



Introduction to the Costs and Benefits of Community Solar

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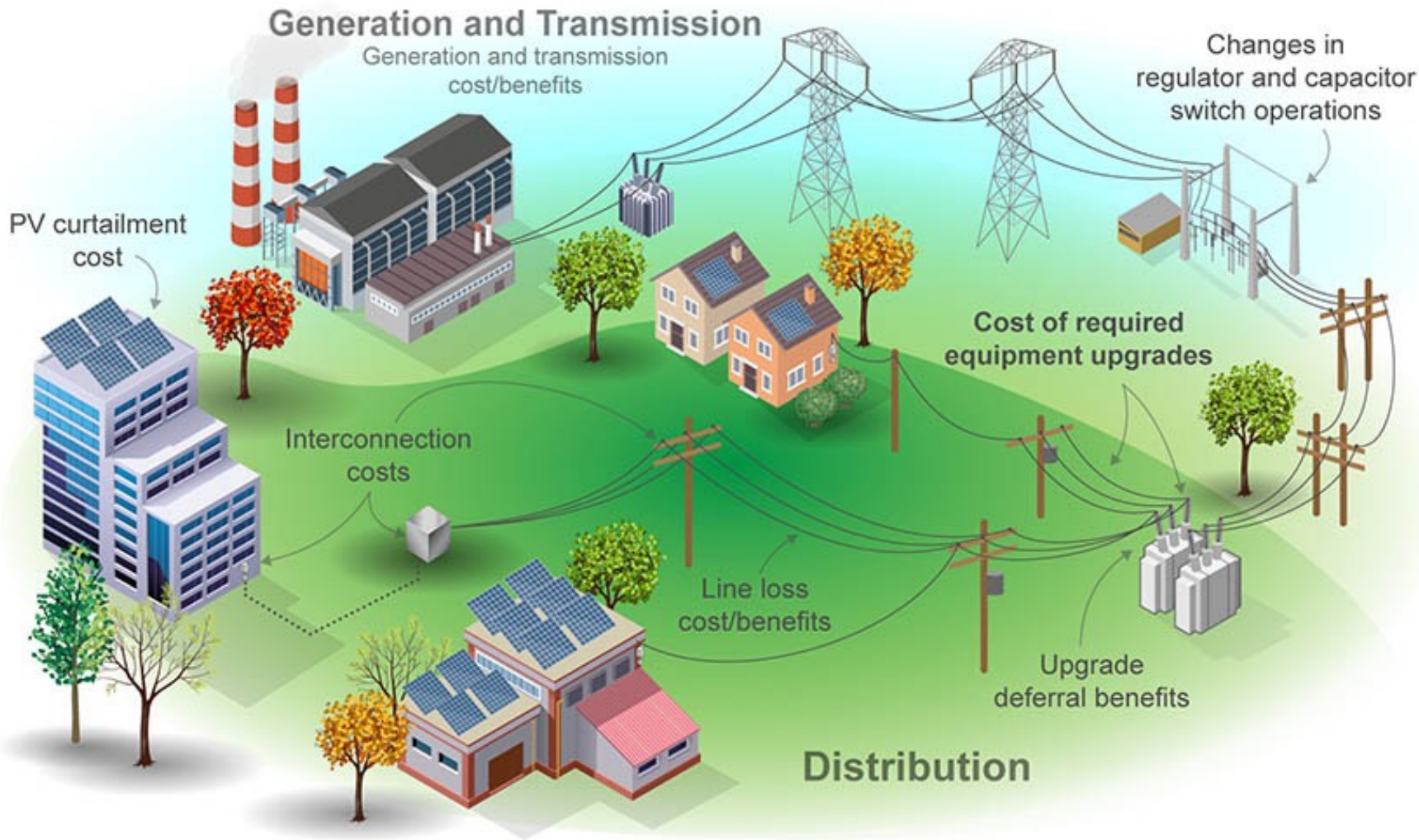
- 34 years utility regulation & markets, plus bioplastics and biofuels.
- Testimony in 170+ utility cases & proceedings.
- Attorney.
- Former Armored Cavalry Officer, JAG, TX PUC Commissioner, DOE Deputy Asst Secretary, utility executive, wind & solar developer, environmental advocate, sustainability manager, carbon credit developer, law professor, R&D manager, consultant, etc.
- Easily bored.



Accounting for Distributed Solar Costs & Benefits

- Research & numerous cost-benefit analyses show that investing in large AND small-scale energy resources offers a myriad of benefits to the entire electric grid that benefits all ratepayers.
- That's because smaller projects produce energy near where it is needed and make more efficient use of existing infrastructure (including utility-scale resources), allowing utilities to avoid certain costs that ratepayers would otherwise incur. This saves ratepayers \$billions in the long run. (VCE Local Solar Roadmap, 2021).
- Quantifiable benefits include, among others: (1) private capital investment in the distribution grid, (2) avoided transmission costs, (3) greater fuel diversity & reduced volatility, (4) peak load reduction, (5) capital investment deferral, and (6) line losses.
- There are also larger societal benefits like local economic development, increased competition, innovation, speed, and addressing high household and business energy burdens.
- Even under conservative analysis, distributed solar pays for itself in savings.

In God we Trust – All Others Must Bring Data and Benefit-Cost Analysis





Cost Shifts

- Electric service is founded on the principle that you pay for what you use, not for what you don't use. There is huge variety in when and how much energy we use. Why should customers who use less utility energy be required to pay for costs they don't create?
- Community solar customers can reduce their energy bills and their use of utility-generated energy, just like customers that invest in energy efficiency. If the utility didn't plan for that solar, they will make less money from the customer. Utilities rates are based on the utility forecast of sales.

SO: It's a rates problem ONLY IF the utility didn't plan for it.

- Even if community solar grew many times larger, the potential short-term bill impacts are small compared to those from volatile gas prices, utility grid spending, and other causes.
- Most importantly, the net benefits to all customers and the grid from community solar deployment are massive and significantly outweigh the costs.

Done right, community solar lowers rates for all customers.

Consider: Tomatoes



- Big box grocery tomatoes are “cheap”
- Home-grown tomatoes are more nutritious, home growers share extra tomatoes with neighbors, home growers have tomatoes all summer and save on trips to the grocery
- Home-grown tomatoes reduce big-box tomato sales
- Big-box grocery wants you to pass a law limiting home growing of tomatoes AND for home growers to pay a fee to maintain profits lost from reduced big box store sales

Or

- Big box grocery starts selling better tomatoes, ordering fewer tomatoes, stocking different vegetables, etc.

Additional Resources

Local Solar for All Roadmap:

- <https://www.localsolarforall.org/roadmap>

National Standard Practice Manual for Benefit-Cost Analyses of Distributed Energy Resources:

- <https://www.nationalenergyscreeningproject.org/national-standard-practice-manual/>

Review of Recent Cost-Benefit Studies Related to Net Metering and Distributed Solar:

- https://www.energy.gov/sites/prod/files/2020/06/f75/ICF%20NEM%20Meta%20Analysis_Formatted%20FINAL_Revised%208-27-18.pdf

NREL Quantifying DPV Costs and Benefits:

- <https://www.nrel.gov/docs/fy19osti/72165.pdf>

NREL Grid Connected Distributed Generation Compensation Mechanisms:

- <https://www.nrel.gov/docs/fy18osti/68469.pdf>

Daymark Costs and Benefits study from Maryland:

- <http://www.solarwakeup.com/wp-content/uploads/2018/11/MDVoSReportFinal11-2-2018.pdf>

IREC's Regulator's Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation:

- <https://irecusa.org/resources/a-regulators-guidebook-calculating-the-benefits-and-costs-of-distributed-solar-generation/>



Thank you!

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