

Value of Value of Solar: Just a Trip Down Memory Lane? A Bit of 1980's Retro

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History 101: What did we learn from PURPA Battles of the 1980's?

- Do we need to repeat those battles in an era of smart technology, smart prices, and changed environmental context?
- Use and abuse of monopoly power/utility balance sheets for externalities and/or private profits
- Use of markets and market mechanisms

Purpose of Value of Solar Studies

- Set Actual Price for Solar DG; or
 - Justify Paying High Price (eg Net Metering)
 - Deviation From Historic Norms:
 - Cost of Service (except regarding cost of capital)
 - Market Based
 - Avoided Cost

Methodology

- No Commonly Accepted Methodology
- Wide Variance in Conclusions

Narrow Focus of Value of Solar Studies

- Technology Specific
 - No Comparison with Alternatives for Attaining Value
 - No Assessment of Risks of Technology Specific Focus
 - Impact on SIP's

Externalities

- Primary Justification for High Price
 - Rarely Weighs DG Against Alternatives for Reducing Carbon
 - Subjective Choice of Externalities
 - Questionable Valuations of Carbon Prices and REC's
 - Overlooks Effects of Intermittency
 - Fails to Track Impact on Dispatch and Displacement i.e. Real Time)
 - Ignores Social Impact (e.g. Regressive Nature of Net Metering)

Jobs and Economic Development

- Highly Myopic View
 - No Consideration of
 - Job Impact of Choosing High Cost Technology
 - Job Impact of High Priced Electricity
 - Fact that Most Solar Manufacturing is Abroad
 - Loss of Mining Jobs

Fuel and Energy Price Consideration

- Long Term Price Forecasts: Notoriously Unreliable (MN vs ME: re annual adjustments)

Generation Capacity Considerations

- Fails to Fully Reflect Intermittency
- Fails to Fully Reflect Solar DG's Non-Coincidence with Peak Demand
- Fails to Recognize Non-Callable nature of Solar DG

Transmission Capacity Considerations

- Ignores Lumpiness of New Transmission
- Ignores Scarcity of Right of Way

Distribution Issues

- Often Ignores Bi-Directional Flow Issues
- Often Ignores Transaction Costs
- Ignores Revenue Attrition Issues with Net-Metering

Future of Solar Impacts

- Overlooks Costs of Incentivizing Primitive Use of Technology
- Overlooks Declining Costs of Solar Panels (e.g. increased installation costs)

Impact of Price Distortions

- On Energy Efficiency
- On Solar Host Behavior on Peak
- On RPS where Least Efficient Resource is Paid the Highest
- Unjustifiable Reallocation of Fixed & Demand Costs

Externalities in a Limited and Selective Way

- Avoided Costs in a Generally Limited and Selective way
 - Energy
 - Fuel
 - Transmission, Distribution, and Generation Capacity
 - Jobs / Economic Development
 - Transmission and Distribution Losses

Concluding Thoughts

- Opportunity cost of spending on solar DG—how else could that money be used to get more value?
- What would happen if we did “value” studies for all energy resources? Or for the grid?