

---

***The \$450 Million for Memphis  
presentation will begin at 3:00.***



# A Better Way *than* TVA

[www.abetterwaythantva.org](http://www.abetterwaythantva.org)

*\$450 Million for Memphis*

Karl Schledwitz – President

Jim Gilliland Jr – Treasurer



# \$450 Million *for Memphis*



Non-partisan, civic-based group



Demand a transparent bidding process for city electricity



No personal gain in the matter

***Transparent bids represent good judgment and common sense for Memphis.***

[www.abetterwaythantva.org](http://www.abetterwaythantva.org)

# These names represent only a portion of **450 Million for Memphis** supporters across our city's political and socioeconomic spectrum

---

**Steve Cohen**  
Congressman

**Lee Harris**  
County Mayor

**Richard C. Hackett**  
Former City Mayor

**Bill Morris**  
Former County Mayor

**Mark Luttrell**  
Former County Mayor

**Willie Brooks**  
County Commissioner

**Mickell Lowery**  
County Commissioner

**Regina Newman**  
Shelby County Trustee

Walter Bailey	Pat Halloran	Mike Hooks	Terry Allen Roland	Janet Hooks	Karl Schledwitz	Jim Gilliland, Jr.	Terry Lynch
Michael Alexander	Chip Armstrong	Gray W. Bartlett	Kevin Bruce	Don Brunson	Mark Bula	Clark Butcher	Brian Chancellor
David Cocke	Coleman B. Connell	Jim Crone	Meg T. Crosby	Matt Crow	Met Crump	Betty Dawson	Edward Dobbs
John H Dobbs, Jr.	Bill Dunavant III	Fred Edmaiston	Velka Edwards	Winston Eggleston	Katrice Feild	Hugh Fraser	Malcom Futhey
Gary O. Giles	Ray Gill	Steve Guinn	Nancy Harwood	Gennie Henry	Ricky Heros	John Hunt	Katie Hunt
Ches Jackson	Wes Jackson	Tom Jones	Leonard Kaye	Roy Keathley	Marty Kelman	Kevin D. Kimery	Johnny Lamberson
Pierce Ledbetter	Scott P. Ledbetter	Barry Lichterman	Joshua Lipman	Richard Lynch	Shawn Lynch	Anton Mack	B. Lee Mallory
John Malmo	Stilly McFadden	Richard Neel	Mike Palazola	Ana Palmieri	Kevin Parker	Jim Rainer	Debi Reedy
Jim Reedy	Carl D. Ring	Jim Robbins	Hart Robinson	Reid Sanders	Andrew Schaeffer	Brian Sullivan	Jim Turner
Tamara Turner	David Upton	Mike Warr	Karen Wellford	Murray Wells	Dr. John Whittemore	McCauley Williams	Phillip Woodard
Terry Woodard	B.J. Worthy	Joe Wurzburg	Dr. Brent Addington	Brett Batterson	Jay Bailey	Stephanie Beliles	George Cates
Barry Chase	Susan Chase	Deborah Cotney	Dr. William Evans	John Furman	Keith Goldberg	Kate Metcalf	Herman Morris
Laura Morris	Dr. Mary Relling	Raymond Stitle	Pearl Eva Walker	Natalie Wilson	Charlotte Hoyle	Lisa Akbari	James Rasberry
Lapides Brown	Forrest Owens	Rose Merry	Bennetta Nelson	Malekebu West	Forrest Owens	Oscar Adams	Kate G. Connell



# \$450M for Memphis

*Humbly requests only two things from the MGLW Board and from City Council:*

01

**Have the Midwestern firm, ACES Power, manage and issue the Memphis Electricity Request for Proposal.**

TVA's own argument of its unwillingness to "wheel" power to Shelby County in a "post TVA scenario" through TVA's service area forces Memphis to the Midwest. TVA's service area seals off Shelby County's northern and eastern borders to Tipton and Fayette Counties. Both DeSoto County, MS, and Crittenden County, AR, are served by the Midcontinent Independent System Operator (MISO), the nation's largest electricity cooperative, whose service area is almost exclusively Midwestern and Central USA. Therefore, Memphis needs to look to an independent power consulting firm with experience in the unique power delivery factors of the Midwest/Central USA. The company that fits this description is ACES Power ([www.acespower.com/services/](http://www.acespower.com/services/)).

02

**The Memphis Electricity RFP needs to be a "clean" RFP subject to: i) the specific amount of renewable energy and overall self-generation the City of Memphis specifies, and ii) ownership and lease issues of building any self-generation.**

To issue an RFP that is structured to only allow bids that are derived from the fundamentally flawed IRP would be a huge mistake. That would only allow the public and City leaders to see what costs might look like for a narrowly prescribed set of supply options. This deprives the public of a chance to see the range of options savings available in the marketplace. A true RFP does not require that the sources of power being proposed exist today. Bidders are free to propose to supply power from sources they will develop (build, buy, etc.) between the award of the contract and the date supply of power is required to start. Some respondents will no doubt propose to supply power from power plants, solar farms or wind farms they will build, on land they don't currently own, to transmit using transmission rights they don't currently have.

## Time is of the Essence:

*Memphis loses  
\$500,000 to \$1.5  
million every day  
we are part of  
TVA due to  
excessive rates.*

*Why the constant  
delays?*

The City's electricity issue has been on the table for over two years already – There is no excuse for this process taking so long.

01

Instead of issuing an RFP from Day 1 in 2018 to determine interest, willingness, price and reliability of supplying power to Memphis, MLGW commissioned an IRP study, which does not gauge these basic factors, but has validated the four previous studies on savings.

02

In **January 2020**, Memphis Chief Operating Officer, Doug McGowen, instructed MLGW to acquire from MISO an independent transmission study regarding electricity delivery to Memphis. This still has not been done. MLGW and Siemens instead asked MISO to respond to specific assumptions and parameters in their MISO-Only transmission report.

03


On May 20, 2020, Memphis City Council passed a resolution, “**Requesting Information Necessary to Determine The Feasibility Of Supplying The Memphis Market With Electricity Independent of TVA.**” This resolution called for an electricity RFP to managed by ACES Power, yet no action has been taken, despite this formal request by City Council.

04

Now, some say MLGW may have to issue an RFP in order to issue an RFP for electric power, even more foot dragging. The Mayor can sign a contract with ACES today and within roughly 90 days an RFP could be complete.

# Three-Step Decision Tree for City of Memphis...

*...once a “clean” RFP  
is concluded.*

1. **What are the financial savings after locking in open market portfolio of power supply contracts?**
  - a. Who is the lowest-cost power provider that should win the Open Market power supply?  
This is the vast lion’s share of future power.
-  2. **What is the most efficient production and ownership structure for renewable self-generation, and/or other self-generation?**
  - a. Solar and/or natural gas?
  - b. How to build it and who would own it?
3. **Consider TVA’s other “value proposition” items**
  - a. (see pages 7-8)

# TVA's \$2 billion *In Value*: True Economic Value or Smoke & Mirrors? (1 of 2)

		TVA's Figures (\$000s)		Is this an exclusive TVA Benefit?	True Benefit of Staying with TVA	Leave TVA (est.)
Benefits Currently Delivered		20-Year	Annual			
1	PILOT Payments*	\$366,000	\$18,300	No. TVA will still be legally required to pay PILOTS even if Memphis is not a customer. It does not have unilateral rights to stop paying PILOTS. The State of TN makes that call. See notes at bottom of page. We give 50% credit to this in leaving TVA.	\$366,000	\$183,000
2	Economic Development Benefits	\$276,000	\$13,800	TVA says this is what they spend trying to recruit companies to Memphis. There is no evidence for this, and therefore not legitimate to say what value, if any, will be there in the future. This is not believable and is roughly 4x the Memphis Chamber's budget. We give 50% credit to this, but really don't believe even that.	\$138,000	-
3	Memphis Community Support & Partnerships to Reduce Energy Burden	\$70,000	\$3,500	These grants and support began only in 2018 after Memphis acknowledged there are less expensive electricity options. This equates to \$3.5 million per year and is not guaranteed. East TN customers have received far more than Memphis ever has, including Chattanooga's Aquarium. Even though not guaranteed, we'll give credit here. Think of a post-TVA City budget for possibilities of local grants like this.	\$70,000	-
<b>Potential Value over 20 Years</b>		<b>\$712,000</b>			<b>\$574,000</b>	<b>\$183,000</b>
<b>Additional Value Opportunities by Staying with TVA</b>						
4	Core Communities Revitalization, Energy Burden Reduction, Econ. Development	\$135,000	\$13,500	This represents only 10 years of salary and program costs of 100 Memphis-based employees who will essentially duct-tape windows in improperly insulated homes. Memphis is TVA's largest customer, and this is TVA's proposal. The City of Memphis could fund this several times over in just one year in a post-TVA city budget.	\$135,000	-
5	Sale & Purchase of MLGW Grid	\$400,000	NA	No. This is an insulting low-ball offer for Memphis's power grid, and one that Memphis would lose money on. TVA currently leases it for \$35M per year. To even list this line item as a Value Proposition is insulting.	-	-
<b>Potential Value over 20 Years</b>		<b>\$535,000</b>			<b>\$135,000</b>	<b>-</b>

*\*PILOT is based on 5% of electric sales in each governmental jurisdiction, not property value. They refer to it as a PILOT, but it works totally different from how MLGW or other local power companies pay PILOT to local government. About half the taxes TVA pays for the MLGW area stays with the State and the rest goes back to local government. There is a state statute that says if TVA is not supplying the power and paying the 5% tax, the entity that is supplying the power will pay based on the same formula. So the State and Local Government does not lose all that tax revenue. It could decrease due to a lower price, but it does not go away like TVA keeps suggesting.*



# TVA's \$2 billion *In Value*: True Economic Value or Smoke & Mirrors? (2 of 2)

		TVA's Figures		Is this an exclusive TVA Benefit?	True Benefit of Staying with TVA	Leave TVA (est.)
<b>Benefits of Adopting Long-Term Partnership Agreement - Only if MLGW signs the 20-year contract</b>						
6	3.1% Rate Credit from Wholesale Power rate	\$450,000	\$22,500	Yes, but it is a joke. TVA's rates are way too high, and they can raise rates whenever they want. These numbers should be negative values in the hundreds of millions. TVA's Wholesale rate is \$76 MW/hour.	-	-
7	200 MW Solar Savings	\$300,000	\$15,000	TVA only permits its customers to buy a tiny % of their power locally, from solar, for example. Solar today is far less expensive than other energy sources, but TVA does not care. These numbers should be negative values in the hundreds of millions.	-	-
<b>Potential Value over 20 Years</b>		<b>\$750,000</b>			-	-
<b>Total (\$000s)</b>		<b>\$1,997,000</b>		<b>TVA real total benefit over 20 years:</b>	<b>\$709,000</b>	<b>\$183,000</b>
				\$350M savings per year – estimate for 20-year benefit away from TVA:	\$7,000,000	\$7,000,000
				Less: Conservatively high CAPX connection costs	\$(736,200)	\$(736,200)
				Less: Unverifiable Cost Estimate on Self-Generation Solar or Other	\$(1,200,000)	\$(1,200,000)
				<b>Net Benefit to MLGW leaving TVA for MISO (\$000s)</b>	<b>\$5,063,800</b>	<b>\$5,063,800</b>

---

**Why Even Consider *A Change*?**



# Unique *Opportunity*

There will never be another legitimate chance to change our power provider.

- I. We only have to give a 5-year notice.
- II. We have no responsibility for legacy assets – it costs us nothing to leave.
- III. Because of where we are located geographically, we have an alternative power source we can hook into.
- IV. We want a power provider who offers benefits relative to Memphis being the largest customer.

[www.abetterwaythantva.org](http://www.abetterwaythantva.org)

# 5 Independent Studies

5 studies — including one commissioned by MLWG — conclude switching from TVA could result in **\$250 million - \$450 million** for Memphis every year.



01

## ICF Resources LLC

*Submitted August 31, 2018 on behalf of Nuclear Development, LLC.*

This ICF report advocated for a scenario that is not considered by \$450 for Memphis. It sought MLGW to purchase electric power from the Bellefonte Nuclear Plant, hypothetically owned by Nuclear Development LLC, which is owned by TVA, but currently not for sale.

02

## ACES

*Submitted January 31, 2019*

Potential annual savings range from \$413M in the first year to \$817M by the end of the study in 2038, totaling \$9.2 billion over this 15-year period.

03

## The Brattle Group

*Submitted January 2019 on behalf of Friends of the Earth*

This study shows annual savings from \$240M-\$333M by 2024, at about \$44 per cost of MW/hr, and includes 20% of power from renewables. This ranges from 23%-32% lower than current TVA rates.

04

## GDS Associates

*Submitted January 28, 2019 on behalf of MLGW*

GDS's analysis says its Scenario D, where MLGW is completely integrated into MISO's Regional Transmission Organization (RTO), offers the lowest costs compared to TVA.

05

## Synapse Energy Economics

*Submitted December 11, 2019*

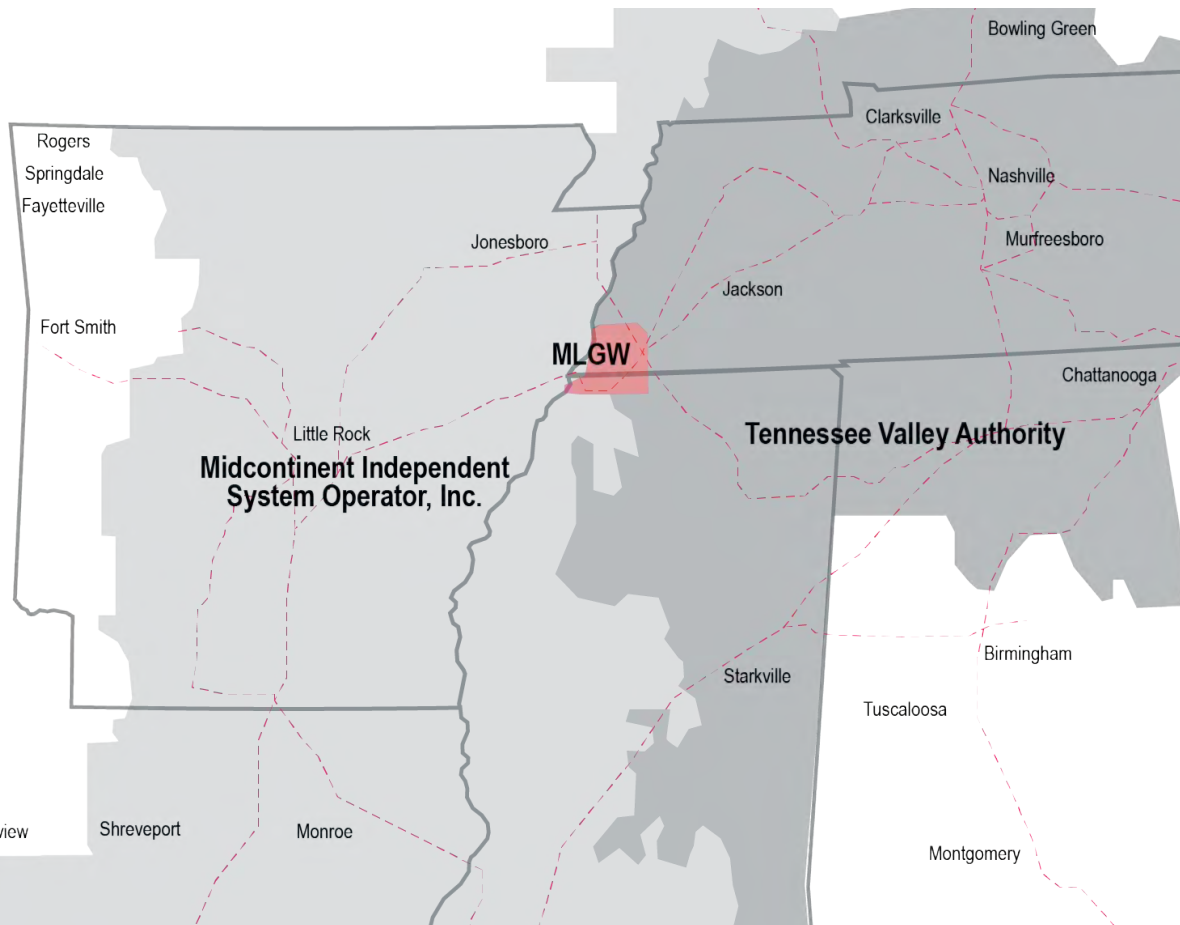
There are 20-year, levelized cost savings of about \$99 to \$122 million per year on an expected basis (probability weighted) associated with exiting the TVA contract and joining MISO when compared to the TVA option 'Long Term Partnership' (LTP) for the 20-year period (2020-2039). These savings increase to \$130 to \$153 million per year when compared to the current TVA contract for the selected best performing portfolios. There is an additional \$70 million in annual savings when you remove the expected decrease in TVA rates.

### Synapse Energy Economics

*Submitted December 11, 2019 on behalf of Friends of the Earth*

This study was dedicated to provide "additional information regarding factors that could cause TVA's costs and wholesale electricity rates to increase well beyond historical levels."

# Memphis has *Favorable Geography*



- Memphis' biggest advantage is our physical location on the far western edge of TVA's transmission grid.
- Shelby County shares borders with DeSoto County, Mississippi, and Crittenden County, Arkansas, both of which are members of the Midcontinent Independent System Operator (MISO), [the most likely candidate to submit a bid given their service area.](#)
- MISO is the largest electricity transmission operator in the U.S. and is literally on our doorstep.
- Consequently, the unknown risks and costs of MLGW spending billions to build vast transmission systems to access a faraway power grid are just not applicable to Memphis.

# TVA Rates are *Too High*

TVA claims it has among the lowest electricity rates in the country. This is sleight of hand.

According to Enervision, they barely make the top ten in the Southeast.

*Source: Enervision 2018 Wholesale costs for contiguous utilities. Study conducted for Volunteer Energy Electric Corp.*

## Wholesale Power Rates

A 2018 study by the Atlanta-based energy consulting firm Enervision said TVA wholesale rates averaged 28% more than the the average rates of the 11 largest utilities in the Southeast.

		Cost per Kwh (kilowatt hour)		Service Area
1	Union Electric Co.	4.6 cents		Greater St. Louis
2	Dominion Energy South Carolina	5.0 cents		South Carolina
3	Duke Energy Carolinas	5.3 cents		Charlotte & Central NC
4	Santee Cooper (South Carolina)	5.3 cents		South Carolina
5	Alabama Power	5.6 cents		Most of Alabama
6	M&A Electric Power Co-Op	5.6 cents		Southeast Missouri
7	Louisville Gas & Electric	5.8 cents		Greater Louisville
8	East Kentucky Power Co-Op	6.2 cents		Eastern half of Kentucky
9	Appalachian Power	6.7 cents		western Virginia & West Virginia
10	Tennessee Valley Authority	7.3 cents		TVA footprint

# MISO Results *in Savings*

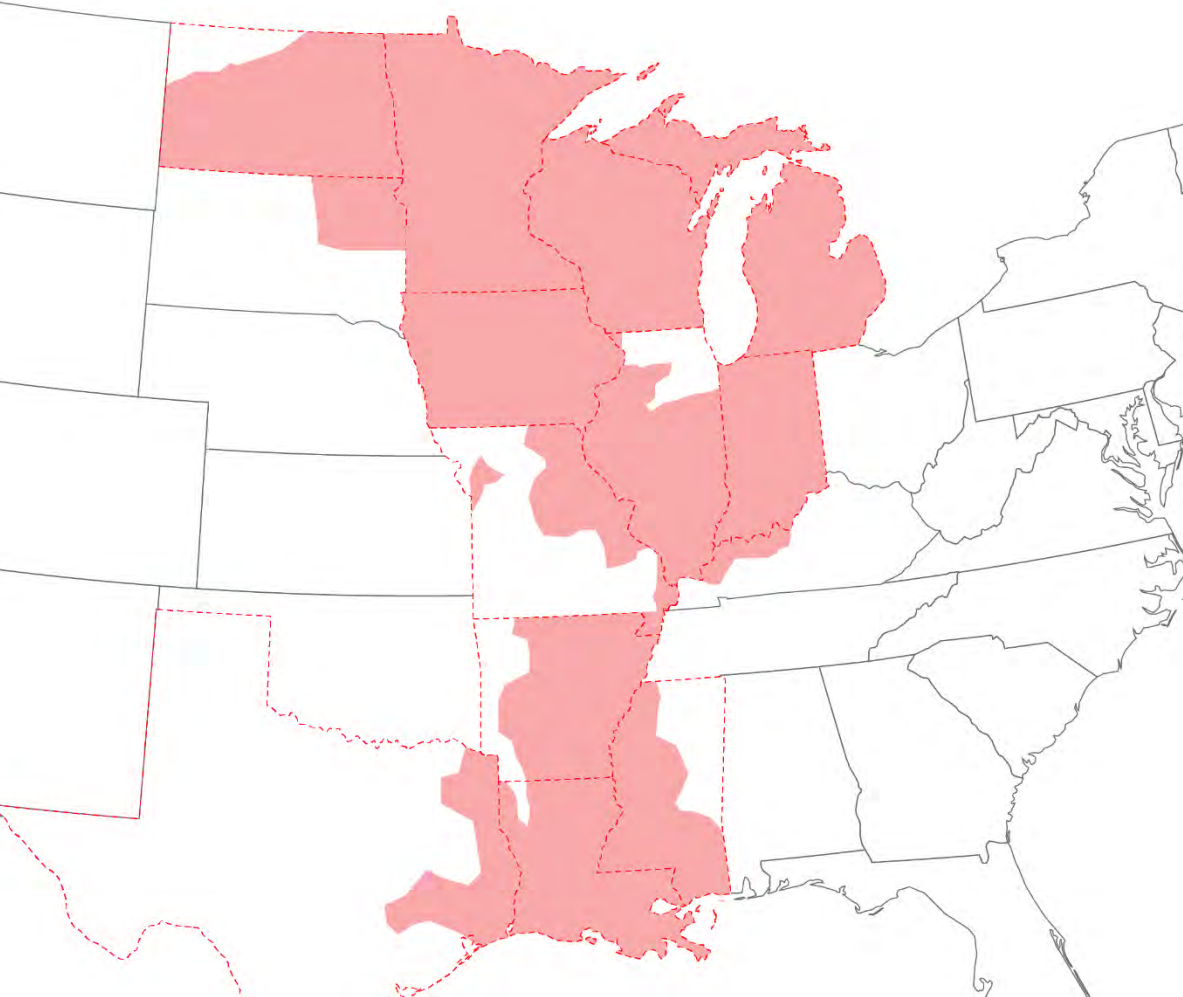
Purchased power expense (to TVA):	<b>\$1,035,898,000</b> (Source: 2018 MLGW Annual Report, page M-13)
Total MW-hr sales to MLGW Customers:	<b>13,993,089</b> (Source: 2018 MLGW Annual Report, page M-13)
Average Cost per MW-hr:	$\$1,035,898,000 / 13,993,089 =$ <b>\$74.03</b>
Est. Cost per MW-hr for long-term MISO power contracts:	<b>\$44.00</b> (Source: independent studies*; also see MISO LMP webpage link**)
Power cost Savings per MW-hr:	$\$74.03 - \$44.00 =$ <b>\$30.03</b>
% cost savings =	$30.03 / 74.03 \times 100 =$ <b>40.56%</b>
Total Savings =	$\$30.03 \times 13,993,089 =$ <b>\$420,212,462.67 Per Year</b>

---

*The \$450M figure from the independent studies estimates that by the end of the five-year notice period, which could be 2026 or 2027, the power demand in Memphis will grow to 15,000,000 MW-hrs per year, versus 13,993,089 in 2018 (above).*

Total Savings that could be used by Memphis: **\$30.03 x 15,000,000 = \$450,450,000 Per Year**

# MISO is as *Reliable as TVA*



- As confirmed by MLGW's Integrated Resource Plan, MISO's transmission reliability is just as solid as TVA's, as both are subject to the same Federal Energy Regulatory Commission standards.
- Any suggestion that TVA's reliability is superior is untrue, as is the myth Memphis would need to build \$8 billion of its own power plants to keep the lights on without TVA.
- For any doubters, just ask [MISO's customers](#) if they have routine power outages.



# TVA Proposed Contract is *One-Sided*

The 20-year contract is a bad deal for customers, because **it provides big benefits to TVA while providing no firm commitments from TVA. Here are the specific reasons:**

- I. TVA customers are **locked into an evergreen, 20-year notice period in this era of rapidly declining energy costs**, with no ability to take advantage of these declining costs;
- II. **TVA can raise rates anytime they like** through the fuel adjustment clause, the grid access fee, or any other extra charge, so long as the “base rate” does not exceed 10% in a five-year period;
- III. **TVA customers get to add only 5% of power from outside, but TVA only if TVA agrees;**
- IV. **TVA’s proposed contract “exit fee” starts at nearly a quarter of a billion dollars, versus zero currently.**

MLGW's IRP study is *fundamentally flawed*, with built-in, unquestioned and unproven assumptions, all biased to the TVA, which were baked into the financial results of the study for City Council review.

## *Really, what are some examples?*

- I. The IRP assumes TVA rates will GO DOWN in the next few years, the opposite of the trend of the past few decades. This makes Siemens' calculated savings in all scenarios far too low.
- II. Siemens assumes the TVA transmission system cannot be used to deliver or "wheel" power to Memphis, simply because TVA says so, forcing cost assumptions vastly higher in the IRP. In fact, there is a body of legal opinion that challenges this assertion by TVA. To simply accept TVA's statements that their interpretation of a 1959 law would hold up in court in 2020 is ridiculous.
- III. The IRP assumes TVA will open its transmission interconnections with Memphis (and therefore cut off backup power flow options), which significantly reduces the backup and reliability of the non-TVA portfolios studied, and also forces cost assumptions higher.
- IV. Siemens compared the alternatives assuming MLGW would bear all the costs of any generation additions and transmission changes, when in fact MISO has provisions for sharing transmission system costs when additions benefit the system as a whole, meaning Memphis would not likely bear the total cost of these transmission upgrades.
- V. The IRP assumes unreasonable levels of reliability for TVA, yet uses methodology that makes MISO reliability seem worse, also driving hypothetical costs up.

**July 15, 2020** - TVA requests "private meeting" with Siemens and MLGW in order to "review" the IRP assumptions, because IRP shows that MGLW can save money by leaving TVA. **MLGW grants this "private meeting", which is held on July 17, after the IRP public comment period is over.**

---

# What is an *Alternative*?

---



Example: Midcontinent Independent System Operator (MISO)

[www.abetterwaythantva.org](http://www.abetterwaythantva.org)

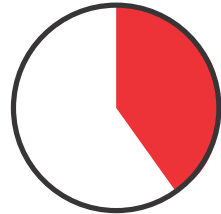
# The Facts

A proven provider — **MISO Energy** — is ready to power Memphis into the future. These facts demonstrate why we need to switch.



**FACT:**

Memphis could realize up to \$450 million per year once hook-up costs are paid



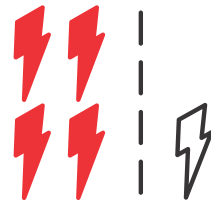
**FACT:**

MISO rates average 20% - 40% less than TVA



**FACT:**

Reliability & service will remain the same due to federal standards



**FACT:**

MISO is 5x-6x larger, much more stable and equally (or more) reliable than TVA

---

# Let's *Compare*



TVA vs. MISO

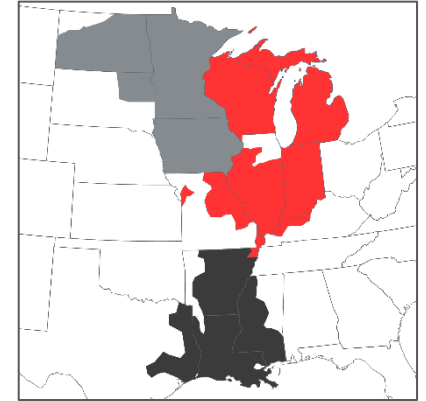
[www.abetterwaythantva.org](http://www.abetterwaythantva.org)

# By Company Profile

MISO is a large “marketplace” to purchase energy from, it is NOT a single energy producer like TVA, and hence, there is no single Counterparty Risk. This is the fundamental distinction between the two entities.

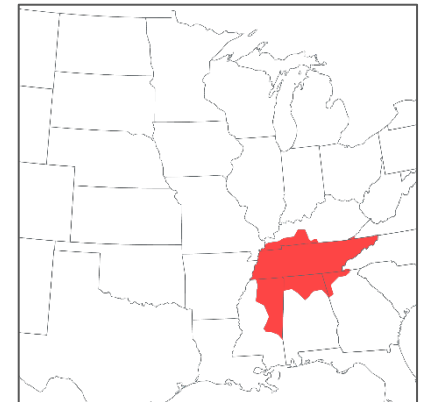
## MISO – New Source

- Mission: To work collaboratively and transparently with our stakeholders to enable reliable delivery of low-cost energy through efficient, innovative operations and planning.
- Structure: An independent, not-for-profit organization that delivers safe, reliable, and cost-effective electric power.
- Service Area: Across 15 U.S. states and the Canadian province of Manitoba
- Diversity: **Board of Directors:** 4 MW, 3 FW, 1 FB, 1 MB, 1MA.  
**Executives:** 7 MW, 3 FW, 2MB

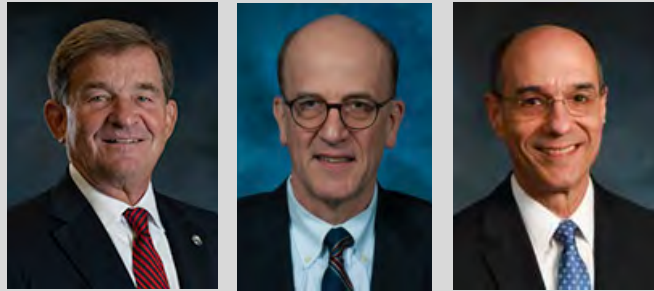


## TVA – Old Source

- Mission: To make life better for the people of the Tennessee Valley through the integrated management of the region’s resources.
- Structure: A corporate agency of the United States federal government that provides electricity for business customer and local power companies.
- Service Area: Parts of 7 southeastern states, predominately Tennessee.
- Diversity: **Board of Directors:** 7 MW. **Executives:** 4 MW, 2 FW, 1FB



# *TVA Board of Directors*



# *MISO Board of Directors*



# TVA Executive Team



# MISO Executive Team





[www.abetterwaythantva.org](http://www.abetterwaythantva.org)



# Summary



Transparent bids represent good judgment and common sense for Memphis.



TVA has done way too little, way too late for Memphis.



MISO energy represents one of the possible alternatives for our city.



70 West Madison Street, Suite 4000  
Chicago, Illinois 60602

T 312.580.0100  
F 312.580.1994  
hsplegal.com

Larry D. Blust  
Direct Line: 312.604.2672  
Direct Fax: 312.604.2673  
Email: lblust@hsplegal.com

August 12, 2020

**VIA Email Delivery: ghenry@monogramfoods.com**

Karl Schledwitz, CEO  
Monogram Foods  
530 Oak Court, Suite 400  
Memphis, TN 38117

Dear Karl:

You requested our advice on the amount of any surplus MLGW revenues generated by changing electric supplier or otherwise which could be used by the City of Memphis for purposes unrelated to the electric system. The Memphis Charter clearly provides that the City Council may provide that an amount not to exceed on a cumulative basis 6% per annum of the City equity or investment in the light division of MLGW shall be distributed to the City general fund. Since such percentage is cumulative and no prior amounts appear to have been distributed, a considerable sum could be used by the City general fund rather than being applied to rate reduction. The maximum annual payment, however, cannot exceed half the profits of the light division for the year unless the MLGW Board waives such limitation.

**Discussion of Restrictions on Use of MLGW Electricity Revenues**

Memphis is governed by a charter passed as a special act by the State of Tennessee in 1879 (as amended, the "Charter"). Prior to the passage of the Home Rule Amendment to the Tennessee Constitution, the Charter could only be modified by an act of the state legislature. The Home Rule Amendment provides for the City Council to submit to the Memphis voters an amendment to the Charter which may be approved by a majority of the qualified voters voting on such proposal at the first general election held at least 60 days after publication of the amendment.

Memphis Light, Gas and Water division ("MLGW") is a division of the City established by a 1939 private act of the state legislature amending the Charter. It is not a separate legal entity and thus its assets, revenues and expenditures are the assets, revenues and expenditures of the City. Nevertheless, it is required by state statute to maintain separate accounts for each of its divisions (light, gas, and water) and to allocate joint costs among its divisions on an equitable basis. Consequently MLGW publishes audited financials which account separately for its electric, gas and water services. MLGW provides electricity and gas services to all of Shelby County and its various municipalities in addition to Memphis.



Karl Schledwitz, CEO  
Monogram Foods  
August 12, 2020  
Page 2

Even though MLGW's assets, revenues and expenditures are those of the City and the City Council must approve its rates for services and most of its contracts including any power purchase contracts, the Charter restricts the use of the revenues of MLGW's three divisions.

Section 691 of the Charter, a copy of which is attached, governs the disposition of revenue of the light division. It provides that revenue received each year from the operation of the light division, before being used for any other purpose, shall be used in order of payment for:

1. Operating expenses of the light division.
2. Interest and sinking fund amounts on debt issued for the benefit of the light division.
3. Funding of working capital, renewal and replacement and casualties reserves of the light division in amounts determined by the MLGW board.
4. Payment to the City general funds in lieu of taxes ("PILOTS") in an amount equal to the amount which would be the City taxes on the light division properties within the City limits if such properties were privately owned<sup>1</sup>.
5. Payment to a surplus account in the amount determined by the MLGW board for plant extension and improvements and purchasing bonds issued for such purpose.
6. Payment to the City general funds of an amount established by the City Council not to exceed a cumulative return of 6% per annum of the City equity or investment in the light division. The MLGW board can dispute the reasonableness of the percentage fixed by the City Council with the issue determined by a board of 3 arbitrators consisting of one MLGW board member, one City Council member and a third member selected by the first two. Payments under this 6<sup>th</sup> priority cannot exceed half of the net profits realized by the light division during the year unless the MLGW board consents thereto.
7. Any remaining surplus over the above safe operating margins must be devoted solely to rate reduction.

The above allotment of funds can be changed by the MLGW board as deemed necessary in contracting with TVA for the purchase of power or by the City Council with the approval of the MLGW board to the extent deemed necessary in the issuance and sale of bonds for the electric system or by the elective system in conjunction with the gas and water systems.

---

<sup>1</sup> Note the discussion below regarding PILOTS to Shelby County and the other municipalities served.



Karl Schledwitz, CEO  
Monogram Foods  
August 12, 2020  
Page 3

A virtually identical provision in Section 693 of the Charter applies to gas revenues. On the other hand the provisions of Section 692 regarding the disposition of water division revenues is somewhat different. The first three priorities are the same. There is no provision for PILOT payments as in Section 691(4).<sup>2</sup> Instead there is a provision the same as (6) for a payment to the City based on City investment but the percentage is 3% rather than 6%. Priority (5) is similar to (5) for electricity and gas. Priority (6) provides that any remaining surplus shall be devoted solely to rate reduction.

MLGW is in fact making PILOT payments for all three divisions totaling roughly \$65 million or approximately 5% of its total revenue from rate payers. Some of these payments were made by the electric and gas division to Shelby County and the incorporated towns in Shelby County purchasing electricity and gas from MLGW.<sup>3</sup> The financials show \$64,316,000 in PILOTS paid in 2017 consisting of \$41,687,000 from the electric division, \$18,325,000 from the gas division and \$4,400,000 from the water division and \$61,919,000 in PILOTS paid in 2016 consisting of \$39,994,000 from the electricity division, \$17,525,000 from the gas division and \$4,400,000 from the water division.

It appears that MLGW has paid the maximum PILOT allowed in regard to gas and water revenue in recent years. The 2017 financials describe the amount paid by the electric division as based on the TVA power contract formula and the gas division as based on the Tennessee Municipal Gas System Tax Equivalent Law, T.C.A. §7-39-401 et seq. Both of these PILOT payments are described in MD&A p. M-15 and M-22 as including a maximum property tax equivalence calculation plus 4% of three year average operating revenue less power costs. Even though the electric PILOT amount is based on the TVA power contract and the gas PILOT on the state statute, the two are computed in the same manner since Tennessee has identical Tax Equivalent Laws for gas and electric municipal utilities and the Municipal Electric System Tax Equivalent Law of 1987, T.C. §7-52-301 et seq., applies to all municipal utilities and overrides any provisions to the contrary in home rule or other municipal government charters. It provides that the municipality "may pay" from its electric system revenue as tax equivalents an annual amount which shall not exceed the sum of:

1. The equivalent property tax rate times the net electric plant value and the book value of materials and supplies within the municipality as of the start of each financial year times the assessment ratio (55% by state statute) plus

---

<sup>2</sup> Note the discussion below that a water division PILOT is in fact paid by the water division, however.

<sup>3</sup> The individual statements for the three divisions show the line items as "Transfer to City of Memphis on pages M-13, M-20 and M-27 of the 2017 financials. In the financial statements themselves these are labeled "Transfer Out - City of Memphis". The descriptions of these amounts in the Management's Discussion and Analysis ("MD&A") section of the financial statements on pages M-15, M-22 and M-22 describe them as PILOT payments to the City. However, note 15 on page N-49 of the financials states that these electricity and gas numbers include payments to Shelby County and the other incorporated Shelby County municipalities allocated pursuant to the state statutory formula.



Karl Schledwitz, CEO  
Monogram Foods  
August 12, 2020  
Page 4

2. 4% of the average electric operating revenue for the preceding 3 fiscal years. T.C.A. §7-52-304(1). See also definitions in §7-52-303.

The Electric System Tax Equivalent Law requires that such tax equivalent payments may only be made from electric system revenues after deducting what are essentially items 1 through 3 in Section 691 of the Charter as outlined above plus cash for applicable working capital. T.C.A. §7-52-304(2). No other taxes or charges other than retail sales or use taxes on electric power or energy at the same rates generally applied to sales or uses of personal project or services can be paid from electric revenues. T.C.A §7-52-304(3) & (6). The PILOT law requires allocations to the county and other municipalities served by the electric system.

While one might argue that the word “charges” might be interpreted to cover Charter item 6, the 6% of City equity payment, it does not appear that this statute is intended to determine what happens to revenues after the items set forth in §7-52-304(2) are funded and it contains no provision requiring residual revenues to be applied to rate reduction. Thus it does not appear to bar payments under item 6.

At least in recent years, Memphis does not appear to have received any amount pursuant to item 6 of Section 691 of the Charter. Note that this provision provides for a cumulative return. Thus, were there adequate revenues available, amounts not paid for prior years back to 1939 could be paid to the City from available electric revenues. Note that the Charter provides that payments under item 6 cannot exceed half of the net profits realized by the light division during the year but that the MLGW board may waive this limit. Once there is a substantial surplus of revenue over expenditures, this Charter provision should allow a substantial payment to the City general fund before the balance is applied to rate reduction.

It is difficult to tell from MLGW’s financial statements what the 6% applies to. The Charter bases the 6% on “the equity or investment, if any, of the municipality in the property of the light division”. Per the 2017 financials, MLGW had total electric division assets (other than deferred outflows) of \$1,723,165,000 after deducting \$782,462,000 in depreciation. It’s total non-current liabilities which were largely debt invested in assets were \$285,339,000. The difference would be \$1,437,826,000, 6% of this would be \$86,269,560. The net investment in all capital assets of the electric division if current liabilities and deferred items are also included at the end of 2017 was \$1,152,467,000, 6% of this would be \$69,148,020. Thus, were there sufficient revenues a considerable amount of any savings by going to a different supplier could be paid to the City general fund rather than reducing electric charges to ratepayers.

Assuming no greater net additional investment than depreciation, over five years the ability to pay out at least \$345,740,000 could be built up by the year of conversion.

Another method of using electric revenue surplus to finance other City projects might be to apply some of MLGW’s funds available for investment to invest in the project. For example,



Karl Schledwitz, CEO  
Monogram Foods  
August 12, 2020  
Page 5

in 2002 the gas division paid for the construction of two pipelines with reserves and leased them on a 15 year lease to Valero Refinancing Group for transporting crude oil and refinery products (not natural gas used by MLGW). The lease was renewed for an additional 30 years in 2016. Valero makes monthly payments.

MLGW could probably do a similar transaction for a municipal facility such as transit provided there was a credit worthy revenue source pledged to pay the lease.

Very truly yours,  
Hughes Socol Piers Resnick & Dym, Ltd.

By:   
Larry D. Blust, a partner

01069748.DOCX

**Sec. 691. - Disposition of revenue of light division.**

The revenue received each year from the operation of the light division, before being used for any other purpose, shall be used for the following purposes, in the order named, to-wit:

- (1) The payment of all operating expenses of the light division for the year.
- (2) For interest accruals and sinking fund accruals on bonds and mortgages issued for the benefit of the light division.
- (3) For cash payments to a working capital reserve, a renewals and replacement reserve, and a casualties reserve, for the benefit of the light division, said cash payments to said reserves to be in such amounts as the Light, Gas and Water Commissioners think proper and by resolution elect to set up from time to time.
- X (4) For payment to the general funds of the municipality a sum equal in amount to what would be the City taxes on the properties of the light division within the City limits of the City of Memphis if said properties were privately owned.
- (5) For payment to a reasonable surplus account which may be used by the board of Light, Gas and Water Commissioners for extensions and improvements to the light plant or system and/or for the purchase of outstanding bonds that may have been issued for the benefit of the light division, as the board of Light, Gas and Water Commissioners may deem advisable.
- X (6) For payment to the general funds of the municipality a sum not to exceed a cumulative return of six percent (6%) per annum of the equity or investment, if any, of the municipality in the properties of the light division, the said percentage to be fixed by resolution of the Board of Commissioners of the City of Memphis. Should the said percentage as fixed by the Board of Commissioners of the City of Memphis exceed a reasonable figure in the opinion of the board of Light, Gas and Water Commissioners, the amount to be paid by the board of Light, Gas and Water Commissioners to the Board of Commissioners of the City of Memphis shall be determined by a board of arbitration, consisting of one member of the Board of City Commissioners and one member of the board of Light, Gas and Water Commissioners, who shall elect a third member, and the findings of this board of arbitration shall be final and binding on both the Board of City Commissioners and the board of Light, Gas and Water Commissioners.

Provided that in no event shall the aforesaid payment to the municipality for any year exceed one-half of the net profits realized by the light division during that year, unless the board of Light, Gas and Water Commissioners shall, by resolution, consent thereto.

- X (7) Any surplus then remaining, over and above safe operating margins, shall be devoted solely to rate reduction.

It is further provided that said allotment of funds may be changed in such manner as may be deemed necessary by the board of Light, Gas and Water Commissioners in contracting with the Tennessee Valley Authority for the purchase of power, or as may be deemed necessary by the Board of Commissioners of the City of Memphis, with the approval of the board of Light, Gas and Water Commissioners, in the issuance and sale of any bonds or notes on behalf of the electric system, or on behalf of the electric system in conjunction with the gas or water systems.

*(Priv. Acts 1939, ch. 381, § 19)*

**Sec. 692. - Disposition of revenue of water division.**

The revenue received each year from the operation of the water division, before being used for any other purpose, shall be used for the following purposes, in the order named, to-wit:

# MEMPHIS' ENERGY FUTURE

*Public power and the 21st century utility in Memphis*

**MEMPHIS**  
HAS THE POWER

cleanenergy.org  
Southern Alliance for  
Clean Energy 



# ABOUT SACE



The Southern Alliance for Clean Energy promotes responsible energy choices to ensure clean, safe and healthy communities throughout the Southeast.

# MEMPHIS HAS THE POWER



A campaign to ensure Memphians have affordable, equitable, and clean energy. We are working to achieve energy justice and create a cleaner, more prosperous Memphis.

Members of our staff have served on the MLGW PSAT.

# THE CASE FOR ISSUING AN RFP

- Participated in and support the process and review of final IRP which recommends issuing RFP
- Other studies also show a high probability of significant cost savings by seeking an alternative power supply to TVA
- We strongly endorse the move to quickly issue a RFP for supply and transmission services
- We support the development of broad principles that will guide the RFP development, review, and timing

# SACE AND TVA

- SACE was founded in 1985 as a TVA watchdog group
- Served two terms on TVA's Regional Resource Stewardship Committee
- Served two terms on TVA's Regional Energy Resource Council
- Worked closely with TVA on the Green Power Switch program
- Worked with TVA on TVA IRPs: 1995 IRP (Energy Vision 2020), 2011 IRP, and 2015 IRP
- Testified to U.S. Senate committee about TVA and Kingston coal ash disaster
- #NotPublicPower

# TVA VALUES ARE NOT PUBLIC POWER VALUES

TVA Board and executive staff have over the past decade become increasingly insulated and removed from being in touch with the people they serve.

- Excessive corporate compensation (\$8+ million for current CEO)
- Excessive expenditures on luxury items for executive use (jets, helicopters, etc)



**Memphis Flyer**



**TVA Report Says Aircraft Purchases Not Justified**

# TVA VALUES ARE NOT PUBLIC POWER VALUES cont.

- Shut down public input opportunities at TVA board meetings, when citizens began to organize
- Supported regressive fixed fees at the wholesale and retail levels
- Outsourced union IT jobs in the middle of a pandemic, drawing the ire of the President of the United States

**More at [NotPublicPower.org](http://NotPublicPower.org)**

**knox news.**  
TVA agrees to new fixed fee as customers accuse board of shifting costs onto poorer ratepayers

**Chattanooga Times Free Press**  
TVA cutting 120 jobs in IT as it outsources software work; Chattanooga employees to be hit hardest

# ENVIRONMENTAL CONCERNS WITH TVA

- Coal ash risk
- Behind on solar
- Emissions reductions are plateauing
  - Behind on energy efficiency

# COAL ASH

Legacy coal ash cleanup at 11 power plants (operating or retired) will cost an estimated [\\$3-5 billion over next 20 years.](#)

Memphis has been on the front lines of this issue with the arsenic contamination of the groundwater at the Allen plant:

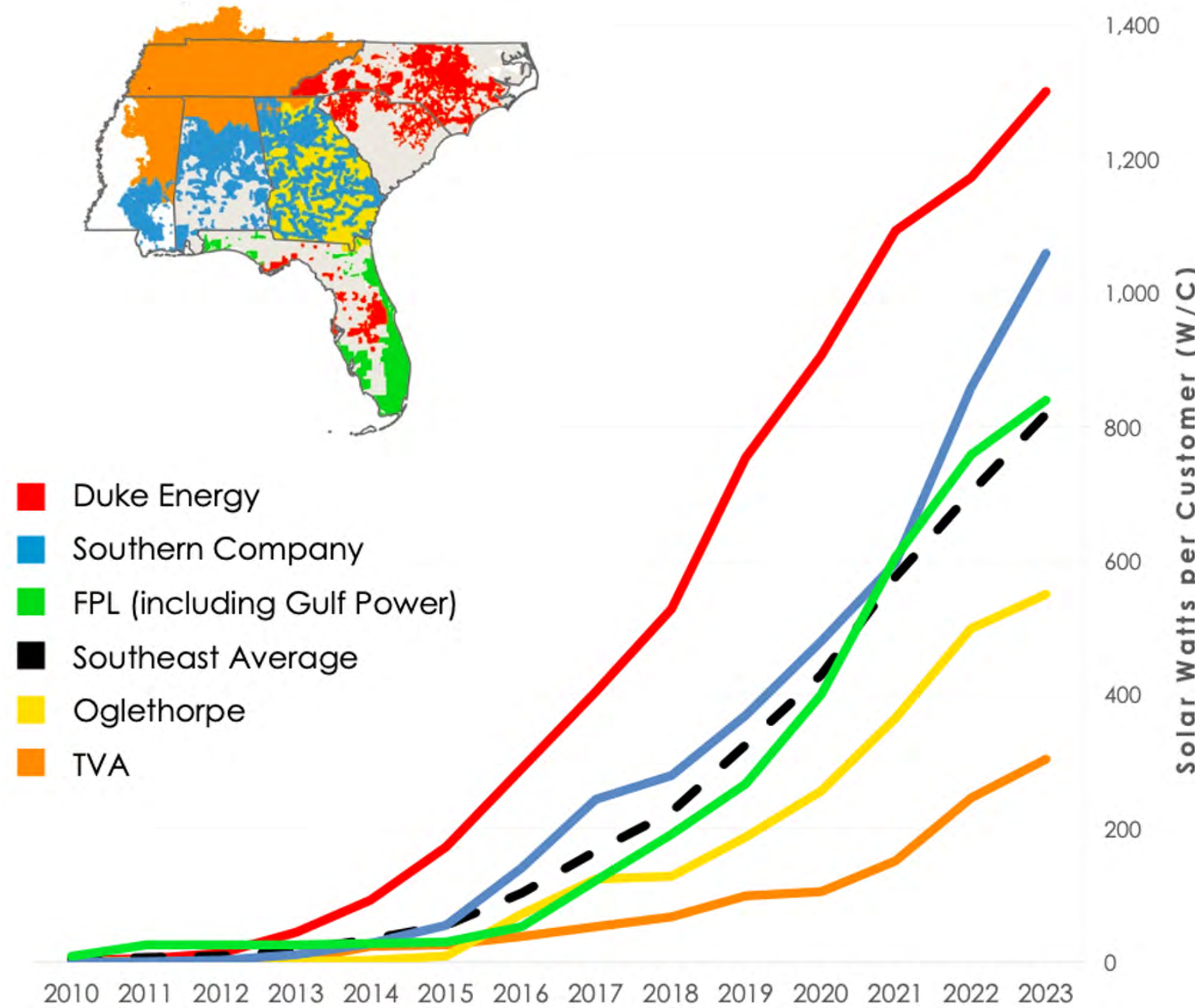
- ["Frankly, if I had it to do-over, I would do something else,"](#) - Former TVA CEO Bill Johnson
- ["We're committed to cleaning up and removing the coal ash, and we're gonna do that exactly right whether we're partners or not."](#) - TVA CEO Jeff Lyash



**Kingston coal ash disaster**



# TVA IS BEHIND ON SOLAR



SYSTEMS WITH > 500,000 CUSTOMERS	2023 FORECAST
DUKE ENERGY PROGRESSS	2,718
TAMPA ELECTRIC	1,827
DOMINION ENERGY SC	1,809
GEORGIA POWER	1,435
DUKE ENERGY CAROLINAS	887
FLORIDA POWER & LIGHT	839
<b>SOUTHEAST AVERAGE</b>	<b>819</b>
DUKE ENERGY FLORIDA	722
SANTEE COOPER	664
OGLETHORPE POWER	550
ALABAMA POWER	395
<b>TENNESSEE VALLEY AUTHORITY</b>	<b>303</b>
SEMINOLE ELECTRIC CO-OP	301
NC ELECTRIC COOPERATIVES	98

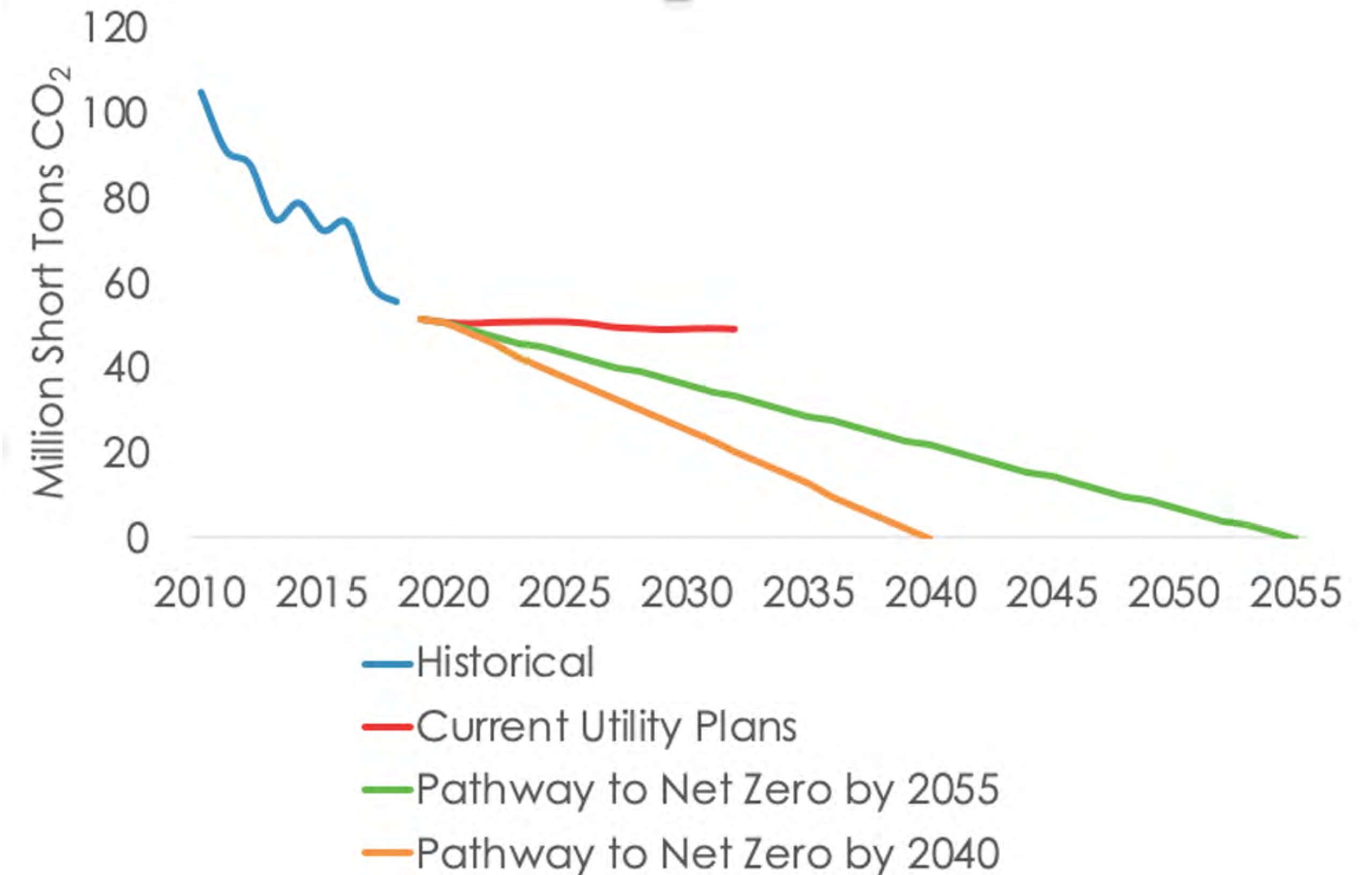
# TVA'S EMISSIONS REDUCTIONS ARE PLATEAUIING

**From 2005 to 2019:**

50% reduction in carbon emissions

**From 2020 to 2032:**

Only 5% more reduction, based on TVA's current plans

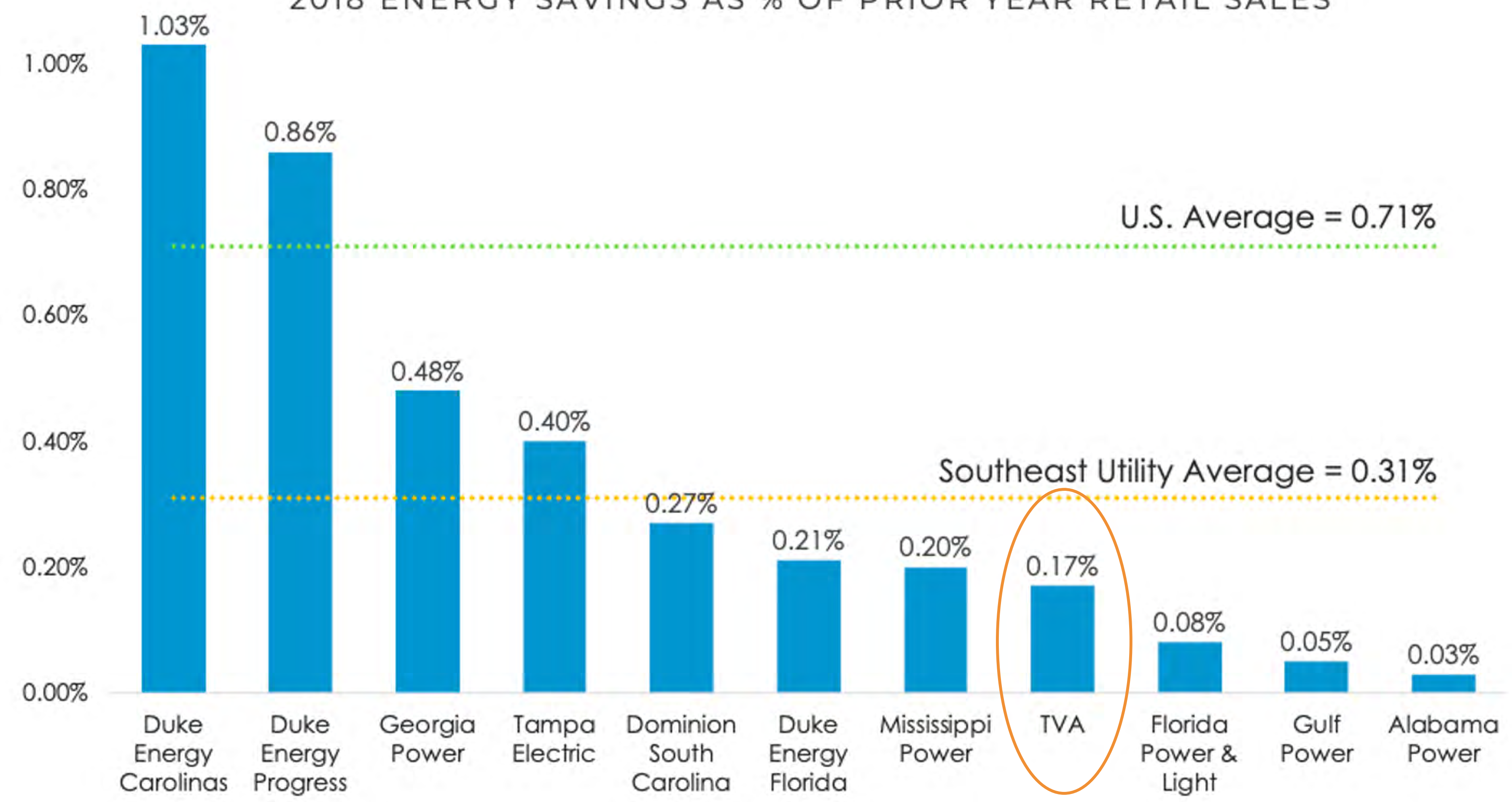


Preliminary results from upcoming SACE report on decarbonization in the Southeast



# TVA IS BEHIND ON ENERGY EFFICIENCY

2018 ENERGY SAVINGS AS % OF PRIOR YEAR RETAIL SALES



## MEMPHIS ENERGY BURDEN



**Share the Pennies Program Recipient**

- National average of major cities = 3.5%
  - Memphis metro area average = 6.2%
  - Many low-incomes households experiencing energy burdens as high as 25%
- TVA does not take energy efficiency seriously in Memphis. Dedicated only \$1 million to weatherization in Memphis from EPA settlement, while Knoxville got \$15M and Huntsville got ~\$12M.
- SACE strongly supported MLGW Share the Pennies redesign. This is a critical program, but Memphians need more.

# INVESTING IN ENERGY EFFICIENCY

- Because of the multiplying benefits of energy efficiency investments which include:
  - reducing people's energy burden
  - real jobs in the local community
  - reducing need for MLGW to purchase or build additional power plants
  - pathways out of poverty with real environmental benefits
- We believe that not less than 10% of the savings captured from the RFP should be earmarked for low income energy efficiency programs and demand-reduction programs run in a quality manner



# MLGW CAN BE A 21st CENTURY UTILITY

- Rare opportunity for a clean slate
- Can put needs of Memphians first by putting savings toward energy efficiency programs to help lift people out of poverty and creating local jobs
- Can take advantage of technological advances--distributed and low-cost renewable energy and storage--for low costs and cleaner environment



# THANK YOU



**MemphisHasThePower.org**

**Contact:**

**Dr. Stephen A. Smith**  
**Southern Alliance for Clean Energy**  
[sasmith@cleanenergy.org](mailto:sasmith@cleanenergy.org)



Synapse  
Energy Economics, Inc.



**Friends of  
the Earth**



**SAVE ENERGY**  
**SAVE DOLLARS**

Presented by: Herman Morris, Jr.  
& Kenji Takahashi



WISV



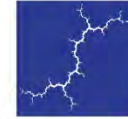


## Friends of The Earth

- A volunteer global **nonprofit environmental group**
- The “**honest, objective, disinterested and committed**” broker of truth and information, you can trust, in the debate on the future of MLGW energy source and supply.
- **Not trying to sell electricity** or selling management or marketing services,
- **Not trying to keep Memphis a dependent** and captive cash cow customer with no other options.
- **Promoting cheaper and clean energy opportunities for Memphis** to obtain lower power costs as well as cleaner air and a cleaner local environment.



**Friends of  
the Earth**

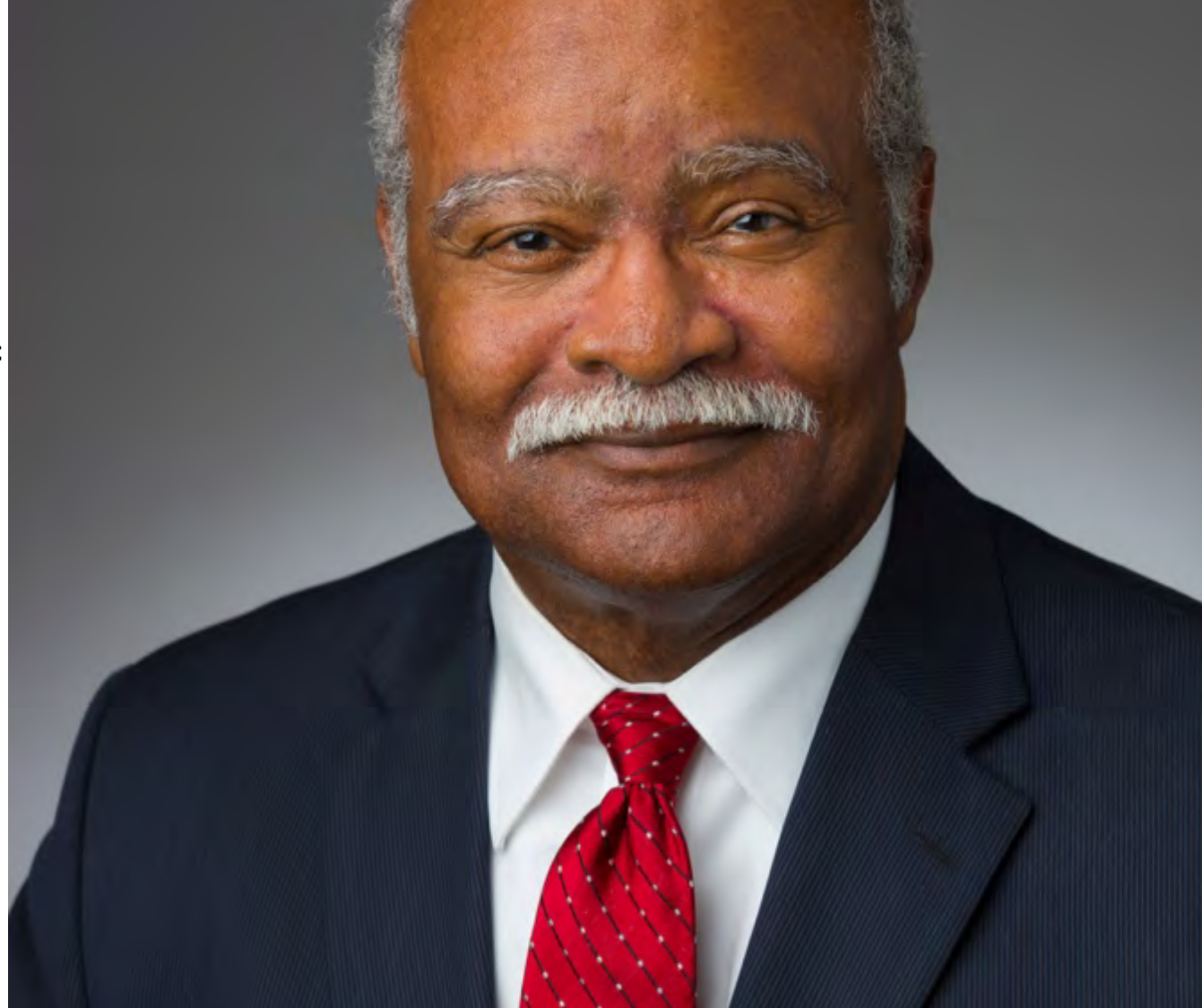


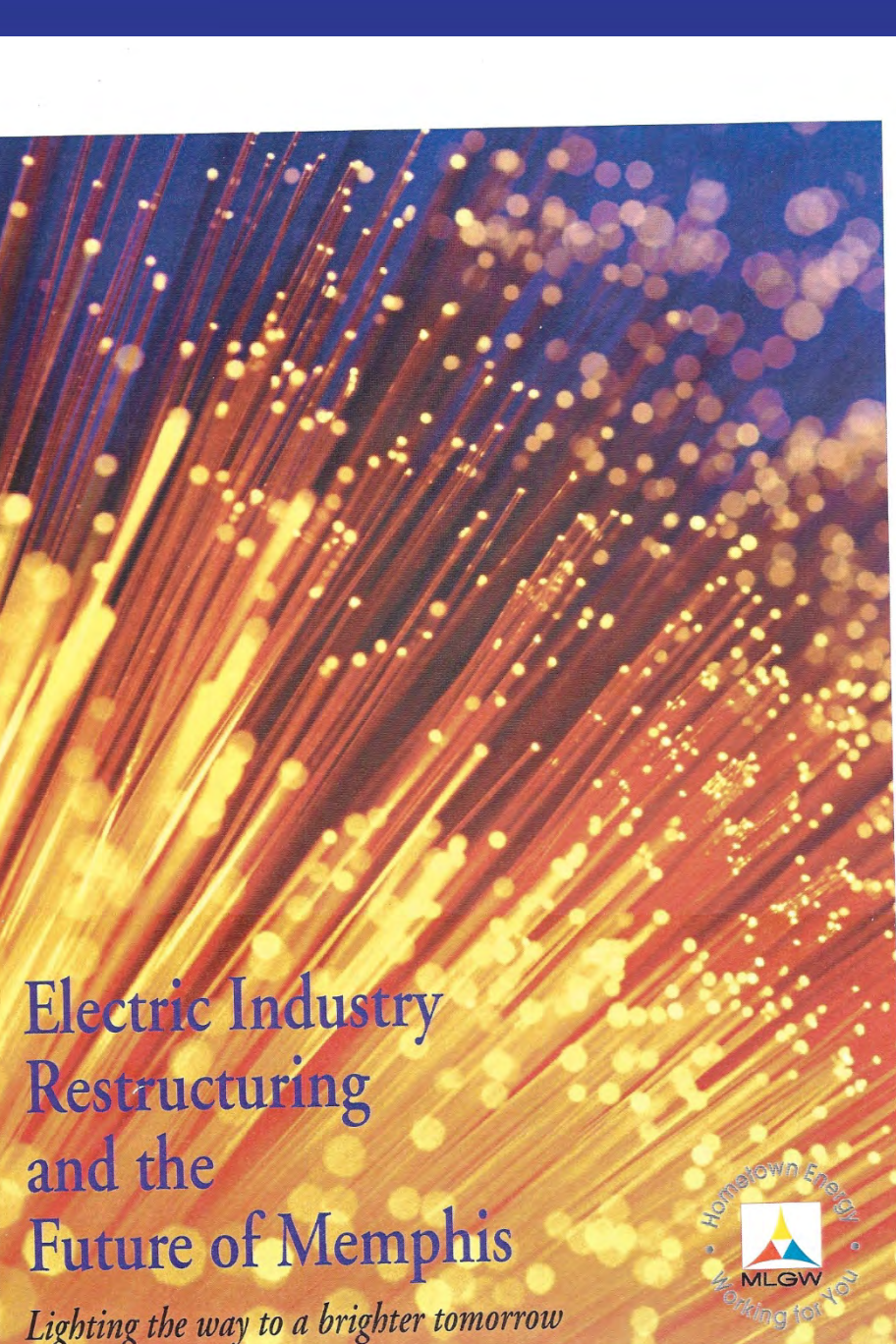
### Herman Morris, Jr.

Woodward/White, Inc. **"The Best Lawyers in America"** in Energy Law.

#### **INDUSTRY AND PROFESSIONAL LEADERSHIP-EXPERIENCE:**

**President and CEO of MLGW, General Counsel of MLGW, Director Tennessee Valley Public Power Association, Director Tennessee Municipal Electric Power Association, Memphis Bar Association Board, Director, National Petroleum Council, Treasurer, American Public Power Association, Executive Committee, Tennessee Valley Public Power Association, Executive Committee, American Gas Association, Executive Committee, American Association of Blacks in Energy, Executive Committee, Large Public Power Council**





# Electric Industry Restructuring and the Future of Memphis

*Lighting the way to a brighter tomorrow*



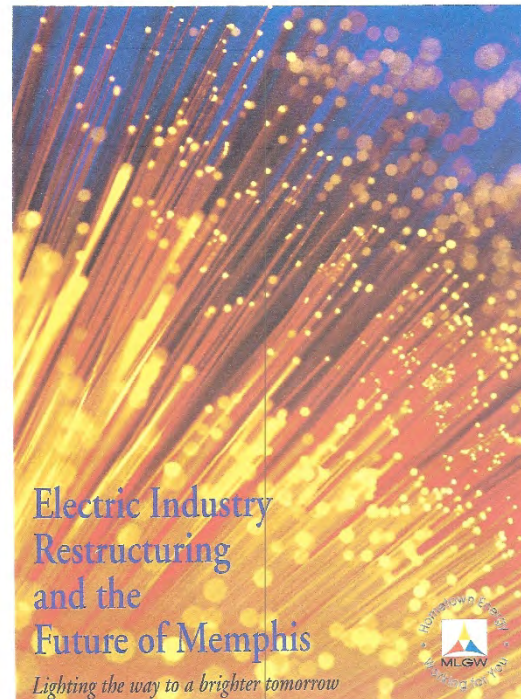
- In 1999 MLGW did its' **first study** examining the relationship with TVA and **seeking fairness and equity** in the manner in which TVA does business with MLGW.
- Memphis spent \$645 million dollars on TVA power and at that time could not choose to purchase from another supplier by law.
- MLGW considered the relationship with TVA at that time untenable.

THE BEST PREDICTOR OF FUTURE BEHAVIOR IS ...*PAST BEHAVIOR*

# A COST BENEFIT ANALYSIS

The **1999-2000** examination of **MLGW'S RELATIONSHIP with TVA**

*"20 years ago MLGW critically examined its relationship with TVA and what it found still resonates today 20 years later."* Herman Morris, Jr., former President and CEO, MLGW





**Table of Contents**

Executive Summary ..... 3

Current MLGW/TVA Relationship & Environment ..... 5

Is Memphis Paying Too Much for TVA Power? ..... 6

Summary of MLGW Positions Regarding Electric Restructuring & TVA ..... 11

Summary of MLGW Actions to Shape Federal Legislation ..... 13

Is Memphis Being Treated Fairly by TVA? ..... 15

Unbundled TVA Products & Services ..... 18

Expenditures on Non-Power Programs ..... 18

TVA Donations ..... 20

TVA Board Composition ..... 21

Equity for Memphis ..... 22

Appendix: ..... 23

*Herman Morris Congressional Testimony*

*Summary of Electric Restructuring Legislation*

*Map: TVA Recreation Areas*

*Map: Distributor Service Areas*

*Map: Tennessee Valley Region*

**Is Memphis Paying Too Much for TVA Power?**

**Is Memphis Being Treated Fairly by TVA?**

**TVA Donations**

**TVA Board Composition**

**Equity for Memphis**



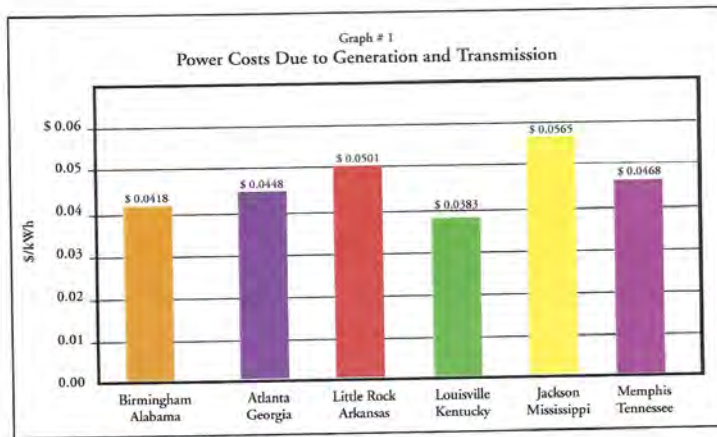
## Is Memphis paying too much for TVA power?

### Generation and Transmission

Electricity delivered to consumers is comprised of three distinct components: generation, transmission, and distribution. Generation is the production of power. Transmission is the transporting of power from generation plants to major load centers such as cities. Distribution involves the delivery of power to the ultimate customer. For Memphis, TVA provides the generation and transmission functions and MLGW provides the distribution function.

The rates that customers pay are also comprised of charges to recover the costs of generation, transmission, and

distribution. MLGW's wholesale power costs from TVA are for generation and transmission. TVA routinely contends that TVA electricity prices are very low. To test this contention, TVA's wholesale charges were compared to the generation and transmission costs of several of the surrounding utilities. Since the other utilities are vertically-integrated (providing all functions: generation, transmission, and distribution), generation and transmission costs were separated from distribution for direct comparison against TVA. Graph #1 shows that TVA's wholesale power costs (generation and transmission) to MLGW are only about average when compared to corresponding costs of many of the surrounding utilities.

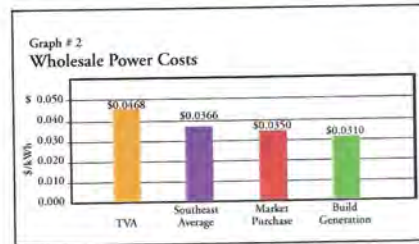


# In 1999 Memphis could save \$120 million dollars per year with an alternative supplier!

“Spectrum Economics reviewed TVA’s plan and concluded that TVA would not be able to reduce its costs below the current level between 2000 and 2010.” page 9

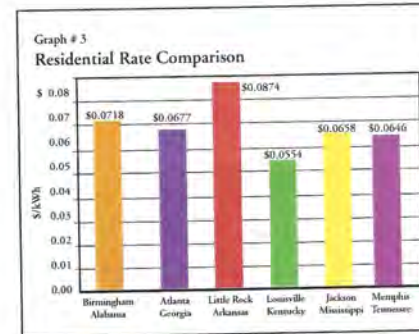


**In 1999 TVA Power Costs were highest in the southeast region!**



### Wholesale Power Costs

TVA's wholesale costs were also compared to the price of historical wholesale electric transactions in the southeastern U.S. In addition, a recent study commissioned by MLGW and performed by Spectrum Economics projected the price that MLGW would expect to pay for wholesale power if it were able to purchase it in the open market. Spectrum also projected the cost if MLGW were to build generation to meet its own load. These results are compared to TVA wholesale power costs in graph #2.

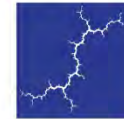


### Residential Rate Comparison

Taken together, these results show that TVA wholesale power costs are not low. Yet Memphis consistently ranks as one of the lowest cost cities in the region in terms of residential electric costs, as shown in graph #3.

Memphis is able to offer low rates because of MLGW's low distribution costs, not because of TVA's power costs. Graph #4 shows that MLGW's distribution costs are lower than the corresponding costs of surrounding utilities. MLGW customers enjoy low rates due primarily to MLGW's low distribution costs and not TVA's power costs.

Generation and transmission costs comprise about 80 cents of every dollar paid by MLGW customers. Therefore, any significant reduction in customer rates will have to come from reductions in generation and transmission costs. These



## Friends of the Earth



growth in power demand, (2) the cost of complying with new and proposed environmental regulations, and (3) the cost of non-power programs (lake management, recreation areas, etc.) that were formerly funded by Congressional appropriations. Spectrum Economics reviewed TVA's plan and developed forecasts of TVA rates into the future. They concluded that TVA would not be able to reduce its costs below the current level between now and 2010. Therefore, in the foreseeable future, TVA rates will not be competitive with other sources of supply.

### Can MLGW Access Other Sources of Power?

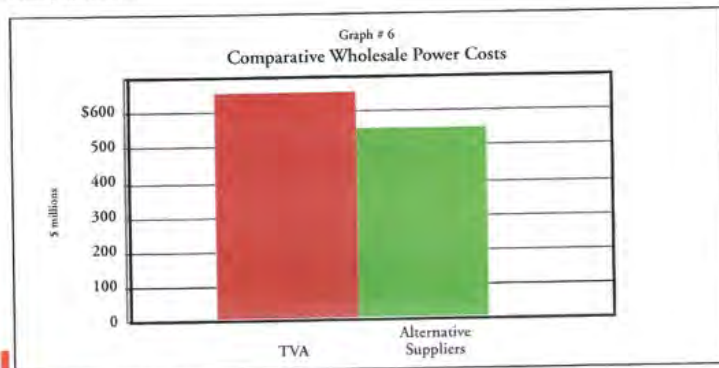
There are two basic constraints that currently prevent MLGW from having access to other sources of supply: (1) contractual and (2) legislative.

MLGW currently has a 10-year evergreen contract with TVA (requires 10-year notice to cancel, with financially punitive conditions applying once notice is given). The contract term needs to be shortened to reflect the new industry environment.

Even if MLGW were able to contract with other suppliers, current law would not require TVA to transport the power across its system. For example, if MLGW were able to contract for supply at a favorable price from a supplier located in Alabama, TVA would not be required to transport the power from its interconnection with the supplier in Alabama to Memphis. MLGW could construct its own transmission to reach the Alabama supplier, but the cost would be prohibitive. Current law needs to be changed so that TVA would have to transport power on behalf of MLGW for just and reasonable compensation. Such determination of just and reasonable compensation should be made by an unbiased third party, such as the Federal Energy Regulatory Commission.

### Can MLGW construct some of its own generation?

MLGW's long-term contract is a deterrent to MLGW's construction of generation assets. Without legislative relief to shorten the contract term, MLGW would not be able to use the output of constructed generation until termination of the contract after 10 years.

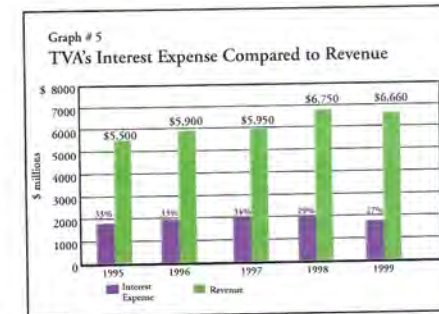
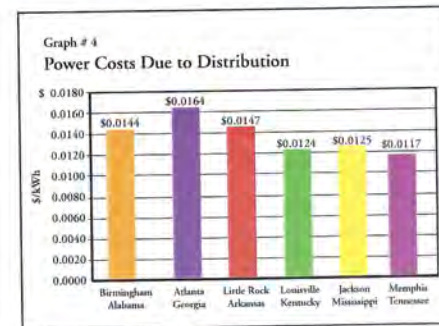


- In 1999 Memphis could save **\$120 million dollars per year** by leaving TVA for cheaper power *but*
- At the time, the TVA contract and the law did not permit leaving TVA.
- So Memphis: 1. lobbied congress to change the law; and, 2. negotiated with TVA to change the contract.



# Friends of the Earth

- TVA costs pressures will be discussed in the Synapse report Analysis.



costs can be reduced through three possible means: (1) TVA lowers its costs, (2) MLGW has access to lower cost wholesale suppliers, or (3) MLGW constructs some of its own generation. Combinations of these options are also possible.

## Can TVA lower its costs?

TVA's costs are high in large part because of excessive investment in nuclear plants. In the 1970's and 1980's, TVA was heavily engaged in the construction of nuclear plants, many of which were canceled after significant expenditures. Others were completed, but only after costly overruns. As a result, TVA now has approximately \$26 billion of debt, about \$18 billion of it associated with the nuclear power program. For every dollar of revenue that TVA collects, about 30 cents goes for interest costs alone (See graph #5).

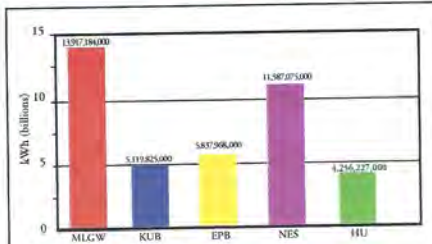
TVA recognizes that its costs are too high. In 1997, TVA set a goal to reduce its power costs to 3.5 cents/kWh by 2007 to be competitive with the market. The most significant component of the plan was a 5.5% rate increase in 1997 to raise funds to pay off debt. Two years into the 10-year plan, TVA has fallen behind schedule. The General Accounting Office recently reviewed TVA's 10-year plan. They concluded that TVA's plan does not fully address some costs that could jeopardize the success of the plan. Specifically, the



## Is Memphis Being Treated Fairly by TVA?

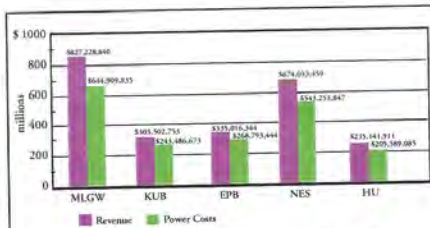
TVA is the sole provider of wholesale power to 159 municipal and cooperative power distributors, of which MLGW is the largest (11.3%) in terms of TVA's total sales. This would lead one to believe that Memphis receives comparable benefits in relation to the other major distributors. However, of the "Big Five," which comprise a significant portion of TVA's total sales, MLGW does not receive comparable benefits. As you will see in the following detail, there are inequities in all areas. Examples include job opportunities, economic development funds, and assistance to community development and charitable organizations, to name a few.

In examining the current environment that exists between MLGW and TVA, many facts stand out as areas of possible improvement. Being the largest distributor with the greatest power costs, and thus being the largest single revenue generator for TVA, the inequities that follow must be recognized and dealt with.



Distributor Sales as of June 30, 1999

KUB=Knoxville Utilities Board  
EPB=Electric Power Board of Chattanooga  
NES=Nashville Electric Service  
HU=Huntsville Utilities



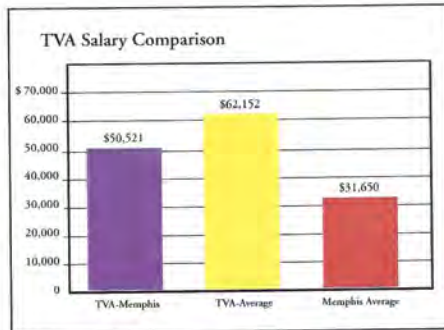
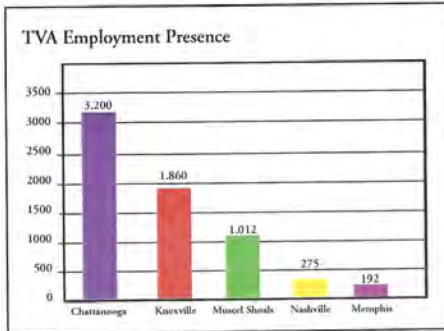
Distributor Revenues/Power Costs as of June 30, 1999

KUB=Knoxville Utilities Board  
EPB=Electric Power Board of Chattanooga  
NES=Nashville Electric Service  
HU=Huntsville Utilities

*MLGW is TVA's largest customer, accounting for nearly 14 billion kwh per year and 11.3% of TVA's total sales. Memphis also leads the Valley in total power costs amounting to \$645 million.*

# Memphis has not been treated fairly by TVA ...

## In 1999 Memphis was the largest TVA customer with 11.3% of TVA's total sales !



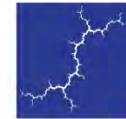
### Employee Presence

As of September 30, 1999, TVA employed 13,322, with only 192 of those in the MLGW service territory. TVA manages three corporate offices—Knoxville, Chattanooga, and Muscle Shoals—with Knoxville being the main office. According to the Office of the Inspector General's report for October 1, 1997 - March 31, 1998, TVA spent more than \$4 million in costs associated with the relocation of 110 employees to Nashville. The report also stated one of the reasons for the move was the desire to "raise TVA's profile in an important market." Memphis, being TVA's largest customer, is also a very important market but has yet to receive such attention.

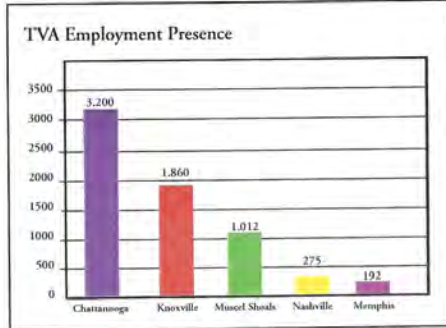
Furthermore, the average TVA salary across the Valley is \$62,152. In Memphis alone, the average TVA salary is just over \$50,000, 20 percent below that of the overall average. Memphis' estimated overall average income for 1999 was \$31,650, much lower than either of the TVA averages. Clearly, an increased employment presence in Memphis would give a major boost to the local economy.

# Memphis as TVA's the largest customer had the few TVA employees in Memphis!

In 1999 of the **13,322 TVA employees** only **192 or less than 1.5%** were in Memphis.



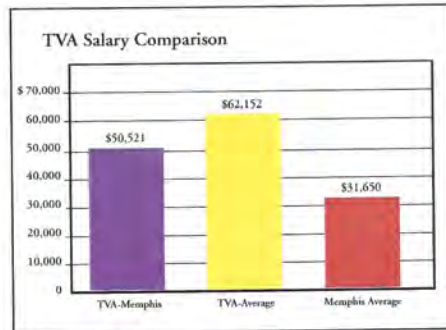
## Friends of the Earth



### Employee Presence

As of September 30, 1999, TVA employed 13,322, with only 192 of those in the MLGW service territory. TVA manages three corporate offices—Knoxville, Chattanooga, and Muscle Shoals—with Knoxville being the main office. According to the Office of the Inspector General's report for October 1, 1997 - March 31, 1998, TVA spent more than \$4 million in costs associated with the relocation of 110 employees to Nashville. The report also stated one of the reasons for the move was the desire to "raise TVA's profile in an important market." Memphis, being TVA's largest customer, is also a very important market but has yet to receive such attention.

Furthermore, the average TVA salary across the Valley is \$62,152. In Memphis alone, the average TVA salary is just over \$50,000, 20 percent below that of the overall average. Memphis' estimated overall average income for 1999 was \$31,650, much lower than either of the TVA averages. Clearly, an increased employment presence in Memphis would give a major boost to the local economy.



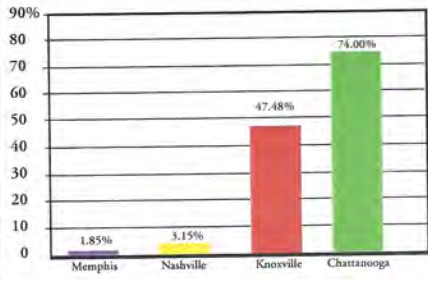
# In 1999 Memphis was 11.3% of TVA's revenue but had less than 2% of their jobs.

Memphis unemployment rate was among the highest in the country.

Memphis poverty rate was one of the highest in the country.



TVA Salaries as Percentage of Power Costs

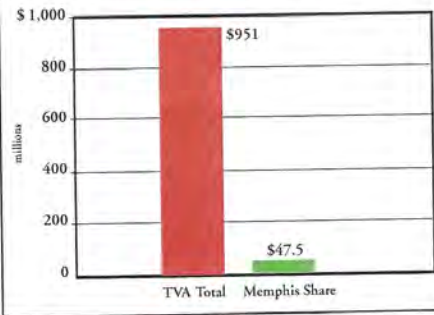


### Economic Impact Of Employee Presence

Because of the small number of jobs located in Memphis, the city's salaries as a percent of power costs is under 2%. In contrast, Chattanooga receives a 74% return on their power costs paid in. If TVA moved half of the jobs in Chattanooga to Memphis, Memphis' percentage would rise to 17.3%, still much lower than Chattanooga's adjusted percentage of 37.0%. The revenue impact would be an increase of **almost \$100 million** to the Memphis economy.

Of the \$951 million annually spent with Valley firms, only an average of \$47.5 million or 5% is spent in the Memphis area. An increased presence in Memphis by TVA could raise that figure exponentially.

TVA Expenditures on Goods & Services



# Salaries as a Percent of Power costs:

## Memphis only 1.85% of Memphis power costs comes back in TVA salaries!

## Chattanooga 74% of Chattanooga's power costs comes back in TVA salaries



## Friends of the Earth



### TVA Lakeside Recreation Areas (Campgrounds):

TVA Lake	Recreation Area
Cherokee Lake	Cherokee Dam Campground
Douglas Lake	Douglas Lake Headwater
Melton Hill Lake	Melton Hill Dam
Nickajack Lake	Foster Falls
Norris Lake	Loyston Point
Normandy Lake	Barton Springs
Pickwick Lake	Pickwick Dam Tailwater
Watauga Lake	Watauga Dam Tailwater
Wheeler Lake	Mallard Creek
Wilson Lake	Wilson Dam-Lower Rockpile

During 1999, TVA formed 11 TVA Watershed Teams which work to stabilize shorelines, improve water quality, handle requests for waterfront development, help communities restore their watersheds, and educate the public about natural resource issues. The closest Watershed office to Memphis is Paris, TN, over 100 miles from Memphis. Memphis ratepayers fund these facilities through their electric rates, yet receive little or no direct benefits.

### TVA's Watershed Teams:

Upper Holston	Kingsport, TN
Hiwassee	Murphy, NC
Cherokee-Douglas	Morrisstown, TN
Guntersville	Guntersville, AL
Clinch-Powell	Norris, TN
Melton Hill	Lenoir City, TN
Little Tennessee	Lenoir City, TN
Chickamuga-Nickajack	Chattanooga, TN
Wheeler	Muscle Shoals, AL
Kentucky	Paris, TN
Pickwick	Muscle Shoals, AL

# In 1999 Memphis pays 11.3% of the costs for TVA Recreational facilities remote from Memphis!

# 1999 Donations:

**TVA Contributions over 5 years to Memphis = \$2.9 million.**

**TVA Contributions over 1 year:**

\$1.1 to Women’s Basketball Hall of Fame;

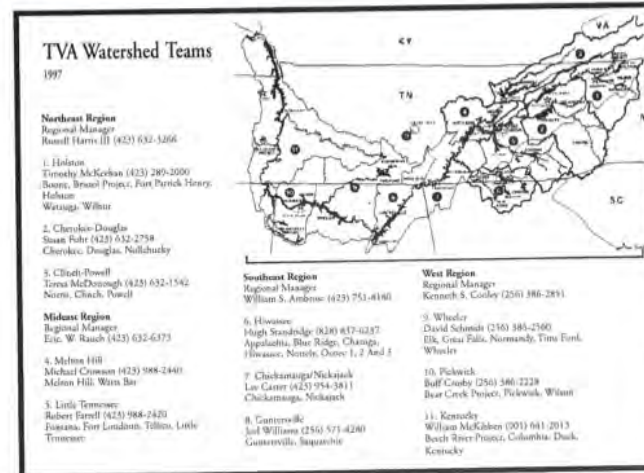
\$1 million to NW/Shoals Community College Muscle Shoals, AL;

\$500,000 Beville State Community College, AL;

\$500,000 Morgan Square, Inc., Greenville, TN;

\$500,000 National Storytelling Center, Jonesboro, TN

\$450,000 Nashville Chamber of Commerce



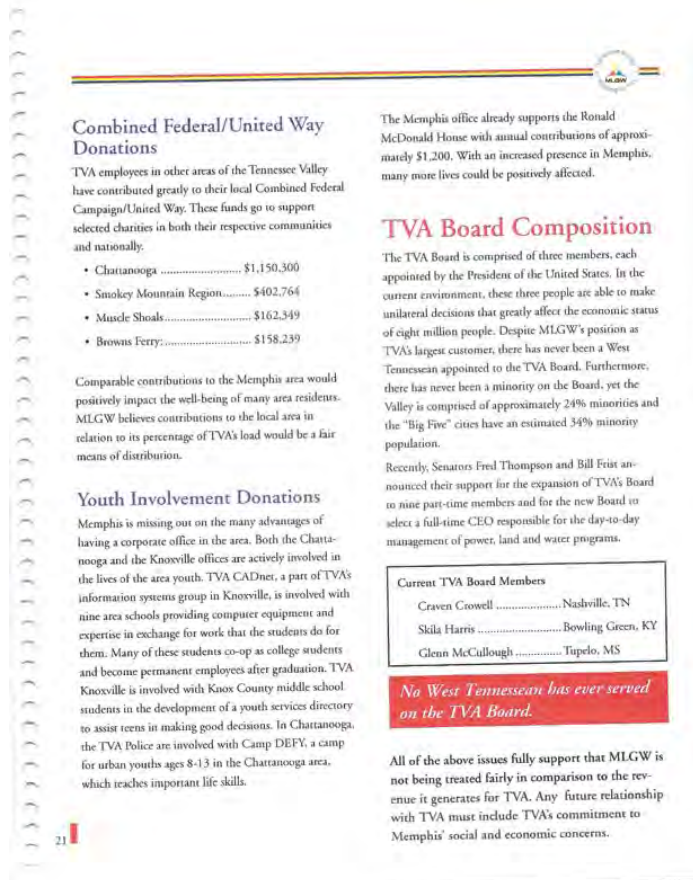
## TVA Donations

### Economic Development Donations

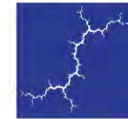
Although TVA has contributed millions of dollars in economic development, community development, and educational contributions to other areas, it has only donated \$2.9 million to Memphis economic development projects in the five years ending in 1998. While this is a significant contribution, it pales in comparison to the \$3.5 billion the people of Memphis have paid to TVA during that same time. In addition, TVA has made several very large contributions in other areas, including:

- \$1.1 million to the Women's Basketball Hall of Fame in Knoxville, TN
- \$1.0 million to Northwest-Shoals Community College in Muscle Shoals, AL
- \$500,000 to Beville State Community College in West-Central, AL
- \$500,000 to Morgan Square, Inc. in Greenville, TN
- \$500,000 to the National Storytelling Center in Jonesboro, TN
- \$450,000 to the Nashville Chamber of Commerce in Nashville, TN

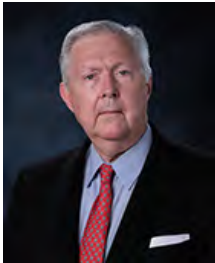
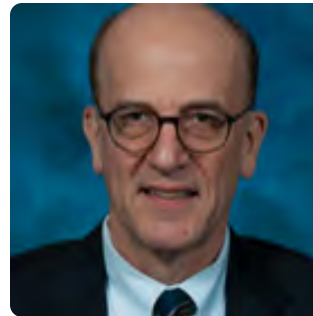
- In 1999 the TVA three-member Board was smaller but was 1/3 of female.
- TVA’s Board is larger today but does not reflect the diversity in the TVA region served today!
- And over the past three years has become less divers with no African American members.





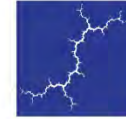


Synapse  
Energy Economics, Inc.



Tennessee Valley Authority

# Council



Synapse  
Energy Economics, Inc.



# Equity for Memphis!

- For the 80 years Memphis has been a customer and TVA's largest customer, it has gotten little to show for it in return, by comparison, in jobs, economic development, community support and participation, and for most of that time no representation and diversity on the board that reflected the diversity of the people TVA sells power. The most equitable thing to do for Memphis is to leave TVA and buy cheaper power, greener power, and cleaner power from another source. The equitable thing for TVA to do is to say Thank you for the past 80 years!

## Equity for Memphis

Many of the changes of relationship required between TVA and MLGW outlined in this briefing can only be solved through federal legislation. However, MLGW is not satisfied to wait for Congress to act for the resolution of the ongoing inequities in commitment by TVA to Memphis as compared to other sections of the Valley. Memphis deserves to benefit from the TVA relationship to an extent equal with other sections of the Valley. Many of these long-term concerns could now be addressed by TVA through amendments to the existing contract or the relocation of assets.

In the area of TVA's economic investment in the Memphis area:

- *TVA should commit to move 2,000 jobs to Memphis.* Based on TVA's annual average salary, this move would amount to an estimated influx into the Memphis economy of \$120 million annually. This amount does not include the associated required investments, such as office facilities. While this demand sounds excessive, one must remember that TVA has failed to deliver on past pledges to move jobs to Memphis, while Chattanooga's and Knoxville's economies have long benefited from TVA jobs. In addition, this amount is consistent with MLGW's prorated share of all TVA jobs based on MLGW's portion of the TVA annual load, and this amount of salary would only represent 20% of the MLGW's annual power costs.
- *TVA should agree to spend \$3 million per year in Memphis in economic development grants/loans with the funds to be administered by MLGW.* This amount is consistent with MLGW's prorated share of all TVA annual economic development expenditures based on MLGW's portion of the TVA annual load.
- *TVA should commit to a significant participation in Memphis' downtown and riverfront development efforts.*

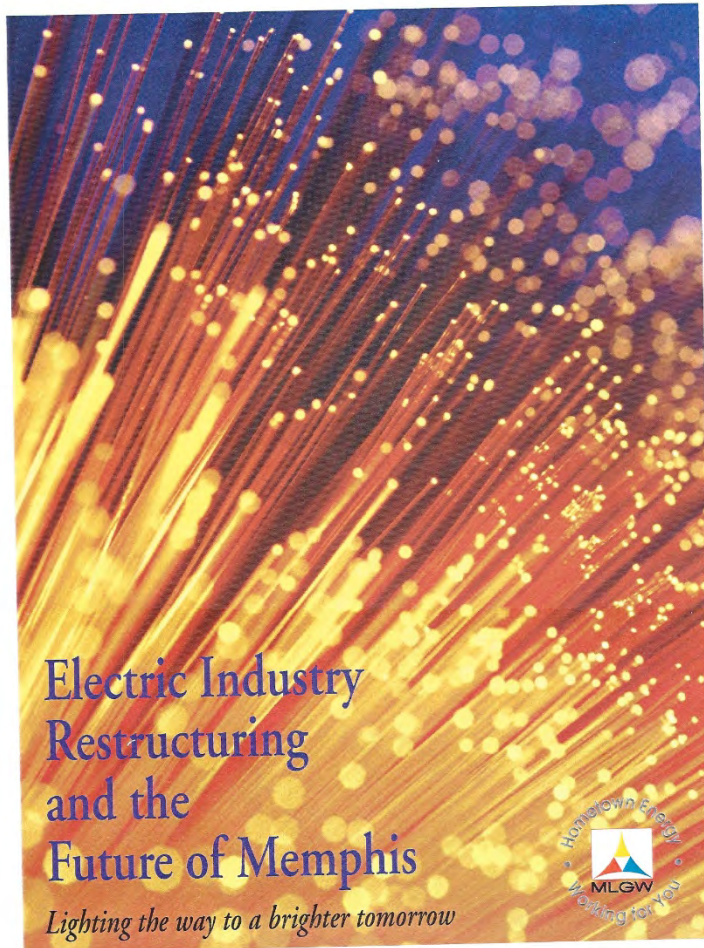
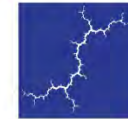
- *TVA's annual contribution to Memphis' United Way campaign should be based on MLGW's prorated portion of TVA's total sales.*

In the area of reducing MLGW's annual power costs:

- *TVA's wholesale rate structure should be unburdened so that MLGW's customers are not paying for services and recreational facilities that they do not use, but which benefit other sections of the Valley.* MLGW believes that those persons who benefit from these TVA expenditures should pay for them. It is estimated that this change could save Memphis ratepayers up to \$10 million annually.
- *TVA should agree to partner with MLGW on a generation plant to be built in MLGW's service territory under an agreement that allows MLGW to significantly reduce power costs annually and gives MLGW the option to purchase the plant or cancel the agreement upon passage of restructuring legislation.* Based on the size of the plant and the terms of this agreement, Memphis ratepayers could save up to \$15 million annually.

In the area of accountability of TVA to its customers:

- *TVA should implement a formal public hearing process similar to a rate case hearing before FERC on all rate matters and contract changes.* This process should require TVA staff to present detailed justification and cost estimates and allow distributors and/or other interested parties to present opposing arguments.
- *TVA should be required annually to present a detailed budget and financial performance report to distributors.*
- *TVA must deal directly with MLGW on all future programs and contract changes instead of going through TVA/PA.*



**Counting this 1999 report, 11 industry experts have said Memphis has the opportunity to save \$120 - \$450 million dollars a year by leaving TVA for a cheaper power source.**

**Can we afford to not take the opportunity today to do so?**

# Memphis and Tennessee Valley Authority

---

## Review of MLGW IRP and Risk Analysis of Future TVA Rates for Memphis

August 17, 2020

Kenji Takahashi

# About Synapse Energy Economics

---

- Cambridge, Massachusetts-based independent energy consulting firm founded in 1996 by CEO Bruce Biewald
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Staff of 30 includes experts in energy and environmental economics and environmental compliance
- Commissioned by Friends of the Earth to analyze the implications of the City of Memphis' contract with Tennessee Valley Authority as its electricity provider.

# Scope of Synapse Assessments

- Our recent review of the Memphis Light, Gas and Water (MLGW) Draft IRP
  - Synapse Energy Economics. July 2020. Comments on the MLGW Draft IRP and TVA Options, available at [http://foe.org/wp-content/uploads/2020/07/FOE-MLGW-IRP-COMMENTS-2020-07-06\\_201745.pdf](http://foe.org/wp-content/uploads/2020/07/FOE-MLGW-IRP-COMMENTS-2020-07-06_201745.pdf)
- Our independent analysis from December 2019 assessing the risks of staying with TVA
  - Synapse Energy Economics. 2019. Memphis and Tennessee Valley Authority – Risk Analysis of Future TVA Rates for Memphis, available at <https://1bps6437gg8c169i0y1drtgz-wpengine.netdna-ssl.com/wp-content/uploads/2019/12/Synapse-2019-Memphis-TVA-Report-Final-2019.12.11.pdf>

# Key Findings

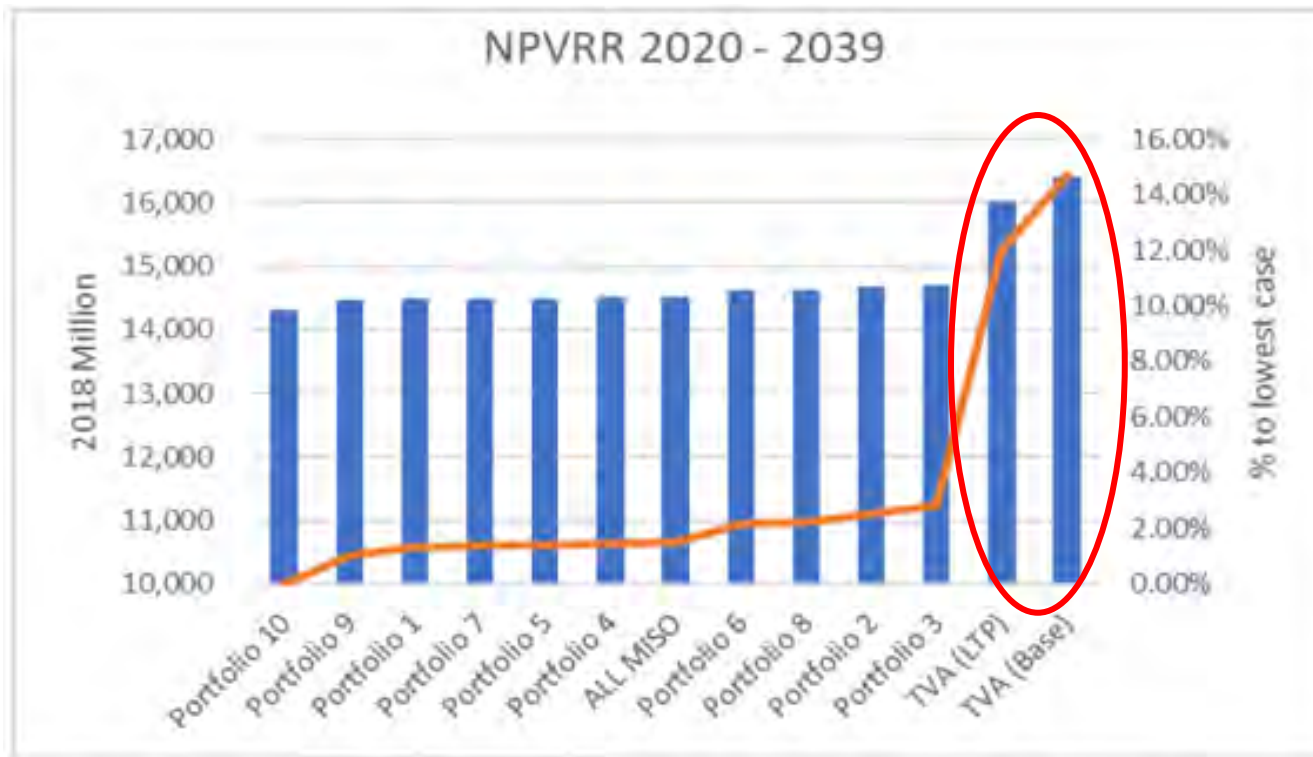
- TVA options cannot compete with other options on multiple levels:
  - Most expensive options
  - Highest levels of fossil fuels and CO<sub>2</sub> emissions; lowest levels of renewable energy
  - Greater risks associated with increased fossil fuels (increased fuel prices, CO<sub>2</sub> compliance costs, coal ash problems, etc.) and other risk factors
- TVA's new contracts would allow its rates for MLGW to increase despite its stated commitment to keep rates stable
  - All fuel cost increases will be directly passed through to MLGW customers.
- TVA's new contracts leave customers with greater risks for a lengthy time
- MLGW's IRP shows that TVA Options are not compatible with Memphis's Climate Change Plan (CCP)
- In sum, the TVA options are the most expensive and risky options, and are incompatible with the City's climate policy. Choosing a non-TVA path forward represents the most prudent and cost-effective choice for Memphis.



# **MLGW IRP Results: TVA Options – Most Expensive and Least Environmentally Friendly**

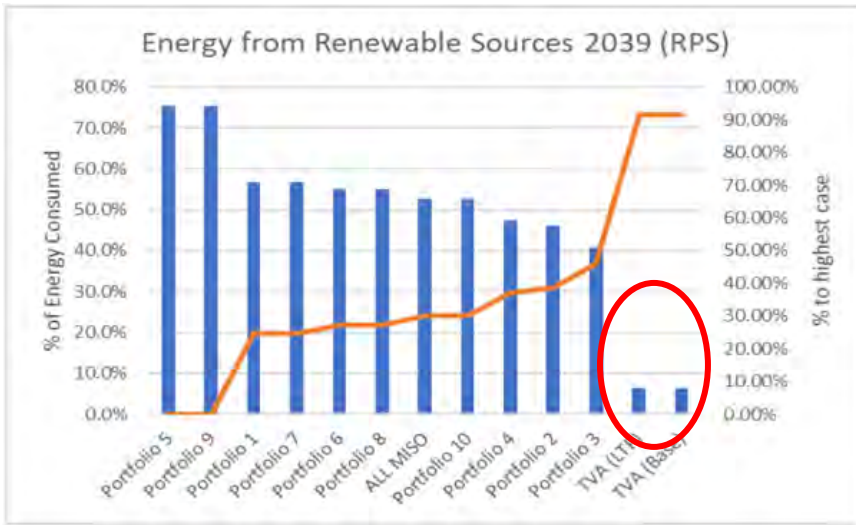
# TVA Options Most Expensive

- TVA Options \$1.8 billion to \$2.2 billion (12% to 15%) more expensive than the least-cost option
- \$1.5 billion to \$2 billion more expensive than other options over the next 15 years

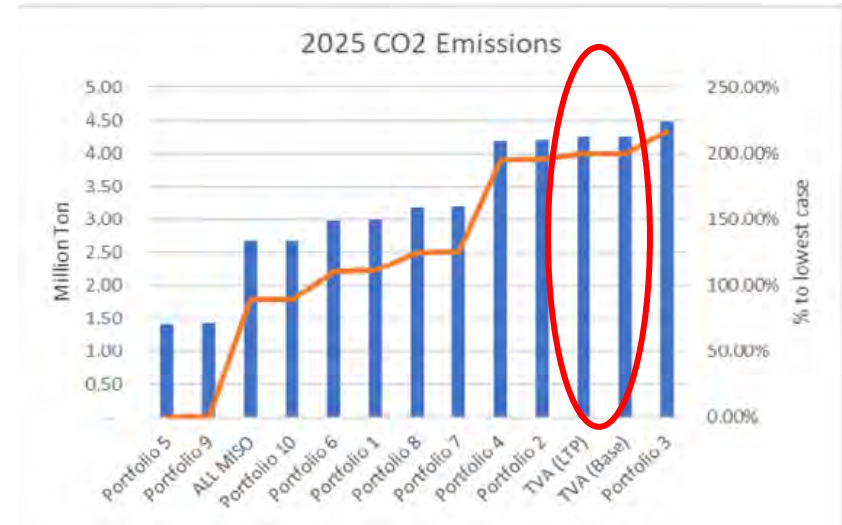


Source: MLGW IRP, Exhibit 166

# TVA Options – Least Amount of Renewable Energy and Highest CO<sub>2</sub> Emissions



Source: MLGW IRP, Exhibit 170



Source: MLGW IRP, Exhibit 168

- TVA Options have the least amount of renewable energy
- TVA Options have among the highest amount of CO<sub>2</sub> emissions

# Other TVA Risks

# Risk Factors Quantified

TVA contracts do not guarantee stable rates. Instead, numerous potential cost and rate increase risks exist for TVA contracts. We analyzed five.

Risk Factor	Possible Cost /Rate Impact	Comment
<b>Coal Ash Remediation</b>	Roughly 1.2%–2.3%	Depends on to CCR treatment methodologies
<b>Fossil Fuel Price Increase</b>	1%–6%	Depends on many factors
<b>Carbon Prices</b>	1.25%–11%	Depends on carbon price and TVA generation mix
<b>Early Plant Retirement</b>	Roughly 1.4%–2.8%	For 2,000 to 4,000 megawatts of early coal retirement
<b>Load Departures</b>	Roughly 2.1%–4.3%	Depends on the magnitude of EE and DER adoption, as well as load departures and TVA’s ability to reduce fixed costs

*Source: Synapse Energy Economics. 2019.*

# TVA Long-Term Partnership Proposal Term

- TVA's new contracts would allow its rates for MLGW to increase despite its stated commitment to keep rates stable.

<b>Rate Adjustment Protection:</b>	In the event that TVA implements rate adjustments that increase wholesale base rates by more than 5% within the next 5 years (ending FY2024) or 10% over any 5-year period within the initial 20 year term, the Parties will endeavor to negotiate new terms for 180 days after which Distributor may reduce WPC notice provision to 10 years, which will immediately terminate this Amendment.
------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- TVA is offering LPCs 20-year contracts with a 3.1 percent credit.

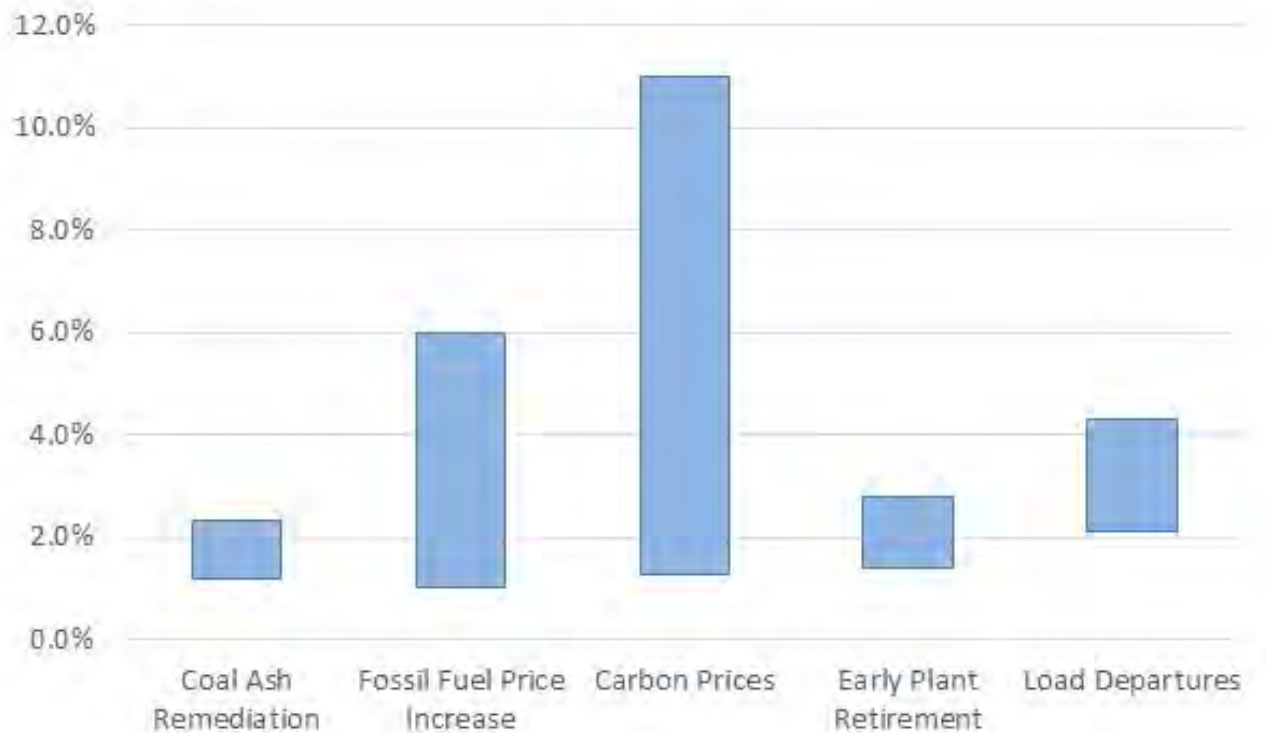
<b>Partnership Credit:</b>	Long-term partnerships benefit TVA's financial risk profile. Benefits will be shared with Distributor in the form of a bill credit of 3.1% of wholesale standard service demand, non-fuel energy, and grid access charges. The bill credit will start the first full billing month after signature. If notice is given, the credit will be phased out over the next 10 years in equal annual percentages.
----------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- TVA's new contract terms are not applicable to fuel price changes: All fuel cost increases will be directly passed through to MLGW customers.

Source: TVA. 2019. "LONG-TERM PARTNERSHIP PROPOSAL TERM SHEET"

# Potential Cost and Rate Increases over the Next 10 Years

- Potential annual cost impacts of 9% to 34% (\$90 to \$340 million) relative to today's price based on the following risk factors



*Source: Synapse Energy Economics. 2019. Memphis and Tennessee Valley Authority – Risk Analysis of Future TVA Rates for Memphis*

# Risk Factors relative to MLGW IRP

- **Coal ash remediation risk:** not assumed in MLGW IRP
- **Fossil fuel price increases:** MLGW IRP indicates:
  - Reference forecasts show slightly lower NG prices and significantly lower coal prices over 10 years relative to TVA IRP forecasts.
  - Significant fuel price risks associated with coal and natural gas: the high-end price forecasts over the next 10 years are higher than TVA IRP forecasts.
- **Carbon prices:**
  - Low CO<sub>2</sub> price forecast (\$5/ton) for 2028
  - Upside risk of an additional 8.5% rate increase relative to MLGW IRP based on TVA's high CO<sub>2</sub> price forecast (\$20/ton) for the same year
- **Early plant retirements:** not assumed in MLGW IRP
- **Load departures:** direct comparison is difficult, but there is a possibility of significant rate impacts from energy efficiency activities and the potential load departures of large customers and some LPCs.



# Other Cost Risks

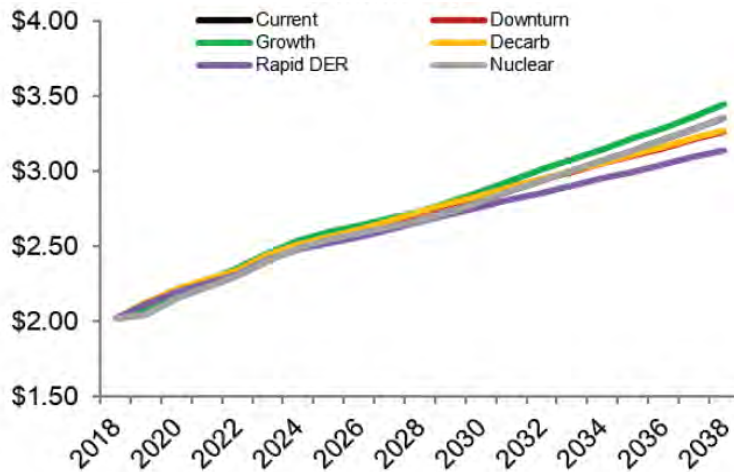
---

- TVA's retirement fund obligations (expecting to pay over \$700 million in 2019)
- Costs of nuclear waste and decommissioning costs
- Costs of and feasibility of modular nuclear reactors
- Impact of increases in TVA's cost of debt (current debt is \$21 billion)
- Impact of cost increases due to potential wage increases ( $\approx 10,000$  employees)
- Impact of rising temperature on power plant operation
- Unplanned major capital expenses

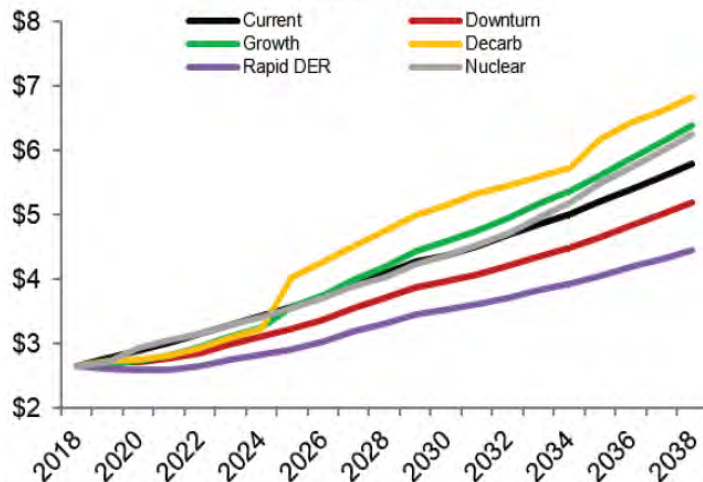
**Contact: Kenji Takahashi**  
ktakahashi@synapse-energy.com

# Fossil Fuel Price Increases in TVA IRP

## TVA IRP Coal Price Forecasts (\$/MMBtu)

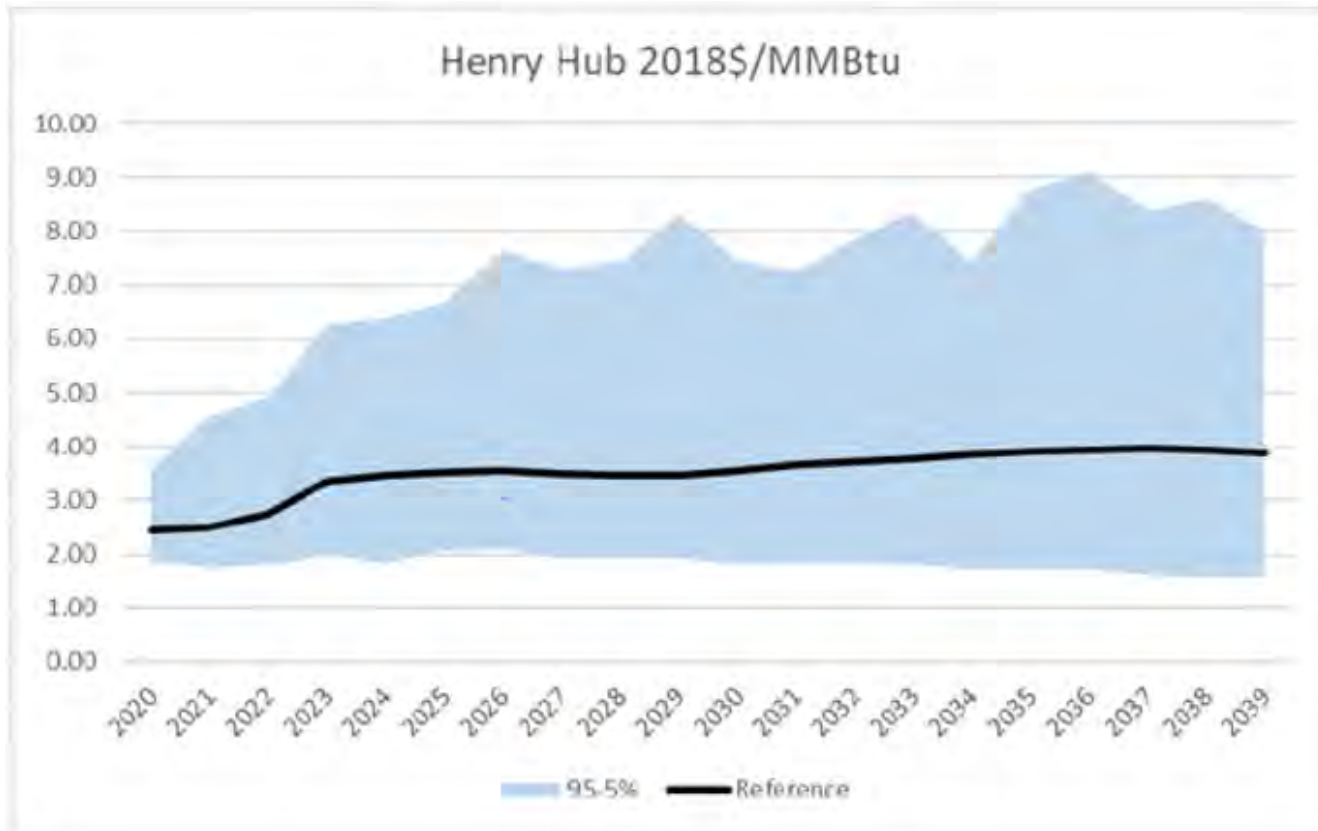


## TVA IRP Gas Price Forecasts (\$/MMBtu)



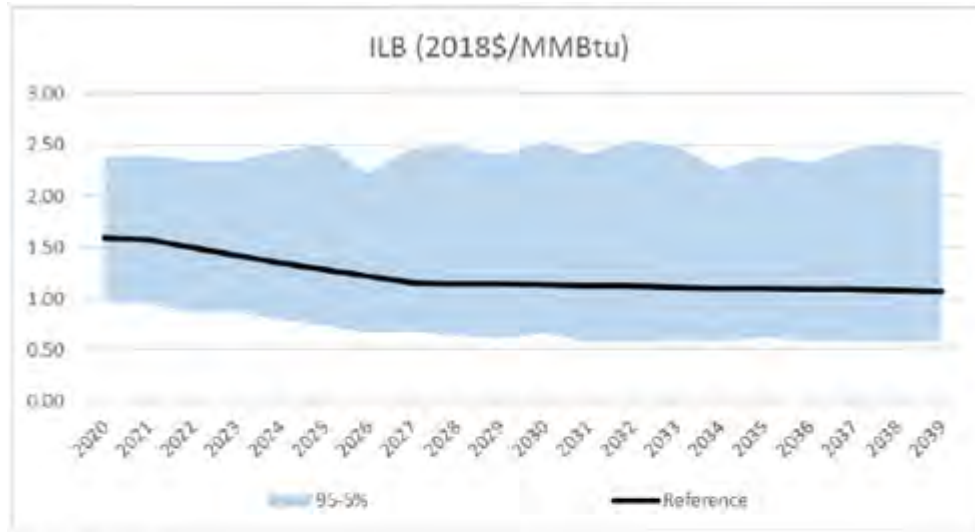
- Generation mix: about 19 percent from coal and 20 percent from natural gas and oil today and in 2038 per TVA IRP.
- TVA IRP projects that coal prices will increase by over 50 percent and natural gas prices will double by 2038.
- The potential rate impact from fuel price increases over the next 10 years ranges from 1 to 6 percent.

# MLGW IRP – NG Price Forecasts

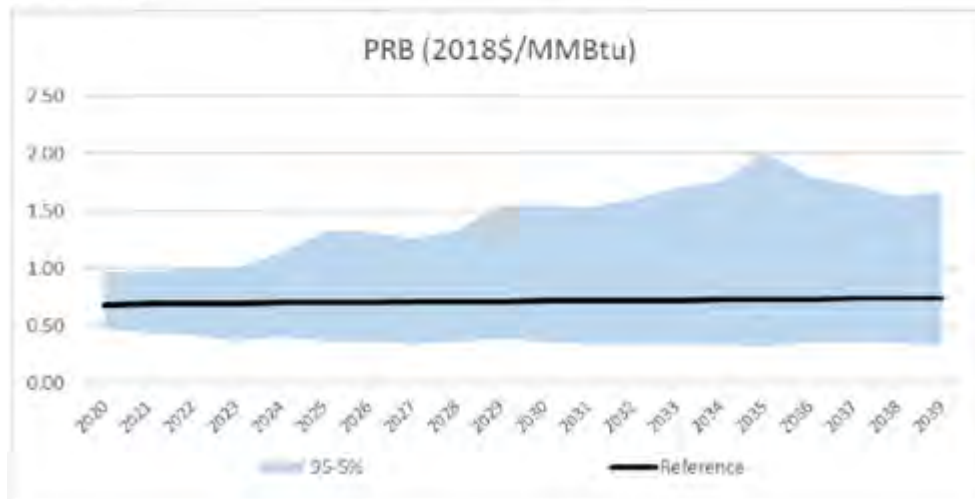


Source: MLGW IRP, Exhibit 103


# MLGW IRP – Coal Price Forecasts



Source: Siemens



Source: MLGW IRP, Exhibit 104

A photograph of a nuclear power plant. In the foreground, there are large, curved metal pipes. In the background, a tall, concrete cooling tower stands on a grassy hill under a blue sky with white clouds. The right side of the image is overlaid with a blue gradient containing white text.

# Electric Transmission Design and Reliability

Bill McCollum, CEO  
Nuclear Development, LLC

# Basics of Deregulated Electric Markets

- In the early days of the development of US electric energy infrastructure, the dominant model was the “Vertically Integrated” utility model.
- Large Utilities built, owned and operated electric generation, transmission and distribution systems.
- The Vertically Integrated utility (example: TVA) was given a monopoly right to provide service in the assigned territory.

# Deregulated Energy Markets

- The Vertically Integrated model helped to get the US energy grid built, but over time the downsides of the monopoly model became apparent:
  - Bureaucratic operation leads to excessive costs
  - Organizations resistant to innovation



# Deregulated Energy Markets

- To promote competition in electric markets, the US began to “Disaggregate” electric supply
- Transmission grids: Still owned by regulated transmission companies, functions as a “common carrier”.
- Generation: Open to competition. Electricity is sold through competitive processes: day-ahead auctions and bilateral contracts.
- Today, most of the US is served by deregulated markets

# Transmission Reliability

- Are transmission systems in the US reliable?
  - Yes! The US transmission grid delivers reliable power supply
- Is transmission more reliable in Regulated or Deregulated areas?
  - Yes to both!
- All transmission systems in the US and Canada are under the same standards
  - NERC develops and enforces standards
  - FERC has ultimate authority for compliance

# Transmission Reliability

- Bottom Line: Memphis can get reliable transmission service regardless of whether from TVA or someone else. Attempts to imply otherwise or imply that TVA offers a unique service are wrong.

# IRP Comment:

## Transmission Interconnection

- The IRP (pg. 33) accepted TVA's assertions regarding interconnection of transmission without question, which unfairly prejudiced the non-TVA scenarios in terms of cost and reliability.
- The IRP ignores the previous FERC decision (114 FERC ¶ 61,035) in which FERC ordered TVA to interconnect with another utility in order to supply a departing TVA customer.
- FERC refused a TVA request to vacate the order, saying in part: "The orders establish Commission policy that will apply to interconnection applications that may be made in the future by, or on behalf of, other departing TVA distributors" (FERC 121 ¶ 61,255), yet the IRP refused to take notice of this decision.

# IRP Comment

- As a result of the IRP assumptions favoring TVA (future rate decreases, etc.) and assumptions disfavoring alternatives, the IRP is hopelessly prejudiced in favor of TVA, has projected transmission costs which are far too high and grossly underestimates the savings potential available to Memphis by leaving TVA
- Rather than spending more money and time on faulty studies such as this IRP, the City should proceed immediately with an independent, open RFP to determine the best option for Memphis

**QUESTIONS ?**

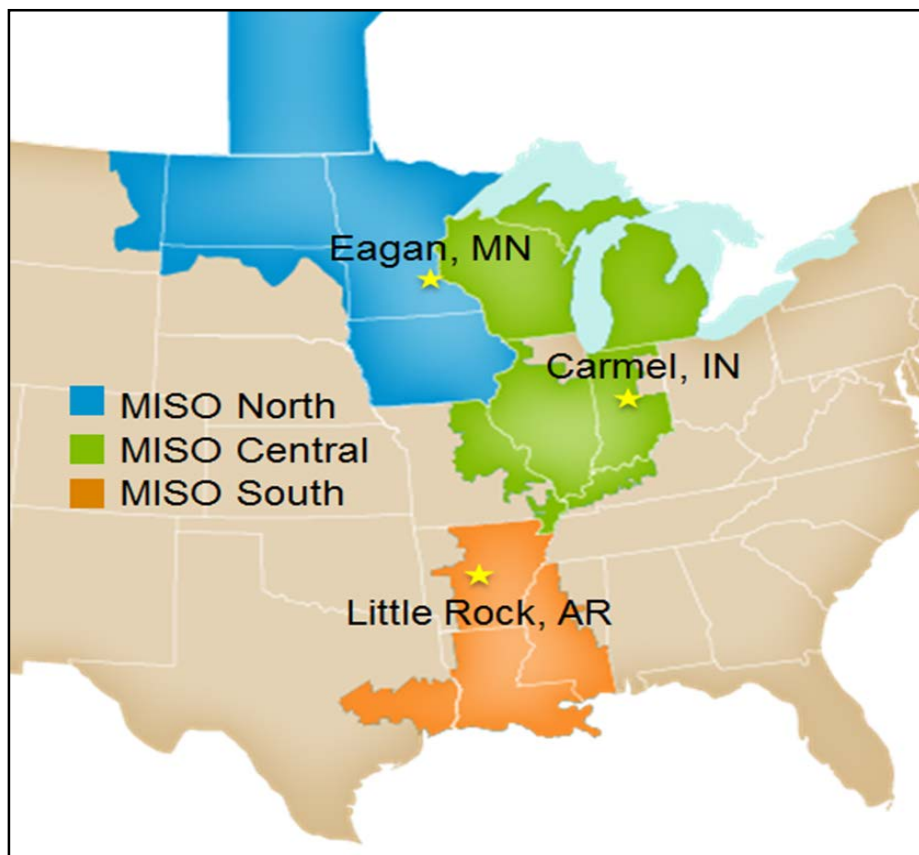


# Overview of the Midcontinent Independent System Operator (MISO)

August 17, 2020

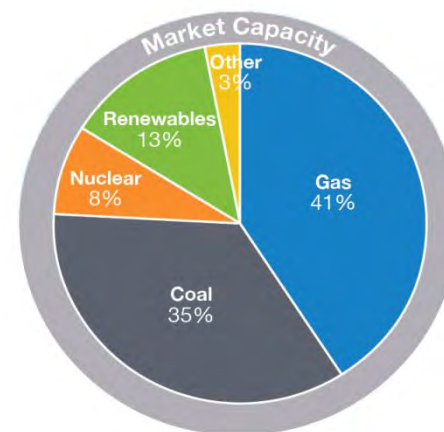
# MISO drives value creation through efficient and reliable markets, operations, planning, and innovation

## Our Vision: To be the most reliable, value-creating RTO



### MISO by-the-numbers

High Voltage Transmission	65,800 miles
Generation Capacity	174,000 MW
Peak Summer System Demand (07-20-11)	127,125 MW
Customers Served	42 million





# MISO's diversity and inclusion focus supports our culture and assists in shaping our workforce

## Diversity & Inclusion Focus

### Our Workforce

- A workforce with diverse skills and capabilities to meet our business challenges

### Our Workplace

- An environment in which all people are valued, respected and included

### Diverse Community

- Long-term partnerships in the broader communities we do business in to meet the business needs of MISO today and for the future

## Employee Resource Groups



Build community, create collaborative learning experiences and increase MISO brand



Impact communities we serve, connect with colleagues, tap into skills, experiences and talents



Enhance recruitment and career opportunities, strengthen cultural competence, increase MISO brand

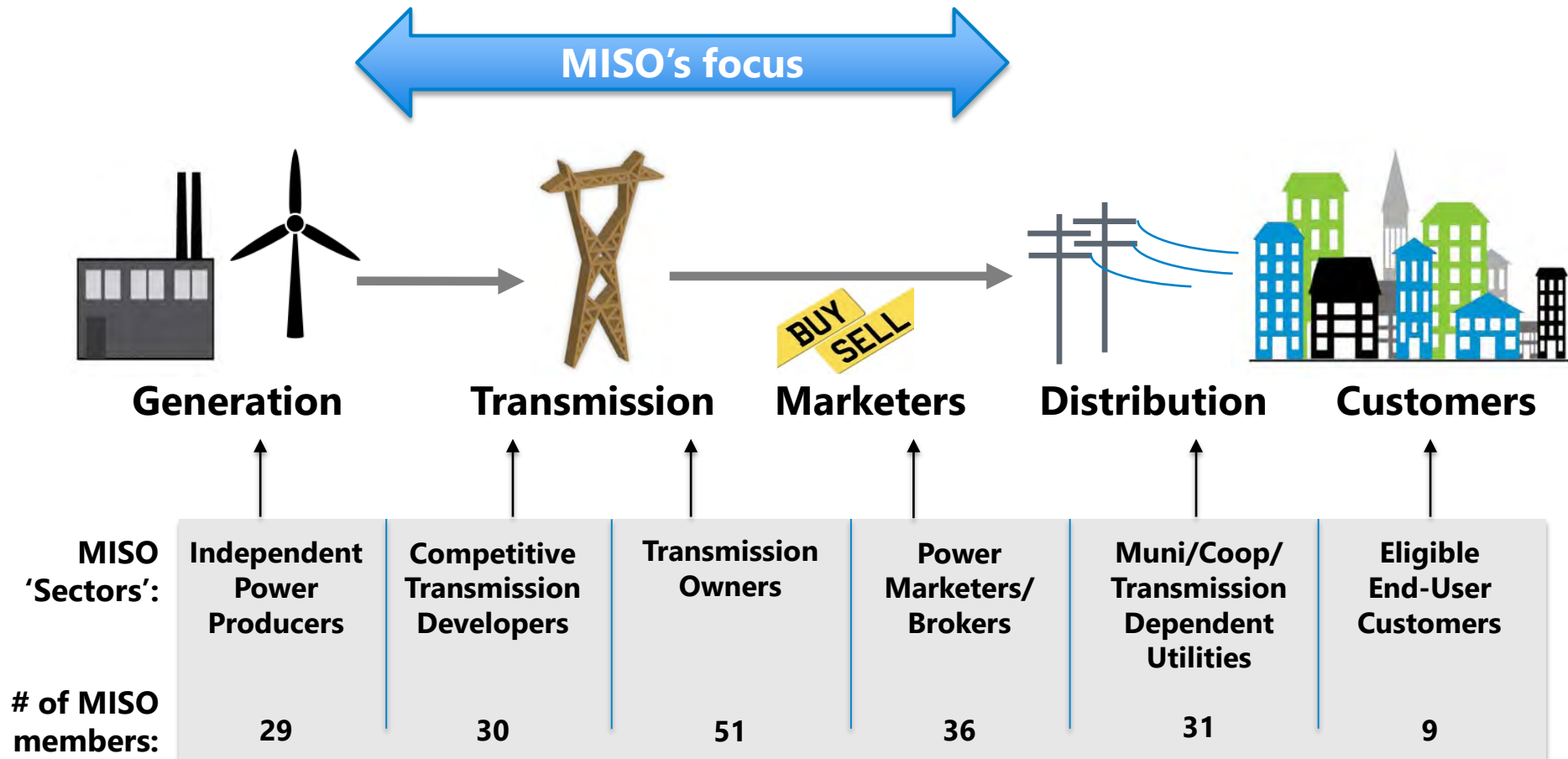


Increase collaboration, accelerate innovation, expand capabilities



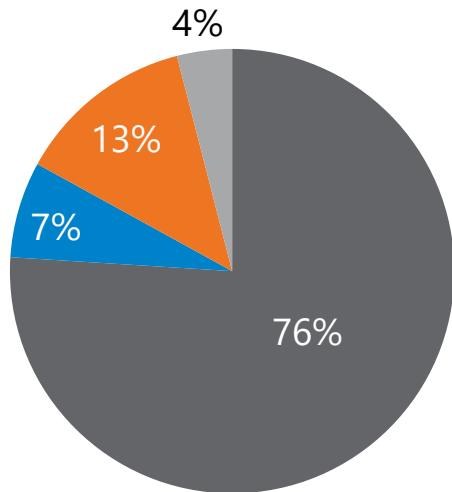
Expand abilities, build trusted relationships, serve and encourage one another

# MISO members participate across the electricity value chain

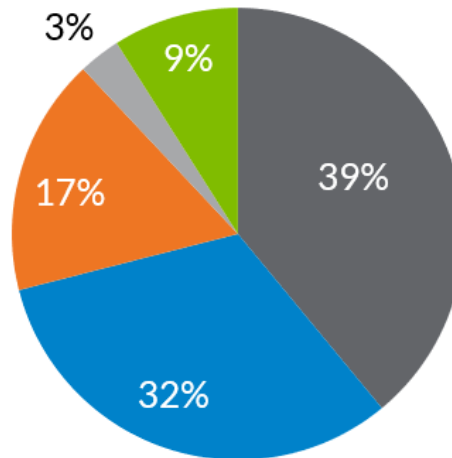


# The resource fleet continues to evolve, and MISO supports the evolution

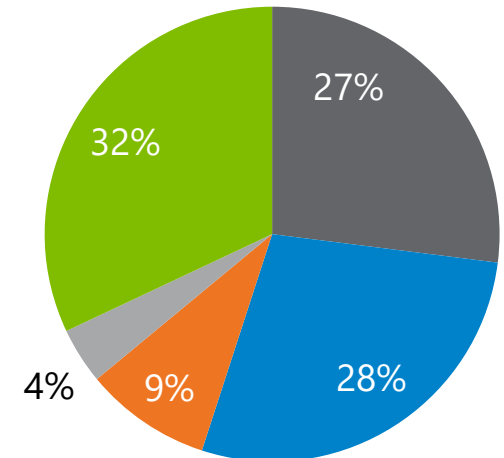
## 2005 Generation Mix (% MWH)



## 2019 Generation Mix (% MWH)



## 2030 Generation Mix (% MWH)<sup>1</sup>

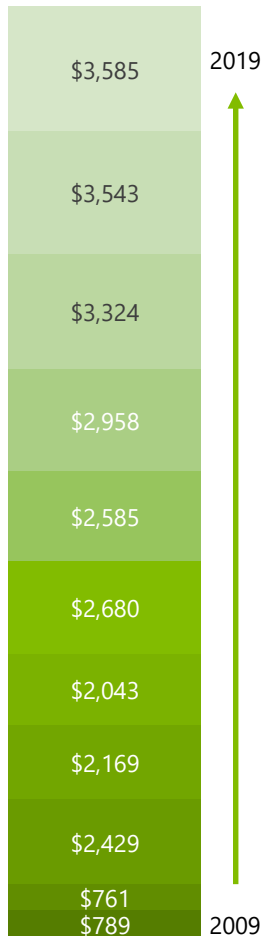


<sup>1</sup>The 2030 projection compiled from Integrated Resource Plans , investor reports and other sources. Figures represent energy generated by fuel type, distinguished from capacity.

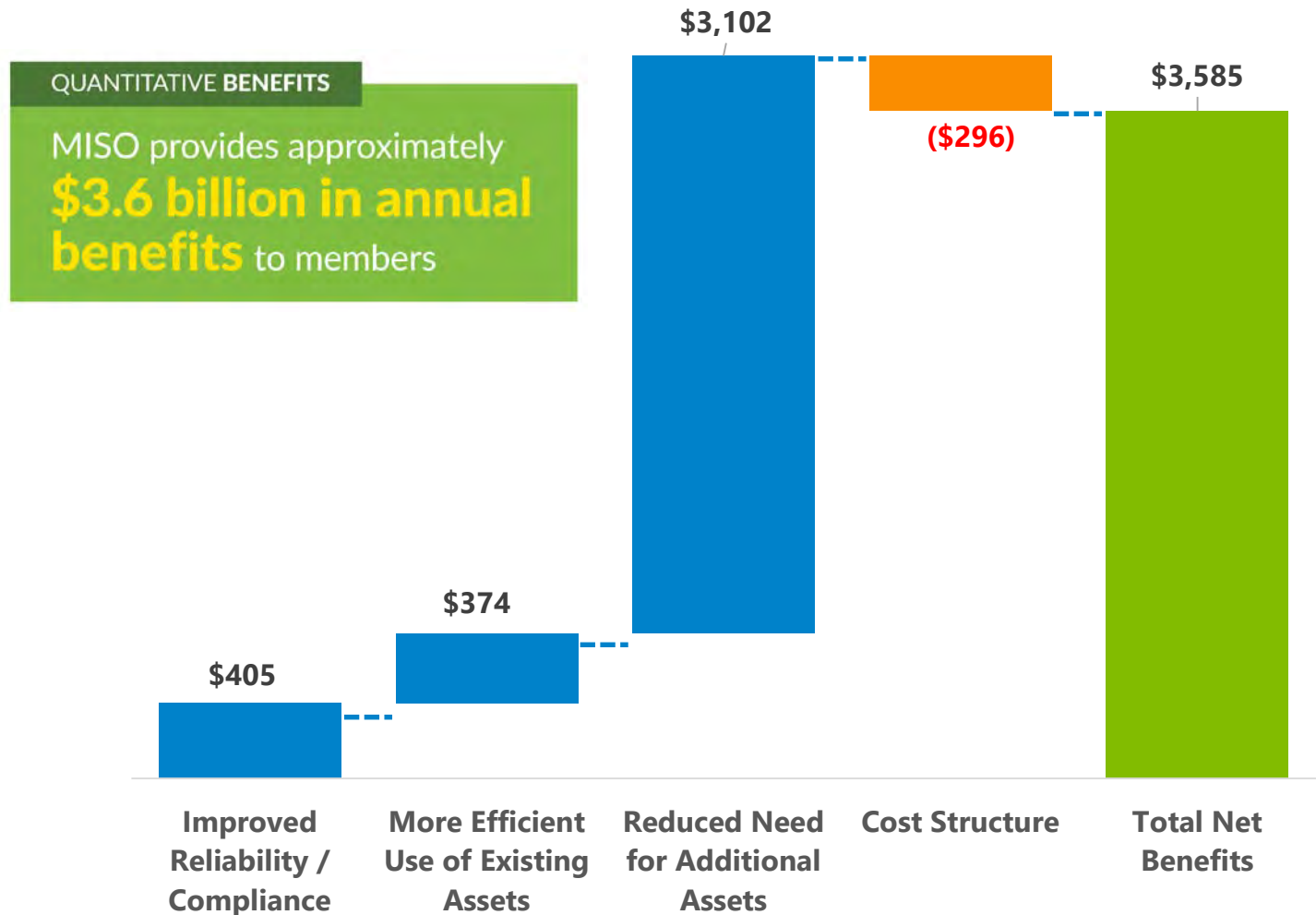
# Since 2009 MISO has delivered over \$26 billion in estimated membership benefits

## Cumulative Benefits (\$ millions)

**\$26,866**



## 2019 Benefit by Value Driver (\$ millions)



# MISO evaluated multiple aspects of the MLGW expansion plans, including their feasibility for MISO integration

Category	MLGW Connects to MISO with Local / Regional Generation <sup>1</sup>	MLGW Connects to MISO without Local / Regional Generation
Resources	CT - 237 MW; CC - 1,350 MW; Solar – 1,100 MW; Wind – 200 MW	Assumes no local generation in MLGW
Transmission Expansion <sup>2</sup>	2 – 500 kV lines to AR; 1 – 230 kV to MS with a total cost of \$736.2M	3 – 500 kV lines to AR; 1 – 230 kV line to MS with a total cost of \$1,127M
Resource Adequacy	<ul style="list-style-type: none"> <li>❖ MLGW has adequate resources to participate in AR zone or its own</li> <li>❖ Participation in AR zone is mutually beneficial to MLGW and MISO</li> </ul>	<ul style="list-style-type: none"> <li>❖ Resource Adequacy parameters are nearly unchanged</li> <li>❖ The AR zone Capacity Import Limit is adequate to integrate MLGW with no generating resources</li> </ul>
Transmission Reliability	<ul style="list-style-type: none"> <li>❖ The generation / transmission proposal is reliable up to a 2,400 MW import transfer</li> </ul>	<ul style="list-style-type: none"> <li>❖ A 3,200 MW import transfer was assessed and identified numerous thermal, voltage, and stability issues</li> </ul>
Market Impact (Production Costs Only)	<ul style="list-style-type: none"> <li>❖ Production cost savings of \$116M in 2024 going to \$283M in 2034</li> <li>❖ Increased savings are due to adding low-cost solar/gas to the portfolio</li> </ul>	<ul style="list-style-type: none"> <li>❖ Production cost savings of \$56M in 2024 going to \$117M in 2034</li> <li>❖ Savings driven by increased access to lower cost resources in MISO</li> </ul>

<sup>1</sup>Additional renewable resources to be layered in over time.

<sup>2</sup>MLGW currently has four transmission ties to the TVA network. TVA has indicated that MLGW cannot rely on those ties to deliver energy from an alternative power supplier.



# Town Hall Event

Presented to MLGW & Memphis City Leaders  
August 2020

Laura Landreaux, Pres. & CEO, Entergy Arkansas, LLC  
Haley Fisackerly, Pres. & CEO, Entergy Mississippi, LLC



*Entergy*®

WE POWER LIFE<sup>SM</sup>

Creating sustainable value for all

# Background on Entergy Corp.

## Entergy's Businesses

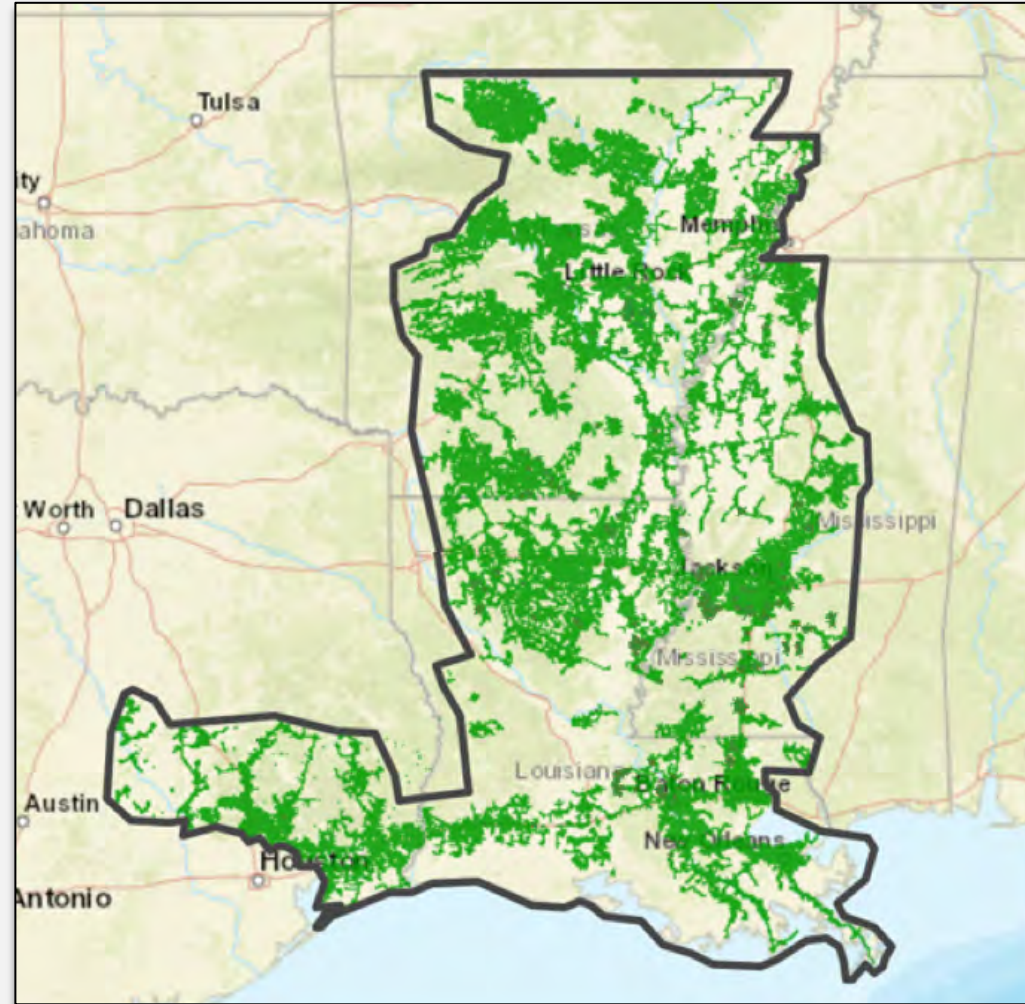
- 30,000 MW electric generating capacity
- One of the nation's leading nuclear generators
- ~2.9 million utility customers
- More than \$10 billion annual revenues
- 13,000+ employees

## Regulated Utilities

- 5 vertically-integrated investor-owned public utilities (5 regulators): E-AR, E-LA, E-MS, E-NO, and E-TX
- ~16,000 miles of high-voltage transmission lines
- 100,000+ miles of distribution lines
- ~200,000 natural gas customers in New Orleans and Baton Rouge
- MISO members since December 2013

## Entergy Wholesale Commodities

- Owns nuclear units located in the northern U.S. (Entergy is currently shutting down and/or selling its remaining merchant nuclear units)
- Sells electricity to wholesale customers





# Entergy's MISO Success Story

*Culmination of a multi-year decision and implementation process*

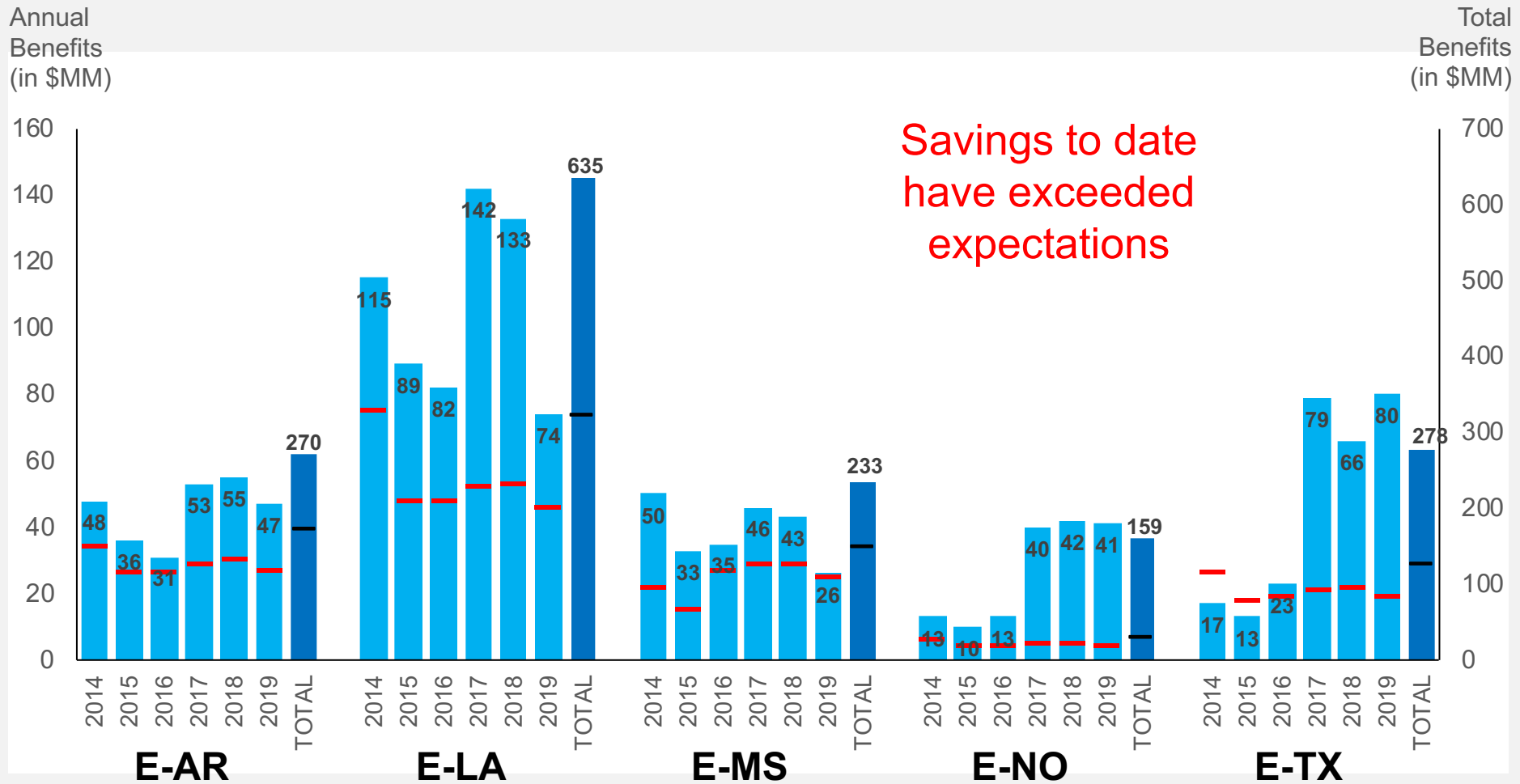
- Entergy joined MISO in December 2013 after decades of operation outside of an RTO
  - Evaluation of options (~ 6 months)
  - Stakeholder education (~ 6 months)
  - Proceedings to obtain regulatory approvals (~12 months)
  - Preparation and planning for systems integration (~18 months)
- Five state regulators and many dozens of stakeholders carefully examined the business case for MISO via litigated proceedings; regulators ultimately concluded that joining MISO was in the public interest
  - Cost/benefit analysis of MISO vs. other options performed by independent consultant
  - Five docketed state regulatory proceedings to obtain approval for the move to MISO
  - Various federal regulatory proceedings
  - Numerous informal meetings and technical conferences open to the public
  - IT work, employee education, investments in metering and communications infrastructure





# Entergy's MISO Success Story

Entergy Customers Have Saved Over \$1.5 Billion to Date



Savings to date have exceeded expectations

Entergy Calculation ■ Annual ■ Total (2014 – 2019)

2011 Projection of Savings (Benchmark) — Annual — Total (2014 – 2019) (gas price adjusted)

Notes:

- Benefits include incremental administrative costs.
- Benefits reflect the impact of forced outage rates on MISO requirements but not on standalone requirements.
- \$1.3 billion savings figure reported in Entergy's May 27, 2020 letter to Memphis/MLGW officials did not include the most recent year's (2019) savings.

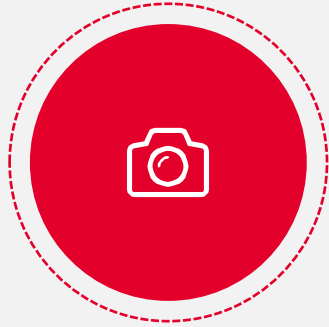
# Entergy's MISO Success Story

*Competitive wholesale markets, transparency, access to diverse resources, including renewables*



## Capacity Savings

MISO enables Entergy to maintain strong reliability with less generation capacity, with customers reaping the resulting savings



## Energy Savings

Entergy customers save money from MISO's dispatch of the lowest-cost resources across a vast region



## Transparency

MISO publicly posts pricing information 24/7/365, and decisions are vetted through a public stakeholder process



## Independence

MISO makes important decisions, weighing the interests of all stakeholders – e.g., new transmission investment, commitment/dispatch of resources, policy



## Supply Diversity

MISO enables Entergy to access a broad variety of generation resources, including ample solar and wind resources

# Transmission Interconnection

## *Opportunities to optimize for MLGW's Preferred Portfolio*

- The new transmission interconnections required for MLGW to join MISO may vary depending on numerous factors, including:
  - Whether federal regulators will permit TVA to disconnect from MLGW or will require TVA to remain interconnected with MLGW after it moves to MISO
  - Balance of local vs. remote generation resources that MLGW selects
  - Potential scenarios include up to 4 new transmission lines operating at 230 and 500 kilovolts
  - It is reasonable to expect that these projects can be developed in the 5-year notice period to exit TVA
- Under MISO's rules, the right to construct new load interconnections generally belongs to the transmission owners who own the endpoints (E-AR, E-MS, and MLGW)
  - Regardless of the outcome of any supply RFP that MLGW may pursue, Entergy stands ready to work with MLGW to optimize the transmission interconnection to best meet the needs of MLGW's customers at the lowest reasonable cost
  - Entergy has invested heavily in transmission (\$4.1 billion of new transmission placed in service from 2015-2019), and we have extensive experience developing large scale transmission projects – and delivering them on schedule and on budget

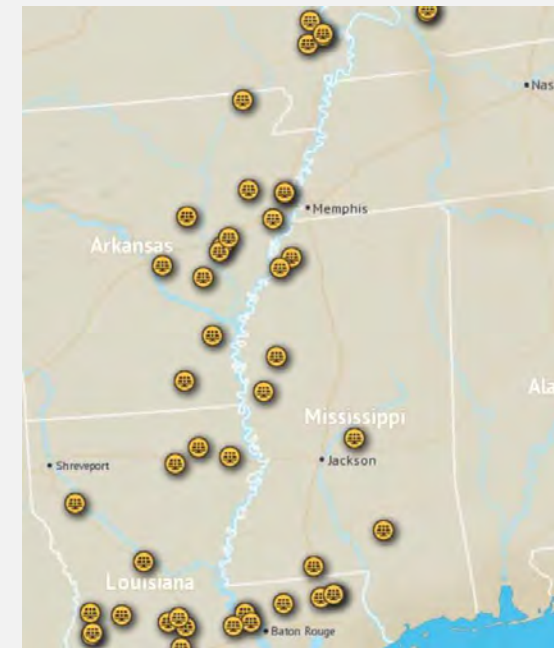


# Resource Opportunities

## *Forthcoming RFP Should Allow Flexibility to Ensure Robust Options*

- MISO offers MLGW a myriad of options to meet its resource needs, including over 7 GW of new solar generation projects in Mississippi and Arkansas in the current MISO interconnection queue
- MLGW can choose a variety of strategies to meet its generation needs in MISO:
  - Most utilities assemble a resource portfolio rather than contract with a single provider; the portfolio approach has shown to be a successful model in MISO.
  - Various financial structures and strategies (full ownership, co-ownership, long-term purchases, spot purchases)
- ***MLGW need not become an operator of power plants unless it so desires***
- A “white board” RFP that allows bidders the flexibility to offer a variety of different resource types and structures will ensure MLGW can choose the strategy that best fits its needs

### Solar Projects in MISO Queue



# Entergy's Experience

*Entergy has ample experience developing large projects – and delivering them on time at a reasonable cost*

- Entergy has developed a variety of large-scale transmission and generation projects and delivered them on time and on budget, and at costs comparable to or lower than those assumed in the Siemens IRP analysis
  - Transmission
    - Lake Charles Transmission Project: 10-mile 500 kV transmission line and switching stations (\$181 million)
  - Combined Cycle Gas Turbines
    - J. Wayne Leonard (in service 2019), Lake Charles (in service 2020), and Montgomery County (in service 2021): three units totaling ~3 GW of capacity, developed at a cost lower than the Siemens IRP analysis assumed for this unit type
  - Combustion Turbines
    - Washington Parish Energy Center (in service 2020): 361 MW at a cost comparable to Siemens IRP
  - Solar
    - Various solar projects under development, recently executed, and under negotiation: substantial new capacity at costs comparable to Siemens IRP



# Entergy's Experience

*Entergy has low rates and a long history of successfully partnering with municipal utilities*

- Entergy has a long history of successfully partnering with municipal utilities to develop and co-own generation projects
  - E-AR co-owns a coal-fired plant in central Arkansas with municipal utilities including Conway, West Memphis, and Jonesboro, AR
  - E-AR and E-MS co-own a coal-fired plant in northeast Arkansas with these same municipals
  - These plants are set to cease burning coal in 2028 and 2030, respectively, and E-AR and these cities are actively discussing potentially partnering on replacement generation, including solar generation.
  - Conway, West Memphis, and Jonesboro have among the lowest retail rates in Arkansas (and the nation)
  - E-MS and E-AR (via an affiliate) have a substantial interest in a large nuclear generating station in Port Gibson, MS in which Cooperative Energy, an electric cooperative, also has an interest
- Entergy's five operating companies have among the lowest retail rates in the United States<sup>1</sup>
  - Retail rates reflect a wide variety of different components, including generation, transmission, distribution, back office/administrative costs, regulatory, taxes (unless tax exempt, like a municipal)
  - Apples-to-apples comparisons are challenging because these costs and circumstances vary widely from utility to utility
  - Because generation and transmission costs are a substantial component of rates, reducing those costs, as MLGW may accomplish by joining MISO, helps a utility keep its rates low and fosters economic development
- Whether or not Entergy ultimately chooses to bid in any RFP that may be issued on behalf of MLGW, we are pleased to share with MLGW our experiences with MISO, as MISO has been very beneficial to Entergy customers.
  - Should MLGW elect to join MISO, Entergy customers would benefit, and the Mid-South region would benefit

**Thank You  
for Allowing Us to Participate in Today's  
Event**

**Questions?**