incentives for better performance.

For additional copies of this report:
Michigan Conservative Energy Forum
www.micef.org

Copyright © 2015 Michigan Conservative Energy Forum