MISSOURI STATE AUDITOR'S OFFICE
FISCAL NOTE (16-181)

Subject

Initiative petition from Andrew Linhares regarding a proposed amendment to Chapter 386 of the Revised Statutes of Missouri. (Received December 18, 2015)

Date

January 8, 2016

Description

This proposal would amend Chapter 386 of the Revised Statutes of Missouri.

The amendment is to be voted on in November 2016.

Public comments and other input

The State Auditor's office requested input from the **Attorney General's office,** the **Department of Agriculture,** the **Department of Economic Development,** the **Department of Elementary and Secondary Education,** the **Department of Higher Education,** the **Department of Health and Senior Services,** the **Department of Insurance, Financial Institutions and Professional Registration,** the **Department of Mental Health,** the **Department of Natural Resources,** the **Department of Corrections,** the **Department of Labor and Industrial Relations,** the **Department of Revenue,** the **Department of Public Safety,** the **Department of Social Services,** the **Governor's office,** the **Missouri House of Representatives,** the **Department of Conservation,** the **Department of Transportation,** the **Office of Administration,** the **Office of State Courts Administrator,** the **Missouri Senate,** the **Secretary of State's office,** the **Office of the State Public Defender,** the **State Treasurer's office, Adair County, Boone County, Callaway County, Cass County, Clay County, Cole County, Greene County, Jackson County Legislators, Jasper County, St. Charles County, St. Louis County, Taney County,** the **City of Cape Girardeau,** the **City of Columbia,** the **City of Jefferson,** the **City of Joplin,** the **City of Kansas City,** the **City of Kirksville,** the **City of Mexico,** the **City of Raymore,** the **City of St. Joseph,** the **City of St. Louis,** the **City of Springfield,** the **City of Union,** the **City of Wentzville,** the **City of West Plains, Cape Girardeau 63 School District, Hannibal 60 School District, State Technical College of Missouri, Metropolitan Community College, University of Missouri, St. Louis Community College,** and the **Public Service Commission.**

Edward D, Greim of Graves Garrett LLC provided information to the State Auditor's Office as an opponent of this initiative petition.

Brent Stewart of Association of Missouri Electric Cooperatives provided information to the State Auditor's Office as an opponent of this initiative petition.

Assumptions

Officials from the **Attorney General's office** indicated they assume that any potential costs arising from the adoption of this proposal can be absorbed with existing resources.

Officials from the **Department of Agriculture** indicated no fiscal impact on their department.

Officials from the **Department of Economic Development** indicated this proposal would reduce state revenues by $50 million for fiscal year 2017, $50 million for fiscal year 2018, and $50 million for fiscal year 2019.

Summarize how this bill would affect the agency

Section 386.895 – Missouri Solar Energy Tax Credit
The Department of Revenue (DOR) is required to implement the Missouri Solar Energy Tax Credit. The proposal requires DOR to promulgate rules to establish a process for claiming of the credit and may promulgate rules related to a certification of eligibility process.

The existing Missouri Renewable Energy Standard (RES) requires investor-owned utilities in Missouri to either produce green power or purchase Renewable Energy Certificates (RECs) for compliance. The Division of Energy (DE) has statutory authority to certify that eligible renewable energy resources do not cause undue environmental impacts before RECs associated with those renewable energy resources can be used for RES compliance. There are no certification fees associated with this review. DE anticipates that enactment of a tax credit will result in an increase in net-metered solar energy installations in Missouri which may be used for RES compliance.

Long-range implications

Fiscal impacts associated with the Missouri Solar Energy Tax Credits would continue until June 30, 2031. Economic benefits associated with the installation of net metered solar facilities would also have long-range implications.

Assumptions and methodology used in arriving at state fiscal impact

386.895-Missouri Solar Energy Tax Credit
DE assumes that DOR may consult with DE in development of rules associated with implementation of this proposal but that DE would not be involved in reviews of applications to DOR requesting certification of eligibility for net-metered solar facilities (up to 100 kilowatts) for the Missouri Solar Energy Tax Credit. For purposes of this fiscal note, DE assumes such consultation could be performed with existing resources.

DE anticipates that enactment of a tax credit will result in an increase in net-metered solar energy installations in Missouri which may be used for RES compliance. DE assumes that for purposes of certification of no undue adverse environmental impacts of renewable energy facilities under the RES, investor-owned utilities that purchase RECs associated with the additional net-metered solar installations (up to 100 kilowatts) would continue to compile and submit them to DE along with a request for certification. DE review primarily focuses on environmental impacts of renewable electric generation facilities on air, water or land use. The actual staff time spent on each application varies. Solar photovoltaic facilities with a larger capacity typically require more staff time for reviewing their third-party environmental impact assessments in addition to verifying applicable environmental permits, for data requests and discussion, data collection, database management, report production and website maintenance. Because the size of net metered systems eligible for this tax credit is not modified by this proposal and would remain at 100 kilowatts, DE assumes that any additional RES certifications for such systems would be conducted using the current process described above and could be completed with existing resources.

Officials from the **Department of Higher Education** indicated this initiative petition would not have a fiscal impact on their department.

Officials from the **Department of Health and Senior Services** indicated no fiscal impact on their department.

Officials from the **Department of Insurance, Financial Institutions and Professional Registration** indicated this petition, if passed, will have no cost or savings to their department.

Officials from the **Department of Mental Health** indicated this proposal creates no direct obligations or requirements to their department that would result in a fiscal impact.

Officials from the **Department of Natural Resources** indicated they would not anticipate a direct fiscal impact from this proposal.

Officials from the **Department of Corrections** indicated no impact.

Officials from the **Department of Labor and Industrial Relations** indicated no fiscal impact on their department.

Officials from the **Department of Revenue** estimate this petition will result in increased operating expenses of $243,282 for fiscal year 2017, $181,985 for fiscal year 2018, and $183,470 for fiscal year 2019.

The legislation creates a negative impact of up to $50 million per fiscal year to total state revenue by creating a new tax credit.

This petition creates the Missouri Solar Energy Tax Credit which allows up to 35 percent of the costs and expenses for construction, design, and installation of a generation unit. The provisions of subsection 3 cap the tax credit at $50 million and beginning in calendar year 2022, the total cap is reduced by $2.5 million each year. The provisions expire June 30, 2031, allowing for no new tax credits after that date.

The department suggests the provisions regarding the certification process be administered by the Department of Economic Development and the Division of Energy as they would be more familiar with the subject matter.

<u>Administrative Impact:</u>
Personal Tax:
Personal Tax requires one (1) Revenue Processing Technician I (Range 10, Step L) for every 6,000 credits claimed.

Corporate Tax:
Corporate Tax requires three (3) Revenue Processing Technicians I (Range 10, Step L) for every 4,000 credits redeemed, 4,000 credits transferred, and for every 520 SB 1099 compliance mailings and correspondence.

Integrated Tax System:
The integrated tax system incurs additional costs of $43,680 to implement the provisions of this petition.

Officials from the **Department of Public Safety** indicated they see no fiscal impact due to this initiative petition.

Officials from the **Department of Social Services** indicated no fiscal impact on their department.

Officials from the **Governor's office** indicated there should be no fiscal impact to their office.

Officials from the **Missouri House of Representatives** indicated no fiscal impact to their office.

Officials from the **Department of Conservation** indicated that no adverse fiscal impact to their department would be expected as a result of this initiative petition.

Officials from the **Office of Administration** indicated this proposal will have no fiscal impact to their office.

Officials from the **Office of State Courts Administrator** indicated there is no fiscal impact on the courts.

Officials from the **Missouri Senate** indicated no fiscal impact on their office.

Officials from the **Secretary of State's office** indicated their office is required to pay for publishing in local newspapers the full text of each statewide ballot measure as directed by Article XII, Section 2(b) of the Missouri Constitution and Section 116.230-116.290, RSMo. Their office is provided with core funding to handle a certain amount of normal activity resulting from each year's legislative session. Funding for this item is adjusted each year depending upon the election cycle with $1.3 million historically appropriated in odd numbered fiscal years and $100,000 appropriated in even numbered fiscal years to meet these requirements. Through FY (fiscal year) 2013, the appropriation had historically been an estimated appropriation because the final cost is dependent upon the number of ballot measures approved by the General Assembly and the initiative petitions certified for the ballot. In FY 2013, at the August and November elections, there were 5 statewide Constitutional Amendments or ballot propositions that cost $2.17 million to publish (an average of $434,000 per issue). In FY 2015, the General Assembly changed the appropriation so that it was no longer an estimated appropriation and their office was appropriated $1.19 million to publish the full text of the measures. Due to this reduced funding, their office reduced the scope of the publication of these measures. In FY 2015, at the August and November elections, there were 9 statewide Constitutional Amendments or ballot propositions that cost $1.1 million to publish (an average of $122,000 per issue). Despite the FY 2015 reduction, their office will continue to assume, for the purposes of this fiscal note, that it should have the full appropriation authority it needs to meet the publishing requirements. Because these requirements are mandatory, they reserve the right to request funding to meet the cost of their publishing requirements if the Governor and the General Assembly again change the amount or continue to not designate it as an estimated appropriation.

Officials from the **Office of the State Public Defender** indicated this initiative petition will not have any impact on their office.

Officials from the **State Treasurer's office** indicated this proposal would have no impact to their office.

Officials from **Greene County** indicated there are no estimated costs or savings to report from their county for this initiative petition.

Officials from the **City of Kansas City** indicated no fiscal impact is anticipated if this proposal is adopted.

Officials from the **City of West Plains** indicated the 86 cities with municipal electric utilities depend on the revenues of this service for their citizen/owners to off-set the cost of electric service and operation to citizens as well as to support the activities of city government.

Based primarily on data from the Federal Department of Energy's (DOE) Energy Information Administration (EIA) Table 6 plus additional data gleaned from the National Renewable Energy Lab's Photovoltaic Calculator and the Missouri Association of

Municipal Utilities for peak loads in 73 cities, they have determined that municipalities in Missouri face a loss of at least $23.9 million in revenue should this initiative petition become law. The impact alone to the City of West Plains appears to be $352,000 annually, or over 6.5% of their annual electric utility revenue budget. This figure does not reflect any additional costs they will be required to incur for required pleadings before the state Public Service Commission or local compliance costs for other requirements contained in this proposal.

Because the State Constitution prohibits the imposition of any mandate on local governments (Mo. Const. Art. X, Sec. 16) that reduces income or increases costs without "full state financing," they anticipate that local government costs would be reflected in the final state cost when the fiscal note is completed. Necessary litigation costs incurred for Mo. Const. Art. X, Sec. 16 and other potential legal inconsistencies are unknown.

Methodology for City Loss Calculation
Renewable Energy Initiative Petitions

Assumptions and Methods	**Information Source**
1. A combined federal and state tax credit of 60% of installation costs, would prompt city customers to achieve the 7% capacity cap in a reasonable period of time	Proposed Legislation
2. 1 kW solar panel at this latitude would generate 1350 kWHr per year	National Renewable Energy Lab's PV Calculator
3. Annual Peaks	Municipal reports to the Missouri Association of Municipal Utilities
4. Current City Electric Rates	DOE EIA Database (Table 6 for 2010)

5. Calculation:
   Annual Peak
   7% of Annual Peak for Capacity Cap
   Total Solar Generation = (Capacity Cap * 1350 kWHrs)*1000
   City's lost revenue: City rate * Solar Generation

6. State calculation based on the sum of "Assumption 5" calculations for
   73 reporting cities (out of 86)
   Total $\geq$ $23.8 million

Calculation for City of West Plains

44.453	Annual Peak (MW)
3.11171	7% of Annual Peak for Capacity Cap MW
4,200,809	Total Solar Generation (KWHR)
8.38	City Rate (cents per kWHR)
$352,028	Lost Revenue

Officials from **University of Missouri** indicated they have not seen cost impact studies on this initiative from their electric utility suppliers, but they do not believe this will have a significant impact on their university.

Officials from the **Public Service Commission** (PSC) indicated Section 386.895, RSMo, discusses a "Missouri Solar Energy Tax Credit". It is not clear why the tax credit is in the PSC statute and not in a tax-related statute.

Edward D, Greim provided the following information as an opponent of this initiative petition.

Edward D. Greim
Graves Garrett, LLC
1100 Main Street, Suite 2700
Kansas City, Missouri 64105
Direct Dial: (816) 256-4144
edgreim@gravesgarrett.com

December 28, 2015

Missouri State Auditor's Office
301 West High Street
Office 880
P.O. Box 869
Jefferson City, Missouri 65102

Re: *Fiscal Note in Initiative Petitions 2016-181 through 2016-189*

To Whom It May Concern:

Based on the information contained in this letter, we propose the following fiscal note summary for petition 181 :

> Lost revenue to state government is $680.3 million over the tax credit period, with annual losses of $7.6 million thereafter. Lost revenue to local government is $137.8 million over the tax credit period, with annual losses of $15.5 million thereafter.

We propose the following fiscal note summary for petitions 182, 183, 184, 186, 187, and 188:

> Lost revenue to state government is $680.3 million over the tax credit period, with annual losses of $7.6 million thereafter. Lost revenue to local government is $137.8 million over the tax credit period, with annual losses of $15.5 million thereafter. Other, substantial lost revenues of an unknown amount are likely.

We propose the following fiscal note summary for petitions 185 and 189:

> Lost revenue to state government is approximately $38,500, annually, for each facility, and up to $321.1 million in state revenue is at risk. Lost revenue to local governments is approximately $78,300, annually, for each facility, and up to $652.5 million in local revenue is at risk.

Introduction

Missouri electric utilities are tightly regulated by the Public Service Commission, which regulates price, reliability, and customer service, among other areas. These utilities pay hundreds of millions dollars of taxes to Missouri state government and local governments. These taxes, however, will no longer be collected for electricity that is never sold due to the customer-generator production and community solar encouraged by the initiative petitions. Petition signers and voters must be informed of the certainty that the initiative petition will result in the loss of hundreds of millions of dollars of tax revenue to state and local governments due to tax credits and decreases in electricity sales volume. On the other hand, any positive fiscal impacts of the initiative petitions are speculative.

Description of Policy

Initiative Petitions 181 to 189 contain one or more of three main statutory provisions: (1) Changes to the Missouri Net Metering and Easy Connection Act; (2) Adoption of community solar facilities/arrangements; and (3) A state tax credit for solar powered electric energy generation units and arrangements.

1. Changes to Net Metering for Investor-owned electric utilities, municipal electric utilities, and rural electric cooperatives
   A. Redefine customer generator to include retail customers entitled by contract to receive the electrical energy generated by a qualified energy generation unit;
   B. Makes utilities generally responsible for purchasing necessary additional equipment/meter to accommodate the customer-generator's facility;
   C. Net excess energy credits expire every March, rather than after 12 months (but there is no compensation for net excess energy credits);
   D. Any costs incurred under this act by a retail electric supplier shall be recoverable in that utility's rate structure.
2. 5 Megawatt Community Solar Facilities
   A. Electric Customers may participate in community based solar arrangements up to with generation capacity up to 5 megawatts. There is no limit on the number of community solar facilities that may be developed.
   B. Bill credits are one to one against electric utility bills for customers who participate in the community solar facility.
   C. Excess bill credits are sold back to municipal utilities, investor-owned utilities, and electric cooperatives, by kilowatt hour (at rate to be set by commission, that is at least as great as all avoided costs, but up to the retail electric supply rate).
3. Tax credit
   A. 35% tax credit for solar powered energy generation units eligible for net metering, or in some petitions, community solar facilities up to 5 megawatt.

1100 Main Street, Suite 2700 Kansas City, MO 64105 ph 816.256.3181 www.gravesgarrett.com

B. Total value of eligible credits shall not exceed $50 million each year until 2022, with credits decreasing after that date. Unused credits carryover year to year.
C. No tax credits after June 30, 2031.

Burdens on State Government

In determining the fiscal impact of each petition, it is generally reasonable to assume that the various statutory changes in the petitions will have independent fiscal impacts. The reasonableness of this assumption is demonstrated by the various iterations of the petitions themselves, some of which propose tax credits with no proposed changes to the Net Metering and Easy Connection Act. *See* Petitions 178 and 190.

i. Decreased tax collection due to changes to net metering – Initiative Petitions 182-184 and 186-188

Raising the net metering cap from 100 kilowatt units to 2 megawatt units will result in a decrease in electricity sales volume, when such changes are paired with other changes suggested by the petition. This assumption is conservative for several reasons. First, the current level of net metering is less than the current 5% cap due to the cost of solar and other residential net metering equipment, meaning that the changes to current net metering scheme may result in more than a simple increase due to economies of scale. Second, the declining price of solar and other renewable energy sources, paired with federal solar tax credits (30% federal tax credit) and a 35% state tax credit as proposed in some of the petitions provides a strong financial incentive to solar energy net metering, because customers can buy increasingly affordable technology at an additional 55% discount[1], suggesting that individuals and corporations will take full advantage of the state and federal tax credits. In this sense, however, the move to full 5% net metering will eventually occur due to declining prices for residential and commercial customer energy generation, coupled with increasing prices in the retail price of electricity. Third, technology changes allow customers to decrease their bill by a greater percentage than they decrease their usage. The commercialization of residential and commercial energy storage technology, like home batteries,[2] also allows customers to use their net-metering capacity more efficiently, because customers can completely offset usage during costly high demand periods.

The value of electricity used in Missouri in 2014 was 7.6 billion, and the value has increased every year since 2003. *See* U.S. Energy Information Administration – Independent Statistics and Analysis. Accordingly, a 1% decrease in electricity sales volume will reduce Missouri state sales tax revenues from electric providers by at least 3.2 million dollars. Based on the change from 100 kilowatt units to 2 megawatt units, individual net metering units may

[1] The 35% state tax credit reduces the basis eligible for the 30% federal tax credit.
[2] One such energy storage/battery innovation is the Tesla Powerwall. https://www.teslamotors.com/powerwall.

significantly impact tax revenues. Every megawatt of installed solar decreases state sales tax revenue by $7,700 annually.

ii. Decreased tax collections due to community solar facilities – Initiative Petitions 184, 185, 188, 189

Community solar facilities are in addition to net metering and represent an additional capacity of an unlimited amount. Energy generated from the community solar facility is allocated by the community solar facility owner or operator. Energy production allocation is done via "bill credits" that decrease the sales and gross receipts a utility receives from electricity sales. These community solar facilities will be operated in a manner, such as fractional ownership by customers or ownership by a nonprofit, that avoids property tax, sales tax, and license/franchise taxes. There is a strong financial incentive to operate these facilities in a fractional ownership model, similar to net metering,[3] because doing so avoids state sales tax (4.225%), local sales tax (generally, 3.5-4%) and local utility license/franchise tax (generally, 5%). There is no cap on the amount of community solar facilities that may be constructed, and there are strong financial incentives to create excess production, given declining prices of solar electricity and a mandatory obligation of the interconnected utility to buy electricity at generous, retail rates.

A 1% decrease in electricity sales volume will reduce Missouri state sales tax revenues from electric providers by 3.2 million dollars. Every 5MW "renewable energy facility" will reduce state sales tax revenues by $38,500, annually. Up to $321.1 million in state sales tax revenue is at risk ($7.6 billion * 4.225%).

iii. Tax credits – Initiative Petitions 181-184 and 186-188

a. Decreased tax collections due to tax credits – Credits capped at $50 million annually

The 35% tax credits in these petitions will <u>directly result in a loss of state income of $25 million to $50 million, annually.</u> The total loss to state government over the tax credit effective period is $612.5 million.

b. Cost of eroding tax base due to new energy generation

To determine the impact of new customer energy generation on state sales tax revenues, we must first calculate the value of sales lost due to new customer generated energy production. Based on federal government data, we assume that the sun shines on average 5 hours per day in Missouri. According to the attached table, the tax credits will result in 988.7 MWh/988,700 kWh of new electricity generation. New production from such tax credits would produce

[3] The petitions use the terms "facility access", "arrangements", and "bill credits" all of which indicate that the electricity generated and allocated will not be subject to sales tax.

approximately 1,804,090 MWh per year, also expressed as 1,804,090,000 KWh, or 1,804 million KWh (1,000 MWh * 5 hours per day * 365 days per year). Based on an assumed average retail price of electricity in Missouri of $100 per megawatt/hour,[4] this new production is valued at $180,408,983.

This new electricity generation is used by customers to offset charges they would otherwise incur on their bills. Accordingly, this amount of electricity will no longer be sold by Missouri utilities and electric cooperatives, and the state and local governments will lose sales tax revenues. The Missouri state sales tax rate is 4.225%.

Credible independent analysts believe the installed cost of solar will be $1.77 per watt in 2017 ($1770 per kilowatt).[5] The cost is expected to further decline over time, but it is reasonable to assume a constant $1.77 per watt installed cost for solar energy resources according to the petition because of the competing forces of price inflation and decreased production costs of emerging technology.

For Initiative Petitions 181-184 and 186-188, the total, annual loss to state governments *due to the tax credits* is 32.6 million to 53.1 million over the tax credit period. The total loss during the tax credit period is $680.3 million. There is an annual loss in perpetuity after the tax credit period of $7.6 million, based on expected customer-generation resourced developed. *See* attached table.

Burdens on Local Governments

Local governments face losses in revenue from the various petition provisions that are similar to those faced by state government (with the exception of the direct losses to state government for the tax credits). In fact, local governments face a more significant burden because utility revenues make up a comparatively higher portion of the local governments' tax base. Missouri's electric utilities are large sources of local tax revenue, including property tax, sales tax (on average 3.585%) and license tax (approximately 5%). The amounts at issue are substantial. For example, Missouri electric utilities paid over $522 million in license taxes to local governments in 2014. Determining exactly how much of this revenue will be lost due to

[4] In 2014, the average price of electricity in Missouri was $91.10 per megawatt/hour. The $100 an hour cost estimate is conservative as an average cost over the relevant period of the tax credits and beyond.

[5] Some solar companies have forecasted a cost of under $1.00 per watt full installed by 2017. Comments of First Solar CEO, 'By 2017, We'll Be Under $1.00 per Watt Fully Installed', June 24, 2015, http://www.greentechmedia.com/articles/read/First-Solar-CEO-By-2017-Well-be-Under-1.00-Per-Watt-Fully-Installed.

1100 Main Street, Suite 2700 Kansas City, MO 64105 ph 816.256.3181 www.gravesgarrett.com

various provisions in the petition is uncertain and may require the expenditure of substantial litigation costs by some or all Missouri municipalities.

i. Decreased tax collection due to changes to net metering – Initiative Petitions 182-184 and 186-188

A 1% decrease in electricity sales volume will reduce Missouri local tax revenues from electric providers by $6.5 million, annually.

ii. Decreased tax collections due to community solar facilities – Initiative Petitions 184, 185, 188, 189

A 1% decrease in electricity sales volume will reduce Missouri local tax revenues from electric providers by 6.5 million dollars. Every 5MW "renewable energy facility" will reduce local government tax revenues by $78,300, annually. Up to $652.5 million in local sales and license/franchise tax revenue is at risk ($7.6 billion * [3.585% + 5%]).

iii. Tax credits – Initiative Petitions 181-184 and 186-188 – Cost of eroding tax base due to new energy generation

The calculation of lost revenue for local governments is substantially similar as the calculation for state government lost sales tax. Local governments will collect less tax revenue from their various local taxes due to the decrease in demand for utility-provided electricity. The availability of lower local government taxes is a strong financial incentive for large-scale electricity users to invest in customer-generator projects supported by the petition. Further, Missouri's electric utilities are invested in Missouri and its local communities. The initiative petitions may jeopardize the jobs of Missouri electric utilities' employees to the extent the utilities suffer decreased revenue. Missouri electric utilities provide numerous other benefits to local governments, all of which may be reduced or discontinued if the initiative petitions are enacted.

The population weighted combined average state and local sales tax in Missouri is estimated at 7.81%.[6] Based on this estimate, the population-weighted combined average local sales tax is 3.585%. The tax credits will result in 988.70 megawatts of new electricity production that will be net metered or otherwise result in the allocation of bill credits and, as a result, decrease electric revenues. The corresponding annual loss to local governments from lost sales tax from the tax credit is $6,467,662. Assuming a license tax/franchise rate on electric utility service of 5%, which may be more or less depending on the municipality, if any, where electricity is sold, the additional lost local revenue from the loss of sales subject to license tax is $9,020,449.

[6] http://taxfoundation.org/sites/taxfoundation.org/files/docs/LOST--2015.png.

1100 Main Street, Suite 2700 Kansas City, MO 64105 ph 816.256.3181 www.gravesgarrett.com

Graves Garrett LLC

The overall annual loss to local governments due to the tax credits is $15.5 million. The total loss to local government revenues during the tax credit period is $137.8 million.

In Conclusion

The initiative petitions will result in substantial, reasonably determinable losses in tax revenues to Missouri state government and local governments. State government incurs tax losses through the issuance of tax credits as well as the loss of electricity sales volume through certain changes promulgated by the petitions, such as increases in net metering and community solar. The total tax burden on state government imposed by the petitions with tax credits is at least $680 million over the tax credit period, with at least $7.6 million in lost revenues in perpetuity. The total tax burden on state government imposed by the petitions without tax credits is substantial, with up to $321.1 million at risk. The total tax burden on local governments imposed by the petitions with tax credits is at least $137.8 million over the tax credit period, with at least $15.5 million in lost revenues in perpetuity. The total tax burden on local government imposed by the petitions without tax credits is substantial, with up to $652.5 million at risk.

Sincerely,

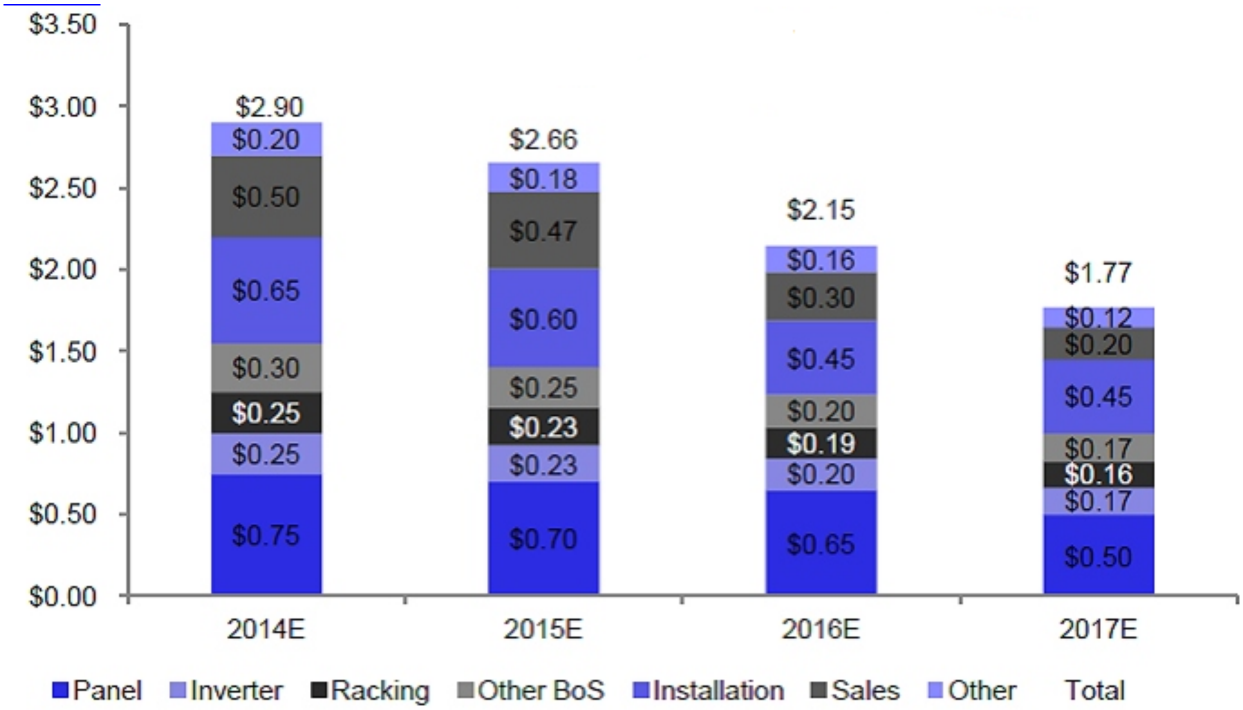
Edward D. Greim
Graves Garrett LLC

Additional Works Cited

Revenue from retail sales of electricity in Missouri

U.S. Energy Information Administration – Independent Statistics & Analysis - Table of Missouri Revenues
https://www.eia.gov/electricity/data/browser/#/topic/6?agg=01&geo=000002&endsec=vg&linechart=ELEC.REV.MO-ALL.A&columnchart=ELEC.REV.MO-ALL.A&map=ELEC.REV.MO-ALL.A&freq=A&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0

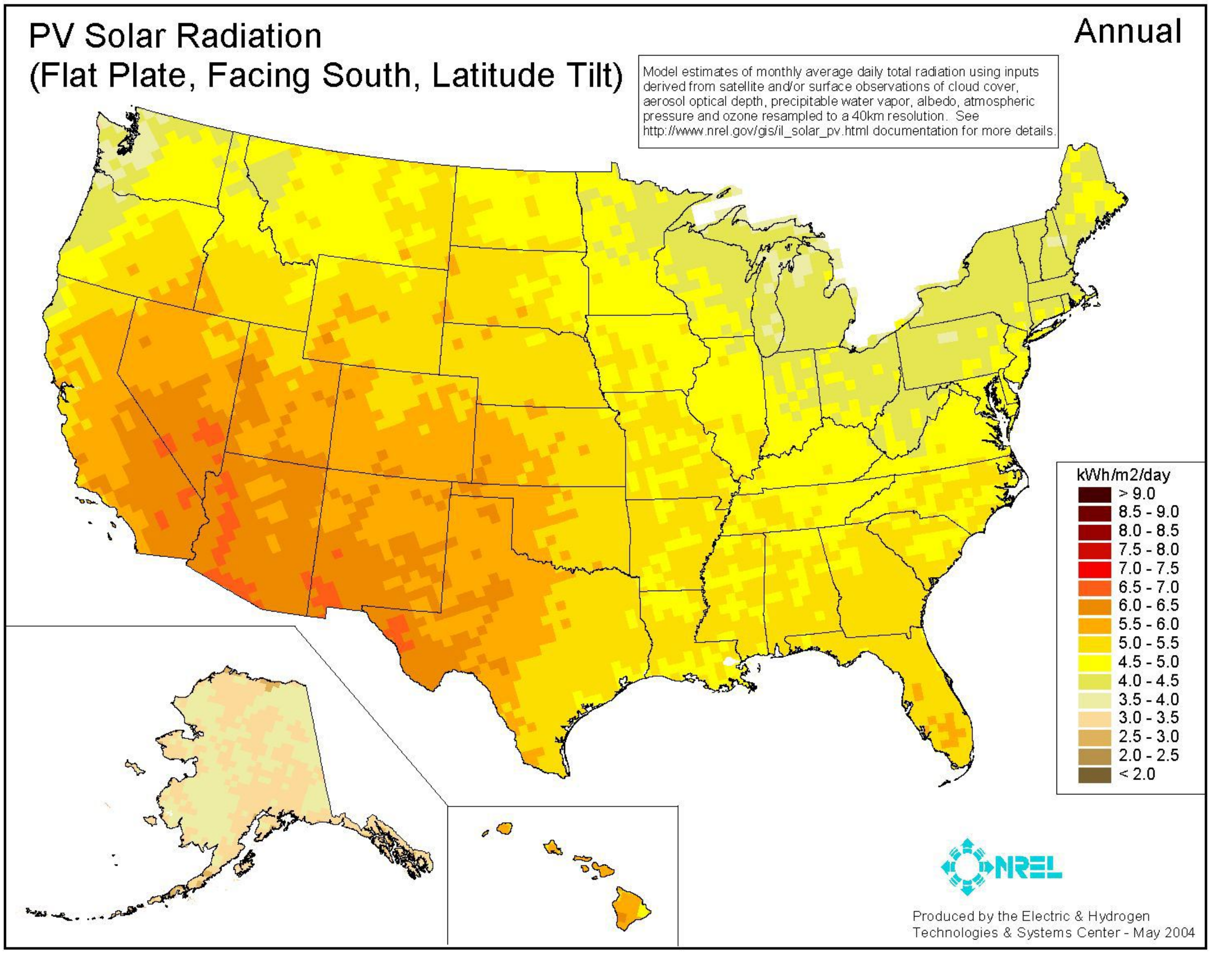
Table of Deutsche Bank Solar Cost estimates – Cost trajectory on pace for a ~40% reduction by the end of 2017
https://www.db.com/cr/en/concrete-deutsche-bank-report-solar-grid-parity-in-a-low-oil-price-era.htm



1100 Main Street, Suite 2700 Kansas City, MO 64105 ph 816.256.3181 www.gravesgarrett.com

Graves Garrett LLC

National Renewable Energy Laboratory data
http://www.nrel.gov/gis/solar.html



Renew Mo Solar Tax Credit Fiscal Analysis - Petitions 181-184 and 186-188

$/kW Installed Cost	$1,770	
MW's Installed	80.71	
Tax Rebate Incentive %	35%	
Tax Limit	$50,000,000	
Solar Capacity Factor	20.83%	5 hours / 24 hours
MW's of Output	147,273	

$/MWh Retail Rate $100

	Solar Tax Rebate	MW's Installed	Cumulative MW's Installed	MWh's Solar	Avg Retail Rate	Lost Utility Revenue	State Sales Tax Rate	Lost State Sales Tax Revenue	Annual State Tax Burden	Local Sales Tax Rate	Lost Local Sales Tax Revenue	Franchise Tax Rate	Lost Local Franchise Tax Revenue	Annual Local Tax Burden
2017	$50,000,000	80.71	80.71	147,273	$100	$14,727,264	4.225%	$622,227	$50,622,227	3.585%	$527,972	5.000%	$736,363	$1,264,336
2018	$50,000,000	80.71	161.42	294,545	$100	$29,454,528	4.225%	$1,244,454	$51,244,454	3.585%	$1,055,945	5.000%	$1,472,726	$2,528,671
2019	$50,000,000	80.71	242.13	441,818	$100	$44,181,792	4.225%	$1,866,681	$51,866,681	3.585%	$1,583,917	5.000%	$2,209,090	$3,793,007
2020	$50,000,000	80.71	322.84	589,091	$100	$58,909,056	4.225%	$2,488,908	$52,488,908	3.585%	$2,111,890	5.000%	$2,945,453	$5,057,342
2021	$50,000,000	80.71	403.55	736,363	$100	$73,636,320	4.225%	$3,111,135	$53,111,135	3.585%	$2,639,862	5.000%	$3,681,816	$6,321,678
2022	$47,500,000	76.67	480.23	876,272	$100	$87,627,220	4.225%	$3,702,250	$51,202,250	3.585%	$3,141,436	5.000%	$4,381,361	$7,522,797
2023	$45,000,000	72.64	552.87	1,008,818	$100	$100,881,758	4.225%	$4,262,254	$49,262,254	3.585%	$3,616,611	5.000%	$5,044,088	$8,660,699
2024	$42,500,000	68.60	621.47	1,133,999	$100	$113,399,932	4.225%	$4,791,147	$47,291,147	3.585%	$4,065,388	5.000%	$5,669,997	$9,735,384
2025	$40,000,000	64.57	686.04	1,251,817	$100	$125,181,743	4.225%	$5,288,929	$45,288,929	3.585%	$4,487,765	5.000%	$6,259,087	$10,746,853
2026	$37,500,000	60.53	746.57	1,362,272	$100	$136,227,191	4.225%	$5,755,599	$43,255,599	3.585%	$4,883,745	5.000%	$6,811,360	$11,695,104
2027	$35,000,000	56.50	803.07	1,465,363	$100	$146,536,276	4.225%	$6,191,158	$41,191,158	3.585%	$5,253,325	5.000%	$7,326,814	$12,580,139
2028	$32,500,000	52.46	855.53	1,561,090	$100	$156,108,998	4.225%	$6,595,605	$39,095,605	3.585%	$5,596,508	5.000%	$7,805,450	$13,401,957
2029	$30,000,000	48.43	903.95	1,649,454	$100	$164,945,356	4.225%	$6,968,941	$36,968,941	3.585%	$5,913,291	5.000%	$8,247,268	$14,160,559
2030	$27,500,000	44.39	948.35	1,730,454	$100	$173,045,351	4.225%	$7,311,166	$34,811,166	3.585%	$6,203,676	5.000%	$8,652,268	$14,855,943
2031	$25,000,000	40.36	988.70	1,804,090	$100	$180,408,983	4.225%	$7,622,280	$32,622,280	3.585%	$6,467,662	5.000%	$9,020,449	$15,488,111

Total State Tax Burden **$680,322,732**

Total Local Tax Burden (Sales + Franchise) **$137,812,581**

Brent Stewart provided the following information as an opponent of this initiative petition.

Association of Missouri Electric Cooperatives

2722 East McCarty Street, P.O. Box 1645
Jefferson City, Missouri 65102
Telephone: (573) 635-6857
Fax: (573) 635-2314
www.amec.coop

RECEIVED
DEC 2 8 2015
STATE AUDITORS OFFICE

December 28, 2015

Missouri State Auditor's Office
301 West High Street
Office 880
P.O. Box 869
Jefferson City, Missouri 65102

Re: Fiscal Note in Initiative Petitions 2016-173 through 2016-190

To Whom It May Concern:

The Association of Missouri Electric Cooperatives (AMEC), representing the state's forty-seven member-owned, nonprofit rural electric cooperatives that serve close to one million electric consumers, respectfully submit the following brief comments to assist in your preparation of the fiscal notes on the above-mentioned initiative petitions.

All these petitions, in one way or another, involve solar and renewable energy mandates. The practical effect of each, to one extent or another, is to encourage consumers to substitute self-generation for traditional electric service, thereby creating an unfair electric rate subsidy in favor of those who can afford to install their own generation at the expense of the majority of the other consumers who cannot.

Missouri's forty distribution (retail level) cooperatives serve a wide variety of governmental entities throughout rural Missouri, including state facilities (e.g. prisons), local government facilities, hospitals, schools, rural water districts, regional sewer districts and others. To the extent these entities cannot afford to install their own generation, which most cannot, they necessarily will be forced to pay higher rates if these initiative petitions are enacted. Unfortunately, it is impossible without more time for AMEC to identify all those government-related entities and facilities or estimate with any accuracy the adverse fiscal impact. However, it is clear that even a modest rate increase necessarily will have a significant adverse fiscal impact on governmental entities, in millions of dollars, especially those in the primarily less affluent rural areas served by Missouri's nonprofit electric cooperatives.

Respectfully submitted,

Brent Stewart

Brent Stewart
AMEC Counsel

The State Auditor's office did not receive a response from the **Department of Elementary and Secondary Education,** the **Department of Transportation, Adair County, Boone County, Callaway County, Cass County, Clay County, Cole County, Jackson County Legislators, Jasper County, St. Charles County, St. Louis County, Taney County,** the **City of Cape Girardeau,** the **City of Columbia,** the **City of Jefferson,** the **City of Joplin,** the **City of Kirksville,** the **City of Mexico,** the **City of Raymore,** the **City of St. Joseph,** the **City of St. Louis,** the **City of Springfield,** the **City of Union,** the **City of Wentzville, Cape Girardeau 63 School District, Hannibal 60 School District, State Technical College of Missouri, Metropolitan Community College,** and **St. Louis Community College.**

Fiscal Note Summary

State government revenue may decrease up to $612.5 million during the tax credit period with approximately $200,000 annual increased operating costs. Local governmental entities estimate $23.9 million in annual electricity sales reductions. Other resulting economic activity will have an unknown impact on state and local governments.