

# What Are Performance-Based Incentives?

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- Premium payments for kWh generated rather than buy downs of first cost
- Cost of PBI depends on ¢/kWh + duration of payments
  - How much you pay and for how long affect the sweetness of the deal



# Advantages?

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- Price reduction and performance improvement over time
  - No data yet to confirm whether this is true
    - Japan performing as well as Germany
  - Nevertheless, sends right signal
- Creates longer-term stewardship for the system
- Allows utility to leverage its incentive money
  - Customer gets full tax advantages
  - Utility gets to use the installment plan
- Creates an accurate picture of the real value of PV compared to alternatives



# Disadvantages?

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- First cost problem
  - Chilling effect on sales?
- Shifts performance risk to customer
  - Long-term liability issues?
- Could require larger overall payment from utility
- Changes customer perception of PV—they become energy sellers rather than energy managers



# What's in It for the Customer?

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- Surprising effect of tax credits and depreciation for commercial customers--10¢/kWh over life of system
- Hedge against increasing price of grid-supplied power
- But, is life-cycle costing relevant?
  - LCC v. ROI, cash flow



# What's in It for the Utility?

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- Cost to utility—PBI v. buy down
- Ability to install more each year for same budget or to spend much less in the near term to install same kW
- Could shift quality control to market and lessen utility liability, depending on program design



# Key Issues

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- Where do the supply (utility) and demand curves meet?
- Does it make sense to do PBI if everyone else is offering buy downs?
- Does PBI v. buy down mask the real issue for the utility—the ownership model?
- Are we raising the price of PV by basing incentives on other than life-cycle cost?



# Tentative Conclusions

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- Getting the incentive structure/ownership model depends on correctly apportioning the benefits among the players who value them most:
  - Hedge against long-term price increases
  - Resale or compliance value of RECs
  - Advantages of local siting (access, security)
  - Zero air, water impacts; negligible land impacts
  - Peak reduction
- One size doesn't fit all, but PBI shouldn't compete against buy down; customer preferences cannot be taken for granted—customer relationships essential
- If utilities are to be allies, PV must make business sense to *them*.



# Intriguing Tales Told by the Numbers

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- Life-cycle cost of commercial system with 2006-7 tax credits/depreciation = 10¢/kWh
- LFC with no tax credit, only depreciation = 13¢/kWh

