

Taking Advantage of State Solar Incentive Programs

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Agenda

- Brief intro to Energy Innovations/EI Solutions
- Overview of financial incentives for solar
- The rise of the PPA as a financing option
- Where are the new solar markets?
- What are new solar technology options?
- How can energy efficiency complement solar?
- How can ESCOs and solar companies partner to the advantage of both?

Intro to Energy Innovations

- Founded in 2001 to develop low-cost solar technologies
- Currently testing high-concentration system for roof and ground installations

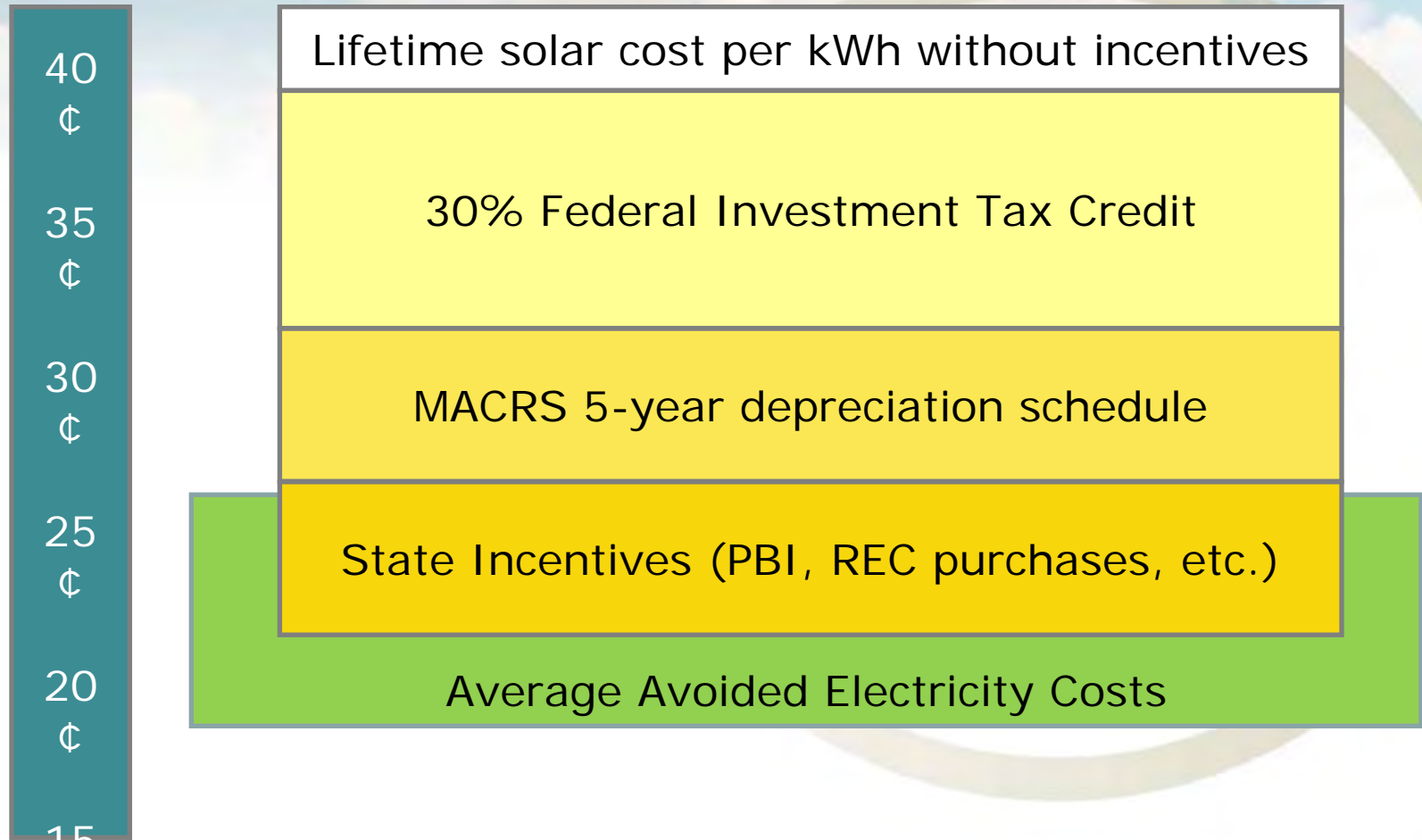


Intro to EI Solutions

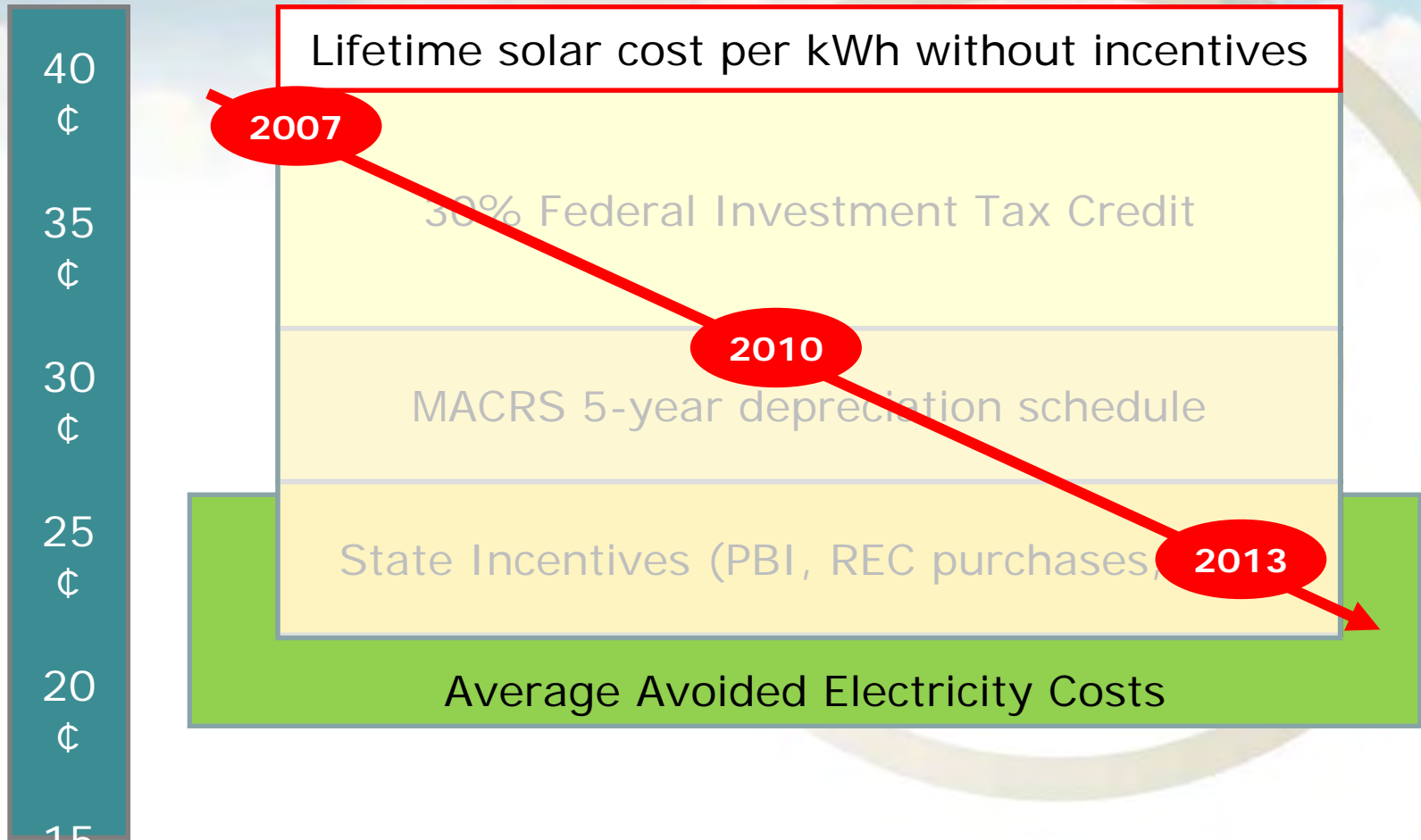
Installing large-scale commercial PV systems
in the western US



Impact of Financial Incentives



Incentives Fade as Costs Decline



State Incentives for On-Site Solar

Type	Structure	Example
Capacity-based "buy downs"	\$ per watt paid upon installation	California's SGIP, Nevada, Salt River Project (AZ)
Expected performance-based incentives	\$ paid up-front based on modeled energy produced over X years	LADWP, SMUD
Actual performance-based incentives	\$ per kWh of metered energy produced over some period of time	California Solar Initiative (IOUs), Arizona Public Service
REC purchases for RPS compliance	Utilities buy RECs under long-term contracts	New Jersey
Feed-in Tariff	Energy + RECs purchased under long-term contracts	Limited in US, popular in Europe
Tax credits	% of purchase price	Oregon, Hawaii

Note: Examples shown are for large commercial PV systems

The Rise of the PPA

California/NJ's shift from up-front rebates to per-kWh or REC payments has increased capital costs for customers



- No up-front cash
- Contract to purchase energy
- Predetermined price per kWh
- Annual escalator

Substantial federal benefits and state tax credits aren't available to non-profits and government agencies



PPA providers bring investors with large tax appetites to take advantage of credits and incentives

Financial community always looking for next big thing



Way to participate in high-growth industry

Power Purchase Agreements Now >70% of Large PV Projects

New Market Opportunities

	Current Incentives	Electricity Rates (¢/kWh)	Net Metering (max kW)	Potential Solar Market (MW)	Annual Sun (kWh/m ² / day)
California	Good	13.13	1000	3000	6.0
Oregon	Very good	6.99	2000	400	5.0
New Jersey	Good	11.84	2000	1500	4.5
Arizona	Good	7.89	100	2000	6.5
Maryland	TBD	10.29	2000	1400	4.5
Pennsylvania	TBD	8.86	3000	900	4.0
Florida	Poor	9.86	10	1500	5.0
New York	Poor	13.59	10	3000	4.0
Texas	Poor	9.73	50	500	5.5
Nevada	Poor	10.11	1000	1000	6.5
Colorado	Good	7.48	2000	500	5.5
New Mexico	Poor	7.65	80000	TBD	6.0
Massachusetts	Poor	15.82	60	TBD	4.0
Connecticut	Poor	13.82	2000	TBD	4.0
North Carolina	Good	7.17	100	300	4.5
Hawaii	Good	21.43	50	250	5.5

New Technology Options



Elevated
one-axis
tracking
PV



High-X
dual-axis
tracking
CPV



Low-X
one-axis
tracking
CPV



Building-
integrated
thin-film
PV

EE + PV = Bigger Projects/Savings

- EE improvements reduce overall building load enabling a solar system to cover a higher percentage of the total energy bill
- May be required as part of future solar incentive programs
- Combined return on investment is lower, making high-\$ solar projects more appealing

ESCO/Solar Integrator Partnerships

↳ ESCOs

- Long-term customer relationship
- Big-picture energy management perspective

↳ Solar Integrators

- Detailed knowledge of solar technology/construction
- Experience at managing incentive bureaucracy



*Chevron/PowerLight 924kW Parking Structure
US Naval Base, Coronado CA*

Questions?

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