



Incentive Level Analysis

Workshop on the Design of the New Solar Homes Partnership

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Objective

- Propose incentive level, incentive decline, and trigger mechanism
- Evaluate reasonableness



Program Goals / Key Assumptions

- 400 MW PV installations
- \$2.25 per Watt starting incentive rate for smooth transition from ERP to NSHP
- Declining incentives to zero
- 35% market growth rate
- \$300 Million incentive budget



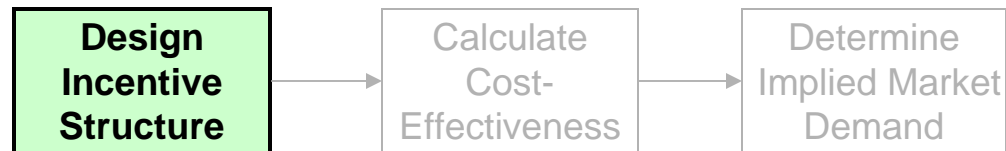
Program Goals / Key Assumptions

- \$8.50 per Watt PV system price
- 2 kW PV systems that produce 3,050 kWh/year
- 18 cents/kWh electricity price w/ 3% escalation
- 30% tax credit capped at \$2,000
- 30-year 6 $\frac{3}{4}$ % home mortgage financing
- 28% federal & 9% state income tax brackets



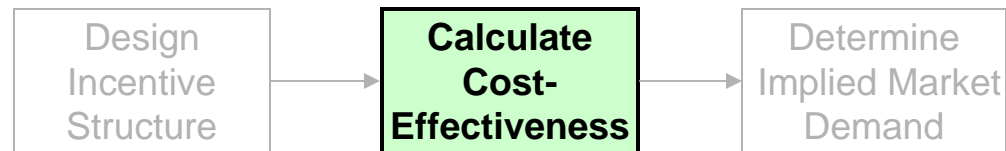
Methodology

- Design incentive structure to satisfy goals
- Calculate cost-effectiveness
- Determine implied market demand



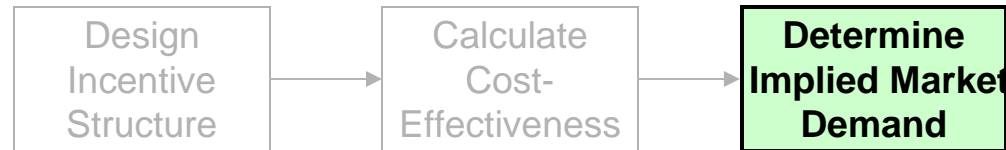
Incentive Structure

- Consistent with program goals
- Structure is based on
 - Current ERP incentive calculation methodology
 - Incentive decline that works for calendar trigger and/or volume (MW) trigger assuming exponential market growth



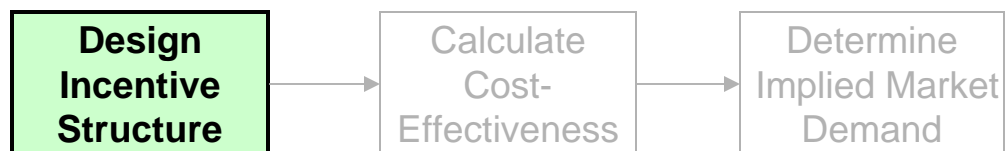
1st Year Net Savings = Benefits - Costs

- Costs
 - Loan payment for PV system
 - Projected inverter replacement cost
 - Other maintenance costs (minor, not included)
- Benefits
 - 1st year utility savings
 - Loan interest tax savings
 - Increased property value (initially included in utility savings)
 - Environmental and utility system benefits (not included)



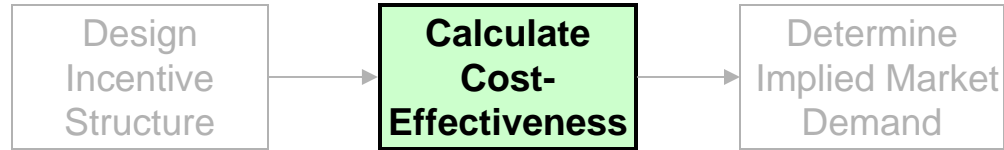
Implied Market Demand

- Estimate total market potential
- Divide NSHP solar home sales by total homes sold to get market penetration



**Incentive
Structure**

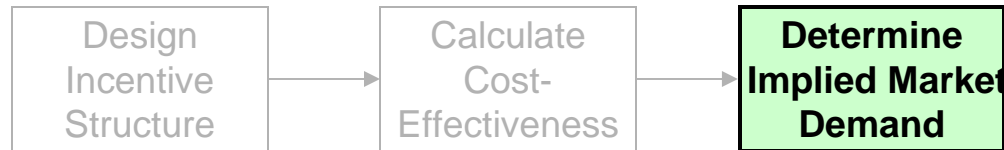
	Incentive (\$/W_{AC-CEC})	Volume (MW_{AC-CEC})
2007	\$2.25	7
2008	\$2.03	10
2009	\$1.80	13
2010	\$1.58	18
2011	\$1.35	24
2012	\$1.13	33
2013	\$0.90	44
2014	\$0.68	60
2015	\$0.45	81
2016	\$0.23	109



Cost-Effectiveness

Incentive
Structure

	Incentive (\$/W _{AC-CEC})	Volume (MW _{AC-CEC})	Net Savings (\$/kWh)
2007	\$2.25	7	\$ (0.02)
2008	\$2.03	10	\$ (0.01)
2009	\$1.80	13	\$ 0.00
2010	\$1.58	18	\$ 0.01
2011	\$1.35	24	\$ 0.03
2012	\$1.13	33	\$ 0.04
2013	\$0.90	44	\$ 0.05
2014	\$0.68	60	\$ 0.06
2015	\$0.45	81	\$ 0.07
2016	\$0.23	109	\$ 0.08

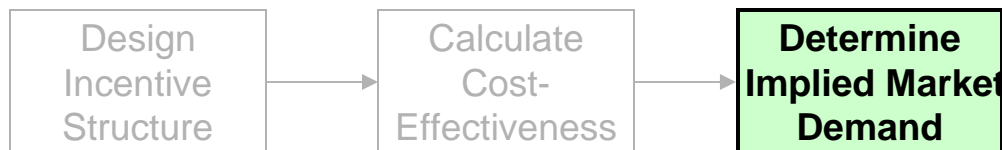


Cost-Effectiveness

Market Sales

Incentive
Structure

	Incentive (\$/W _{AC-CEC})	Volume (MW _{AC-CEC})	Net Savings (\$/kWh)	Market Sales
2007	\$2.25	7	\$ (0.02)	3.1%
2008	\$2.03	10	\$ (0.01)	3.9%
2009	\$1.80	13	\$ 0.00	5.0%
2010	\$1.58	18	\$ 0.01	6.5%
2011	\$1.35	24	\$ 0.03	8.3%
2012	\$1.13	33	\$ 0.04	10.7%
2013	\$0.90	44	\$ 0.05	13.8%
2014	\$0.68	60	\$ 0.06	17.7%
2015	\$0.45	81	\$ 0.07	22.8%
2016	\$0.23	109	\$ 0.08	29.3%



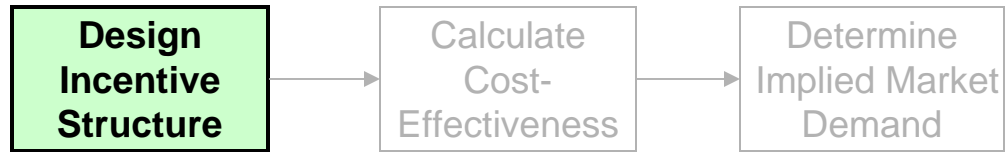
Cost-Effectiveness

Market Sales

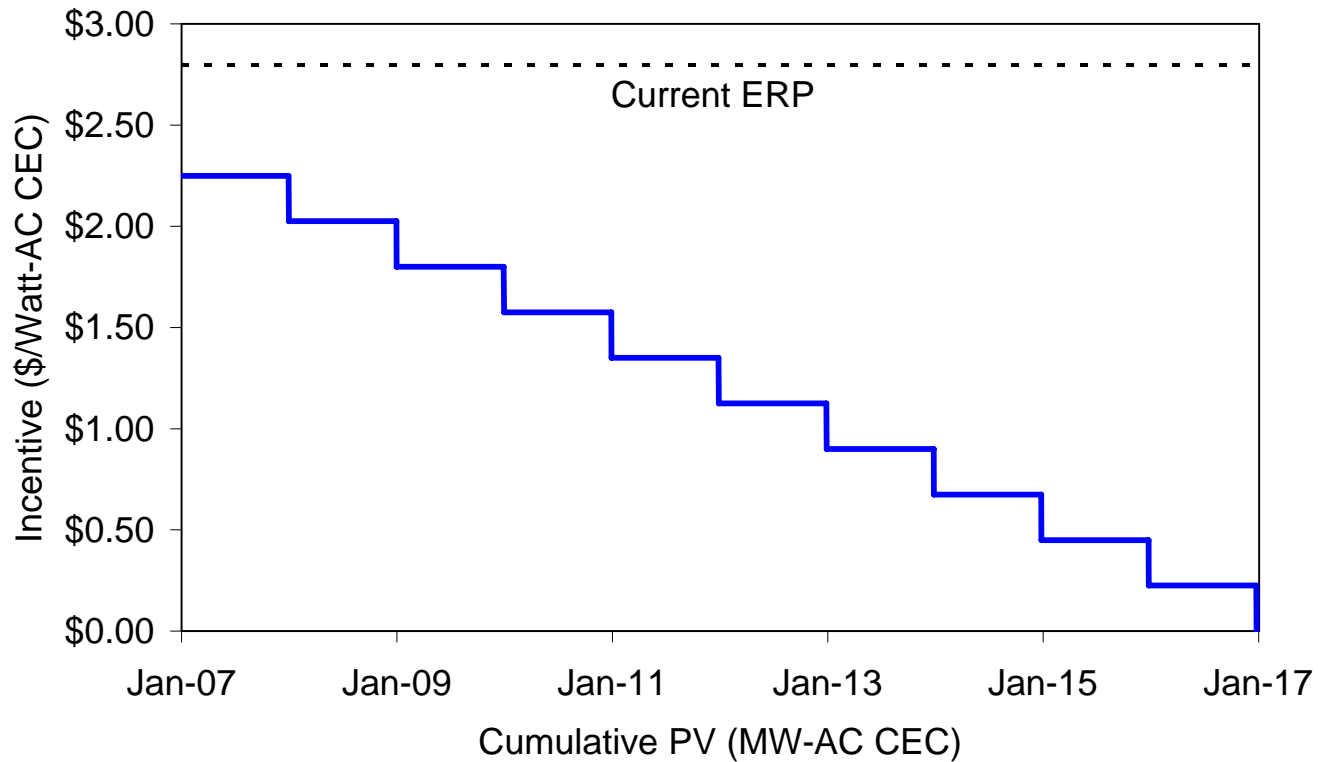
Incentive
Structure

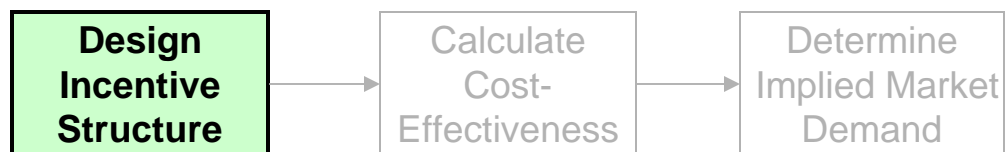
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Implied
Market
Demand

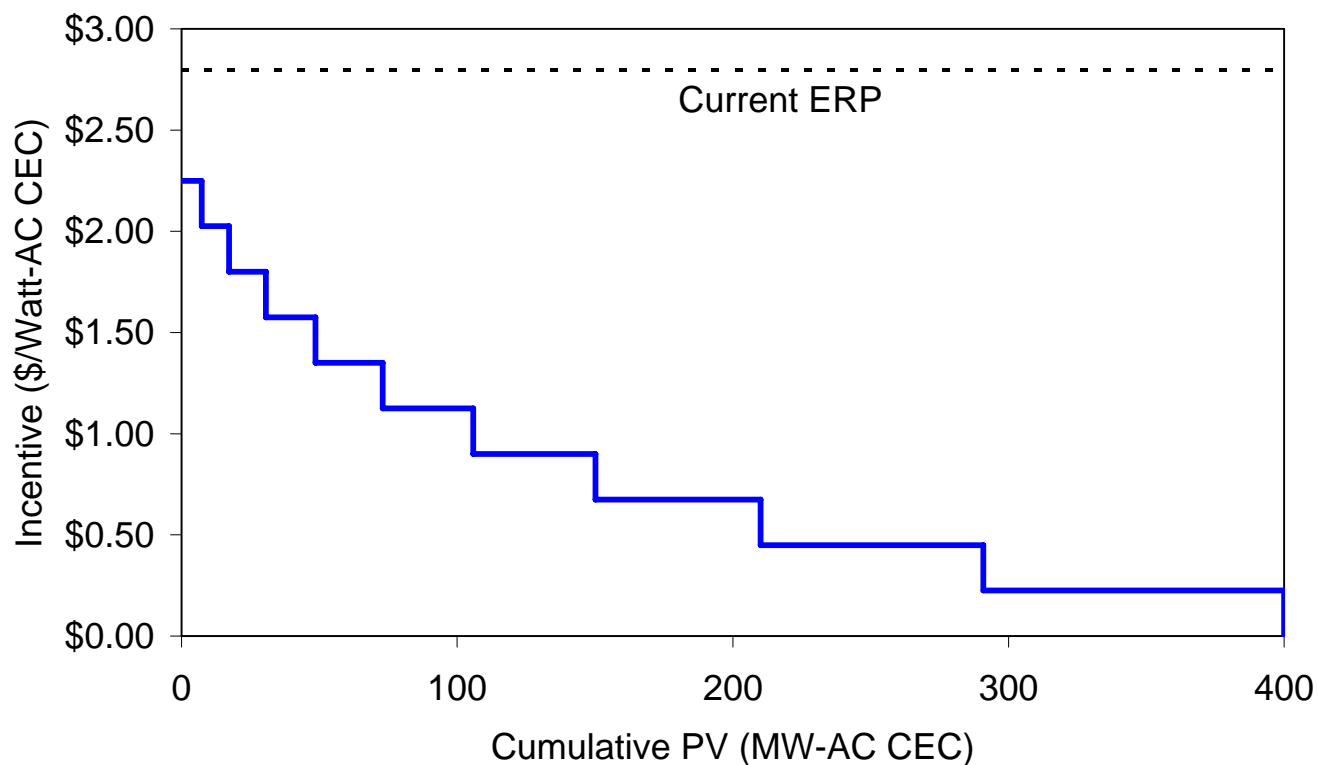


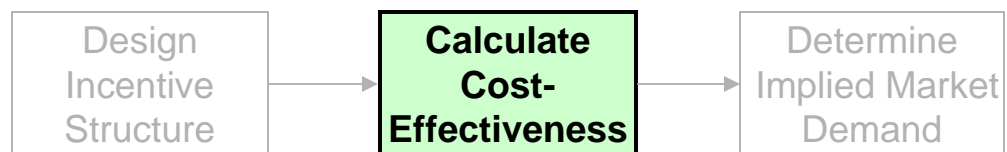
Incentive Structure (Calendar Trigger)



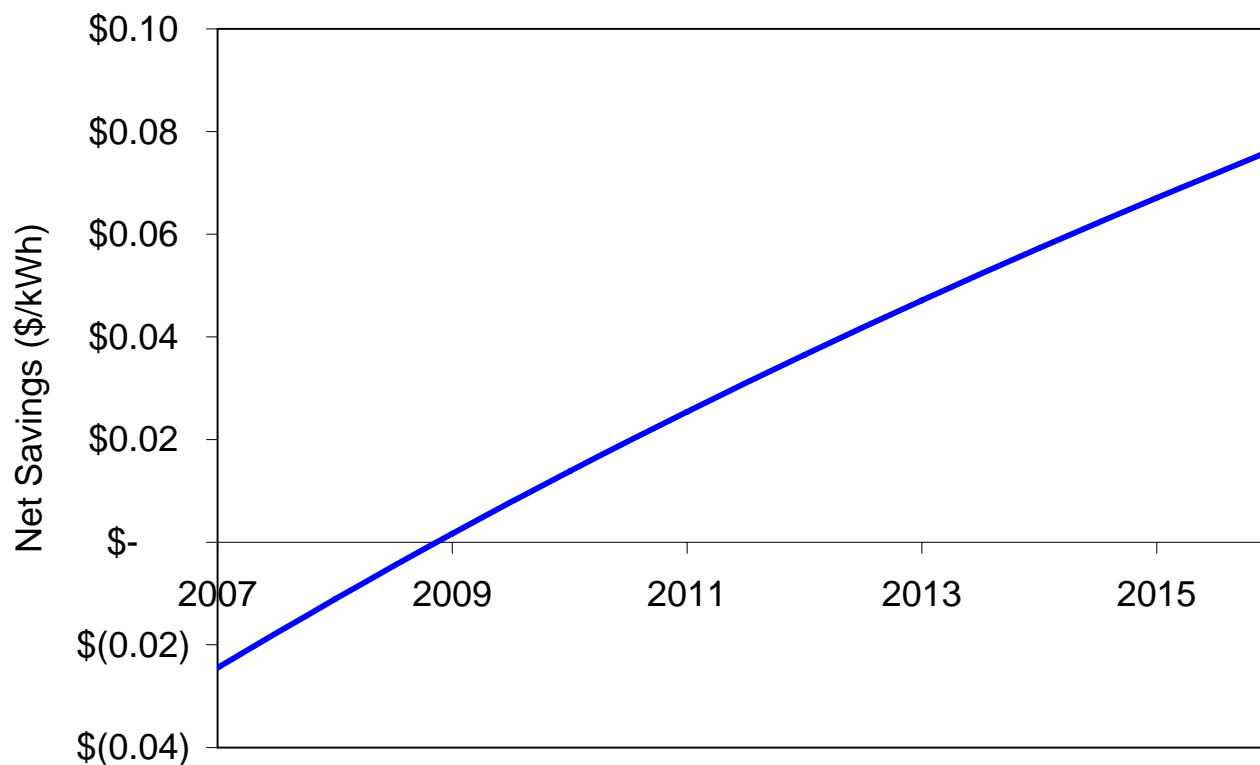


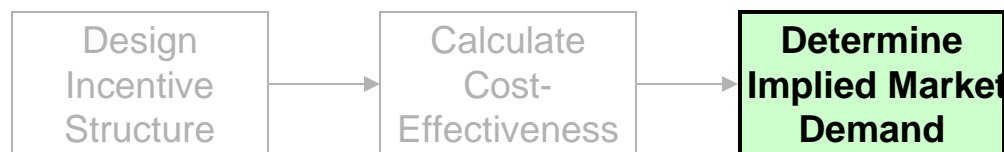
Incentive Structure (Volume Trigger)



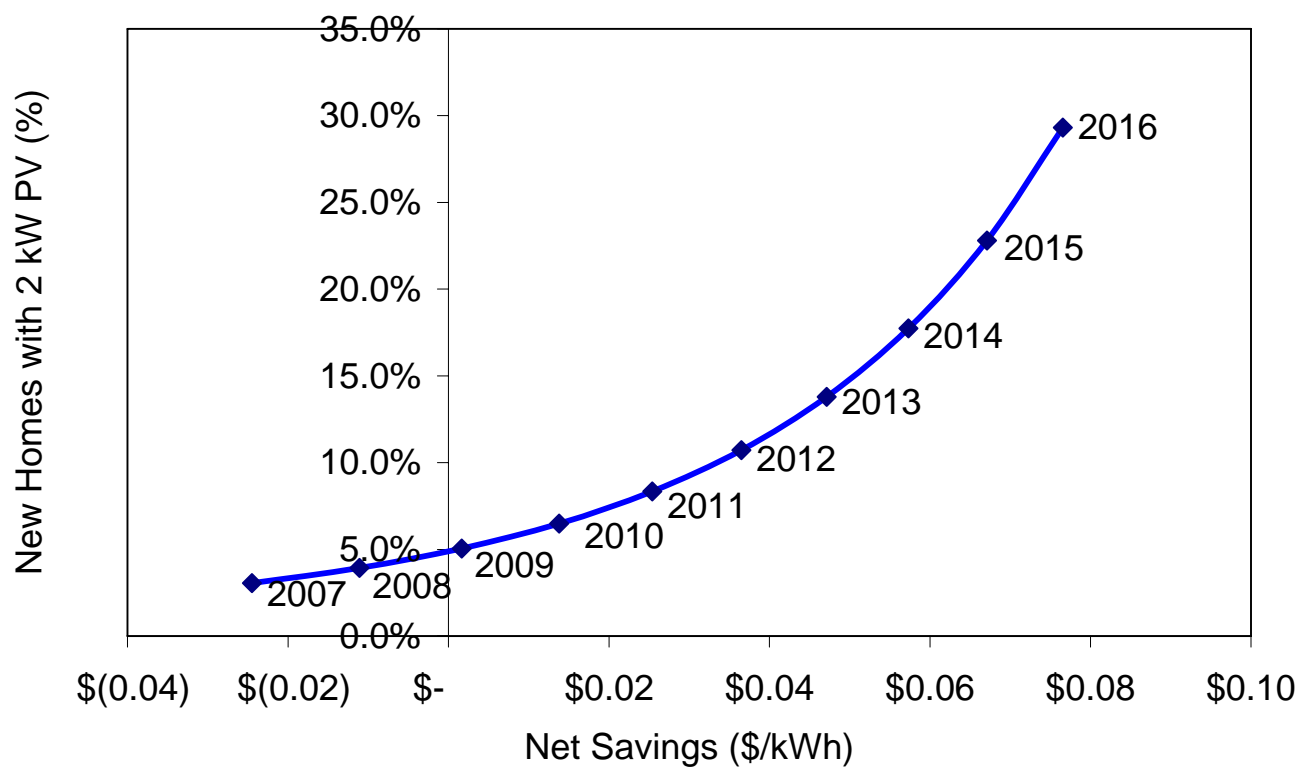


First Year Net Savings (\$/kWh)





Implied Market Demand





Evaluate Reasonableness

- Assume point to evaluate reasonableness is 1st year net savings of 0¢ per kWh
- If 5% of new homes will install systems at evaluation point, 400 MW goal with \$300 Million budget is realistic & incentive should start at \$2.25 per Watt



Progress Tracking and Corrective Action

- Additional marketing may be required to achieve greater market demand
- May need to adjust budget or MW goals in response to actual market demand over time