Show Me Solar Responses to Emerging Issues in Utility Regulation File No. EW-2017-0245[3]

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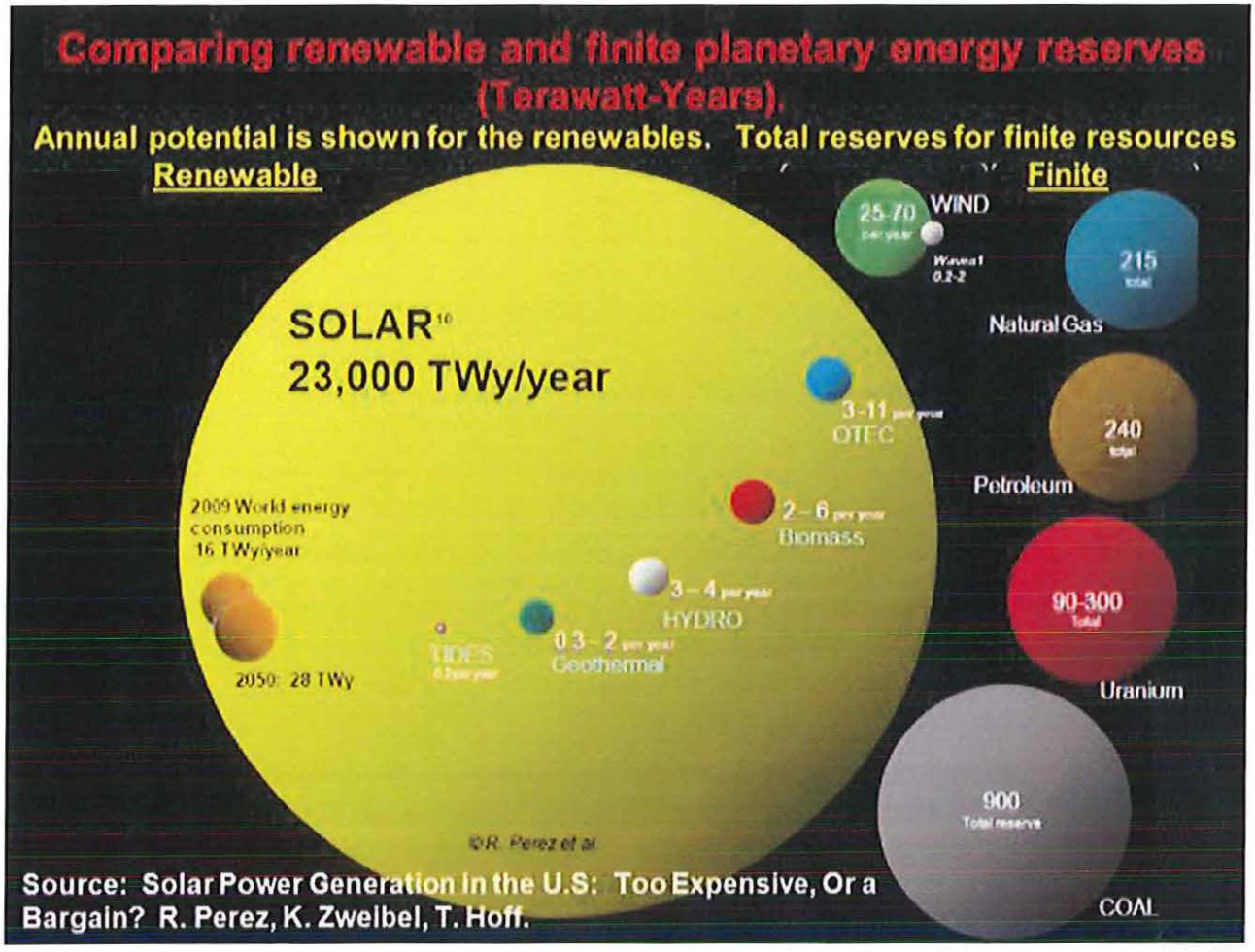
RESPONSES REGARDING DISTRIBUTED ENERGY RESOURCE ISSUES, AND SCHEDULING A WORKSHOP MEETING on Nov 20, 2017

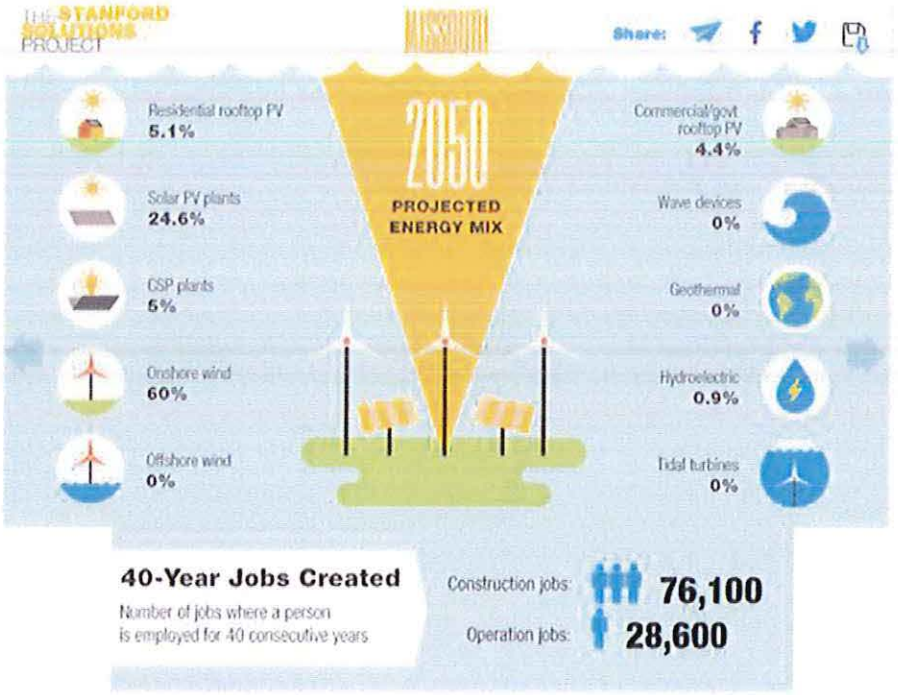
Specifically, the Commission would like to consider the following questions:

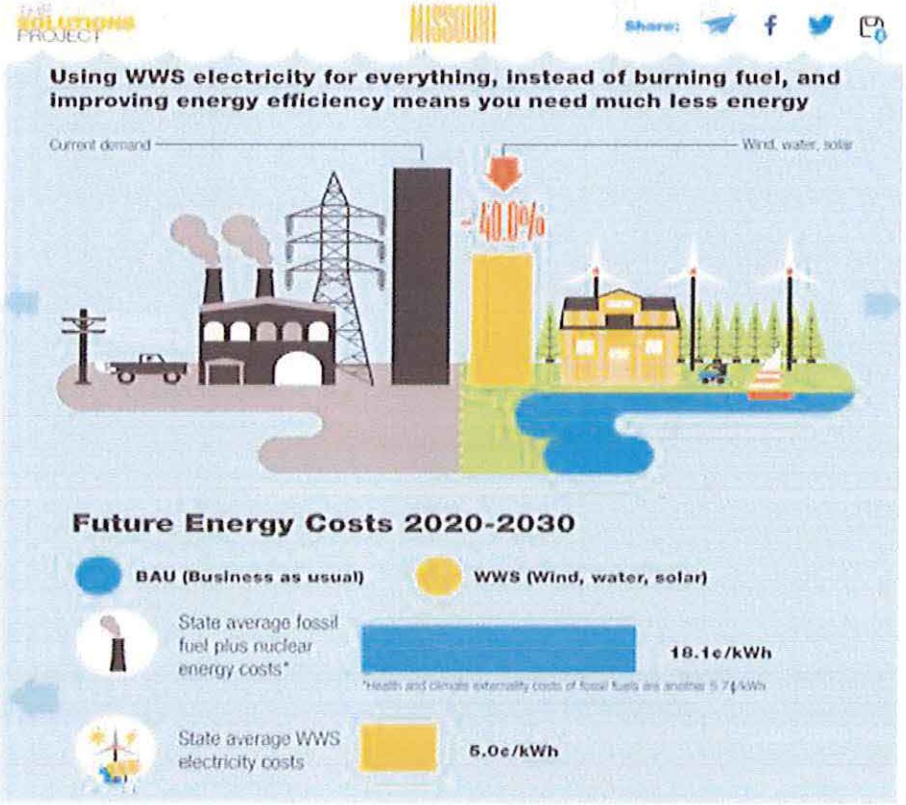
- **What are the current levels of distributed energy resources (energy efficiency, distributed generation, demand-response, etc) in Missouri?**

All of Missouri's most abundant energy resources are distributed energy resources: solar, wind, hydroelectric, geothermal, energy conservation, and energy efficiency. In order to revitalize the economy, the state needs to stop outsourcing all of our energy dollars to import coal from Wyoming, a boon to their economy, while a drain to Missouri.[1]



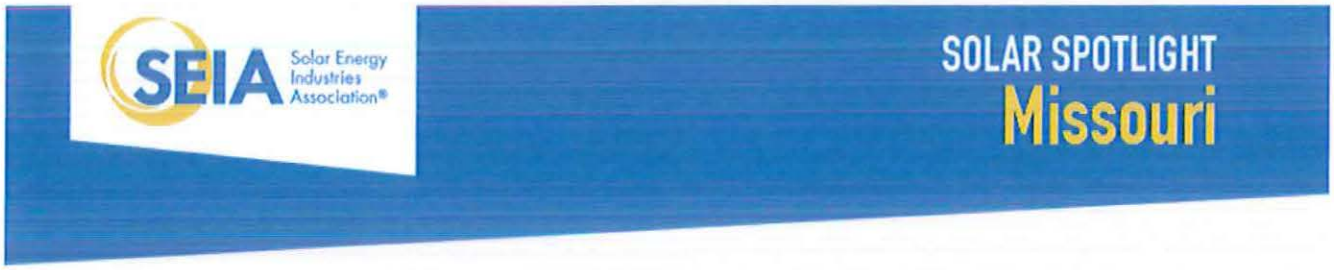
According Stanford climate scientist Mark Jacobson, Missouri can generate 100 percent of its electricity from solar, hydro, energy efficiency, and wind.





Currently less than 1 percent of the electricity produced in Missouri is solar power. [2]

2010 – 2017 and future annual levels of installed solar power generation / nameplate capacity in the respective utility service areas should be enumerated in terms of MW and percentage of total annual electricity production. The Solar Energy Industries Association (SEIA) reports that the percentage of Missouri's electricity from solar in 2016 was 0.024%[2].



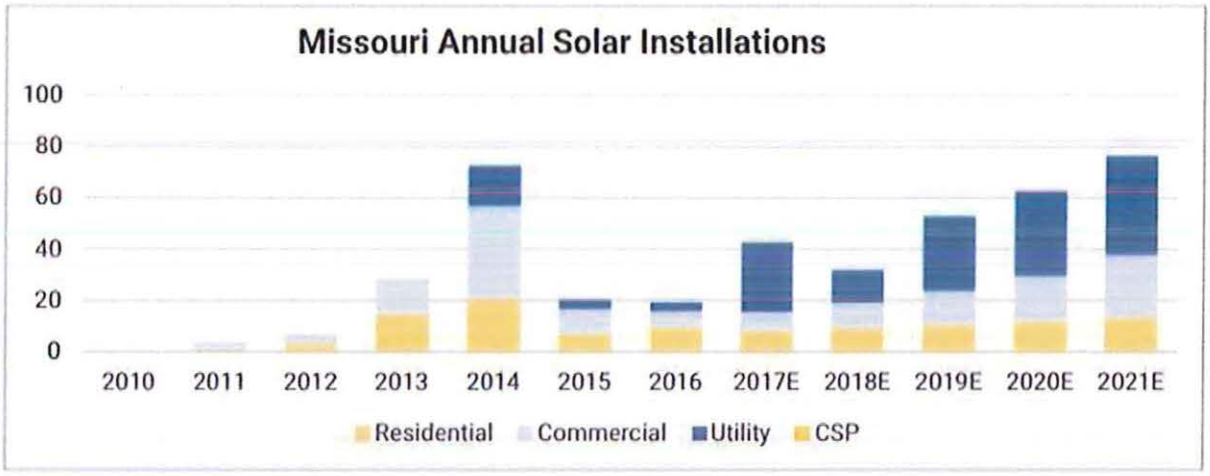
AT A GLANCE

- **Solar Installed:** 152.9 MW (19.2 MW in 2016)[i]
- **National Ranking:** 27th (29th in 2016)
- **State Homes Powered by Solar:** 17,000
- **Percentage of State's Electricity from Solar:** 0.24%[ii]
- **Solar Jobs and Ranking:** 2,380 (29th in 2016)[iii]
- **Solar Companies in State:** 126 companies total; 18 Manufacturers, 54 Installers/Developers, 51 Others[iv]
- **Total Solar Investment in State:** $447.85 million ($43.58 million in 2016)
- **Price Declines:** 55% over last 5 years
- **Growth Projections and Ranking:** 263 MW over next 5 years (ranks 34th)
- **Potential Losses in Suniva Trade Case:** Missouri stands to lose 200 solar jobs in 2018 if Suniva's recommendations to the U.S. International Trade Commission are adopted in full[v]

• Should previous Commission policy decisions regarding demand response aggregation be reconsidered?

Following the cessation of the solar rebates, approved by the PSC in 2013, overriding the provisions of the Renewable Energy Standards RSMO…

Solar power generation has plummeted, and is not projected to recover to its previous pace until 2020[2]. Comparisons to comparably sized and populated states and countries eg, Iowa, New Jersey, and Chile, with proactive renewable energy policies should be made to show what can be achieved.



This represents a correspondingly adverse impact to Missouri's economy, impacting jobs, businesses, as well as to agriculture, environment, public health, and long term outlook for the viability and quality of life of future generations. [3]

• Should a model state tariff be designed?

A policy mechanism should be designed to accelerate investment in renewable energy technologies. It achieves this by offering long-term contracts to renewable energy producers, typically based on the cost of generation of each technology.[3] Rather than pay an equal amount for energy, however generated, technologies such as wind power awarded a lower per-kWh price, and solar PV would be offered a higher price, reflecting costs that are higher at the moment.

In addition, feed-in tariffs would include cost-based compensation to renewable energy producers, providing price certainty and long-term contracts that help finance renewable energy investments.

• Should changes be made to the Integrated Resource Planning (IRP) process to accommodate increased use of distributed energy resources?

Geographic outsourcing, which was inserted by the Legislature in 2011, overturning the original intent of the RES and undermining the best interests of Missouri's economy, environment, public health, long term outlook for the future of the planet, etc., should be reversed and the original provisions of the RES restored.

• What information about distributed energy resources do the Regional Transmission Organizations need? What information do the utilities have? And what information are the utilities providing to the Regional Transmission Organizations?

Regional Transmission Organizations need be an integral part of this assessment. They should study and provide this information to the PSC throughout the course of this inquiry. Utilities need to divulge what information they have and are providing to the Regional Transmission Organizations.

• Is any new behind-the-meter technology or hardware needed to accommodate or facilitate the development of distributed energy resources?

This information needs to be assessed, studied, and provided by a consortium of solar manufacturers, installers, as well as professional organizations including SEIA and the North American Board of Certified Energy Practioners (NABCEP).[4]

• Will any distribution system upgrades be required to accommodate or facilitate the development of distributed energy resources?

This information needs to be assessed, studied, and provided by a consortium of solar manufacturers, installers, as well as professional organizations including SEIA and the North American Board of Certified Energy Practioners (NABCEP).[4]

• What process should be developed to provide for resource accreditation, including consideration of capacity factors?

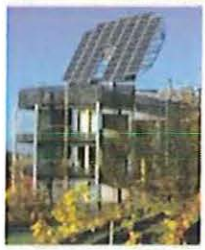
This information needs to be assessed, studied, and provided by a consortium of solar manufacturers, installers, as well as professional organizations including SEIA and the North American Board of Certified Energy Practioners (NABCEP).[4]

• Are there any other issues related to distributed energy resources that should be brought to the Commission's attention?

- Missouri Comprehensive State Energy Plan (CSEP) Recommendations
- US DOE Report:

U. S. DOE REPORT: ROOFTOP SOLAR CAN PRODUCE 40% OF U.S. ELECTRICITY



The Energy Department's National Renewable Energy Laboratory (NREL) has evaluated U.S. potential electrical production for rooftop photovoltaic (PV) systems, finding over 1,100 gigawatts (GW) of capacity and 1,400 terawatt-hours (TWh) of annual energy generation, equivalent to 40 percent of the nation's current electricity use. The analysis appears in "Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment."




Attached:

- Missouri Can Cut Multiple Pollutants & Grow Economy
- **Future - Long Range Planning** - Finally, but above all, these issues must be view through the lens of long term global viability that can no longer be taken for granted. At stake in these discussions quite literally is the future of our planet, such that future generations, including those of our own children, will be deeply impacted. Questions such as whether our grandchildren can and should be born into a world of such drastically altered and severe living conditions must be foremost in all that we consider and act upon when it comes to energy policy and design, planning and implementation.

References:

1. Solar Power Generation in the U.S: Too Expensive, Or a Bargain? R. Perez, K. Zweibel, T. Hoff.
2.
3. https://www.showmesolar.org/single-post/2017/06/18/Solar-power-is-less-than-1-percent-of-Missouris-electricity-generation
4. SEIA Solar Spotlight – Missouri At A Glance - https://www.seia.org/sites/default/files/2017-09/Federal_2017Q2_Missouri.pdf
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   I. All data from SEIA/GTM Research U.S. Solar Market Insight unless otherwise noted: http://www.seia.org/research-resources/us-solar-market-insight
   II. Energy Information Administration, Electric Power Monthly: http://www.eia.gov/electricity/monthly/#generation
   III. The Solar Foundation, State Solar Jobs Census: http://www.thesolarfoundation.org/solar-jobs-census/states/
   IV. SEIA, National Solar Database: http://www.seia.org/research-resources/national-solar-database
   V. SEIA, http://www.seia.org/sites/default/files/Suniva-Trade-Case-Factsheet_SEIA_6-8-2017-final.pdf
   VI. SEIA, Major Solar Projects List: http://www.seia.org/research-resources/major-solar-projects-list
   VII. Ibid
   VIII. SEIA, Solar Means Business: http://www.seia.org/campaign/solar-means-business-2016
2. 3.
3. https://en.wikipedia.org/wiki/Feed-in_tariff
4. http://www.nabcep.org/
5.