

Protecting Customers and Addressing Cross-Subsidization: Unintended Consequences of Retail Net Metering

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Models & the Electricity Market Structure of the
Future

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Origins of Net Metering

- Default Product of the Era of Dumb Meters, Dumb Prices and Low Market Penetration of Distributed Generation
- To Extent Policy Was Considered – Designed to Jump Start Market for Distributed Solar DG

Sources of Cross-Subsidy

- Passing on Fixed Costs to Non-Solar Customers
- Passing on Demand Costs to Non-Solar Customers
 - Compounded by Intermittency and Non-Coincidence with Peak Demand
- Paying Retail Price for Wholesale Product
 - Distinction Between Net Retail Metering and Net Energy Metering

Intended Objectives of Net Metering

- Simplicity
- Compatible with Dumb Meters
- Compatible with Static / Non-Dynamic Prices
- Stimulates Demand for Solar DG with Local Cross-Subsidies in Addition to Tax Credits and REC's/SREC's

Electricity Pricing Context

- Traditional Methods:
 1. Market Based
 2. Cost Based
 3. Avoided Cost (PURPA)
- Retail Net Metering and Administrative Valuation Lack Economic Basis

Failures of Administratively Derived Energy Prices

- PURPA and Avoided Cost Controversies of 1980's
- Highly Subjective and Speculative Theories of Value Never Proved Sustainable

Changing Context

- Smart Meters and Dynamic Pricing (Increasing Role of Price Signals to Inform Demand)
- Dramatically Declining Cost of Solar Panels
- Increased Market Penetration by Solar DG
- Sophisticated Energy Price Signals in Wholesale Market

Unintended and Highly Unfortunate Consequences

- Socially Regressive (Tax on the Poor)
- Pays Premium Price for Least Efficient Renewable Resource
- Pays Premium Price for Most Expensive Means of Reducing Carbon Emissions (If Reduced at All)
 - Ratio of Dollars Spent to Amount of Carbon Reduced
- Distorts Energy Price Signals

Unintended and Highly Unfortunate Consequences (Cont.)

- Will lead Utilities / Regulators to Move to Straight Fixed / Variable Pricing
 - Dilution of Price Signals for Energy Efficiency
- Increases the Price of Solar Installations
 - Less of Declining Costs of Solar Panels Get Passed through to Customers
- Subsidizes Inefficient Solar Production and Provide No Incentive for Productivity Gains

Unintended and Highly Unfortunate Consequences (Cont.)

- Distorts Price Signals in Energy Market
- Massive Wealth Transfer to Solar Installers with No Appreciable Consumer Benefit
- Promotes Inefficient Southern Rather than More Beneficial Western Exposure
 - Less Economic Value
 - Less Environmental Value
- Stimulates Uneconomic Choices